

WATER, SANITATION AND POVERTY: CBOS ACTIVITIES AND POLICY PLANNING IN NORTHERN REGION, GHANA.

By

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Water, Sanitation and Poverty: CBOs Activities and Policy Planning in Northern Region, Ghana.

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With unflinching love and profound gratitude, appreciation, and gratefulness
To my loving Mother, Son, and the entire Akanchalabey's family for their support,
motivation, love and encouragement to me during this study

Declaration

I, *Eva Azengapo Akanchalabey*, hereby declare that this academic work (thesis) has been independently and originally written and produced by me in fulfillment of the requirement for a PhD degree.

Where information, data and/or other earlier material(s) has been derived from other sources, I confirm that this has been indicated clearly and concisely.

Dortmund, Germany

Place and Date

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Abstract

The provision of potable water and sanitation (WaS) facilities is of major concern to governments and development actors in Africa and many other developing regions of the world. This is based on the assumption and recognition that, water and sanitation are sine qua non to good health and poverty alleviation, especially in rural and agrarian communities. Adverse climatic changes with the attendant reduction in the quantity and quality of water supplies, however, require concerted efforts to ensure provision and access to safe water and good sanitation. The need for improved WaS facilities cannot therefore be underestimated. The access to these facilities is no longer a luxury but a necessity.

This study addresses issues of accessibility to WaS facilities mainly by women and girls in underserved rural communities in Ghana. The study delved into the contribution of local stakeholders (CBOs) in WaS. To investigate access to WaS services by rural dwellers and the contribution of local government structures and CBOs in the provision of these facilities in Northern Region, Ghana, a mixed methods strategy was employed. Using a mix of observation, interviews and questionnaires in a cross sectional survey in six (6) rural communities, the study found that CBOs are established to complement the activities of international organizations and donors. This is done through different partnership arrangements, mostly on short term basis. CBOs depend on financial resources of international and donors whereas donors rely on human resources of CBOs to implement projects.

The study also revealed that, besides the construction of physical facilities, CBOs are actively involved in providing services such as animation and capacity building in communities. This is dominant in the provision of sanitation facilities where there are attempts to reorient and emphasize change in attitudes through trigger effect methodologies.

Access to alternative sources of water (besides boreholes) remains a major challenge while rain harvesting and storage is not highly patronized because of the nature of roofing materials of houses. Furthermore, water facilities are highly patronized and better managed than sanitation facilities owned and managed by individual households. This is however, in contrast with the norm of the Ghanaian society that manages individual properties or facilities efficiently to that of community facilities. Besides, there are challenges with sustainability of facilities both WaS. Women are less pragmatic than men, in managing these facilities. This conforms to low women involvement in managerial positions in Ghana. On the other hand, there are no significant differences in the status of poverty of households in communities with access to WaS as against those with less access to these facilities.

Based on these and other findings, I recommend institutional restructuring whereby CBOs are integrated into District Assembly Systems through their representatives. International partners and donors should engage in medium to long term partnership arrangements with CBOs for easy access to professional advice as well as capacity building to develop long term plans for projects.

Finally, women who are recognized as effective financial managers should be encouraged through mass media publicity and affirmative actions. This will encourage their compatriots to be active in the management of these facilities to ensure sustainability. Furthermore, spot fines especially for poor sanitation practices should be introduced to deter recalcitrant citizens and ensure compliance with improved sanitation practices in the region. This would generate income for local authorities (DAs) to undertake other infrastructural projects. Rural electrification should be extended alongside WaS to effectively reduce poverty in rural communities.

Abstract: Versorgung mit sauberem Wasser und Entsorgung von Abwasser gehören zu den wichtigsten Aufgaben von Regierungen und Nichtregierungsorganisationen. Die große Bedeutung dieser Aufgabe ergibt sich daraus, dass das Vorhandensein von Wasser und Kanalisation als unabdingbare Voraussetzungen für die Erhaltung der Gesundheit und die Minderung der Armut gelten. Klimaveränderungen und dadurch verursachte quantitative und qualitative Verschlechterungen der Wasserversorgung erfordern gemeinsame Anstrengungen, um eine funktionierende Ver- und Entsorgung von Wasser zu gewährleisten. In den hier untersuchten ländlichen Gebieten in der ghanaischen Savanne wären sie eine Voraussetzung für die Verbesserung elementarer Lebensbedingungen, die jedoch häufig nicht ausreichend vorhanden ist. Die vorliegende empirische Studie konzentriert sich auf Fragen des Vorhandenseins und der Erreichbarkeit entsprechender Anlagen und Einrichtungen, vor allem für Frauen und Kinder - basierend auf der Annahme, dass vor allem sie es sind, die sich um Beschaffung von Trinkwasser und Entsorgung von Schmutzwasser kümmern. Trotz der zentralen Bedeutung, die der Wasserversorgung und Kanalisation zugeschrieben wird, haben bislang nicht alle dazu beitragenden Komponenten die ihnen gebührende Aufmerksamkeit erfahren. Während der Einfluss der lokalen Stakeholder (vor allem internationale (Spender)Organisationen) vergleichsweise gut erforscht ist, ist noch wenig bekannt, welche Rolle selbstorganisierte Bewohnergruppen, die sich autonom in den Gemeinden gebildet haben und sich für diese Infrastrukturproblematik engagieren, in diesem Zusammenhang spielen und wie ihr Engagement genutzt werden kann.

Das Zusammenwirken von staatlichen Organisationen und lokalen Bewohnergruppen wird in dieser Studie erstmals genauer untersucht. Um ihren Einfluss auf die Entwicklung der sanitären Infrastruktur zu analysieren, wurden zwei Fallstudien/Fallbeispiele ausgewählt, um zunächst die Arbeitsweise dieser lokalen Bewohnergruppen zu verstehen. Mit einem Methodenmix aus Beobachtung, strukturierten und Tiefeninterviews und standardisierten Fragebögen konnte schließlich in einem Querschnittssurvey aus sechs ländlichen Gemeinden gezeigt werden, dass diese Art von lokalen Gruppen als Ergänzung zur Arbeit internationaler Organisationen und ihrer Spendenbeiträge gebildet wurden. Wie festgestellt werden konnte, geschieht dies meist auf der Basis kurzzeitiger Arrangements von Partnerschaften zwischen ihnen. Ein weiteres Ergebnis der Studie war, dass – unabhängig vom Bau von Anlagen – diese Gruppen auch anregend, aufklärend und anleitend wirken, vor allem indem sie Methoden verwenden, die auf eine Einstellungsänderung zielen. Eine grundlegende Herausforderung ist zudem die durch Erschließung alternativer Wasserquellen (neben Bohrlöchern), da z. B. die Anlage von Zisternen aufgrund der ungeeigneten Bedachungen der Häuser nahezu ausscheidet.

Zwei Befunde sind von besonderem Interesse: erstens besteht ein grosser Unterschied in der Nachhaltigkeit, mit der öffentliche und private Anlagen betrieben werden. Je bedeutsamer die Rolle von Frauen beim Management öffentlicher Anlagen ist, desto nachhaltiger werden diese betrieben. Zweitens konnten statistisch signifikante Unterschiede zwischen der Nutzbarkeit

sanitärer Infrastruktur und der Armutsverringering gemäß der Nullhypothese nicht nachgewiesen werden.

Das bedeutet, dass die Nutzbarkeit sanitärer Infrastruktur allein noch nichts aussagt über daraus entstehende wirtschaftliche Effekte. Vielmehr zeigte sich, dass bereits vor oder bei der Inanspruchnahme mancher Anlagen für die ihnen zugedachten Zwecke eine Barriere zu sehen ist, deren Überwindung eine dringliche kommunalpolitische Aufgabe darstellt. Meine Empfehlung geht deshalb dahin, die Zusammenarbeit der lokalen Gruppen mit den „District Assemblies“ besser zu institutionalisieren und sie stärker als bisher einzubinden. Auf der nationalen Ebene sollten sich die Medien die Aufsicht und Betreuung der kommunalen Gruppen zur Aufgabe machen. Internationale Partner sollten ihre Zusammenarbeit mit den lokalen Gruppen auf mittel- und langfristige Zeiträume ausrichten um den Zugang zu professioneller Beratung auf Dauer sicher zu stellen und langfristige Projekte planen zu können.

Schließlich sollten Frauen, die sich in finanziellen Fragen als verlässliche und solide „Manager“ erwiesen haben, z. B. über die Massenmedien ermutigt werden, verantwortliche Positionen auch in diesem Bereich einzunehmen. Weiterhin sollten Bußgelder für den unangemessenen Umgang mit der Versorgungsinfrastruktur eingeführt werden, um den langfristigen Erhalt der Anlagen zu sichern. Damit ließen sich Einnahmen für die District Assemblies zum Aufbau anderer Infrastrukturprojekte erzielen, z. B. den Ausbau der Elektrifizierung entlang wichtiger Entwicklungsachsen, weil sich diese als wesentlich bedeutsamer für die Verringerung der Armut in ländlichen Gemeinden gezeigt hat.

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Abbreviations

AAP	Annual Action Plans
AFD	L'Agence française de développement
AGOA	Africa Growth and Opportunities Act
AMCOW	African Ministers Council on Water
ANEW	Africa Network of Civil Society Organizations
AVRL	Acqua Vitens Rand Limited
BHNs	Basic Human Needs
BNDT	Basic Needs Development Theory
BoD	Board of Directors
BM	Board Members
BMZ	German Ministry for Economic Cooperation and Development
BOT	build, operate and transfer
BRICS	Brazil, Russia, India, China and South Africa
BW	Bretton Woods
C	Contingency Coefficient
CARE	Cooperative for Assistance and Relief Everywhere
CBD	Central Business District
CBOs	Community Based Organizations
CCFC	Christian Children Fund of Canada
CD	Coordinating Director
CDD	Community-based Driven Development
CE	Chief Executive
CEO	Chief Executive Officer
CHPS	Community –based Health Planning and Services
CIDA	Canadian International Development Authority
CLIP	Community Livelihood Improvement Programme
CLTS	Community-Led Total Sanitation
CONIWAS	Coalition of NGOs in Water and Sanitation
CRS	Catholic Relief Services
CS	Civil Servants
CSOs	Civil Society Organizations
CSPIP	Civil Service Performance Improvement Programme
CSM	Case Study Method
CSV	Community Surveillance Volunteers
CWSA	Community Water and Sanitation Agency
DAs	District Assemblies
DANIDA	Danish Development Agency
DCD	Department of Community Development
DDL	Det Danske Ledelsesbarometer
DPDT	District Project Delivery Team
DPs	Development Plans

DSW	Department of Social Welfare
DWSTs	District Water and Sanitation Teams
DWSTLs	District Water and Sanitation Team Leaders
DWTP	Dalum Water Treatment Plant
EC	Executive Council
ECG	Electricity Company of Ghana
EHOs	Environmental Health Officers
EHSD	Environmental Health and Sanitation Department
EHU	Environmental Health Unit
EPA	Environmental Protection Agency
ESA	External Support Agency
ESW	Economic Sector Work
FDOs	Fertilizer Desk Officers
FGDs	Focus Group Discussions
FMECD	Federal Ministry for Economic Cooperation and Development
FMPs	Facility Management Plans
FWAN	Fresh Water Action Network
GA	General Assembly
GD	Grassroots Development
GDDA	Ghana Danish Development Association
GDP	Gross Domestic Product
GFG	Ghana Friendship Group
GHS	Ghana Health Services
GI-WASH	Ghana Integrated-Water Sanitation and Hygiene
GIZ	Gesellschaft fur Internationale Zusammenarbeit
GNI	Gross National Income
GNP	Gross National Product
GoG	Government of Ghana
GPHC	Ghana Population and Housing Census
GSFP(EP)	Ghana School Feeding Programme Enhancement Project
GSS	Ghana Statistical Service
GTUS	Ghana Time-Use Survey
GUMPP	Ghana Urban Management Pilot Project
GWCL	Ghana Water Company Limited
GWEP	Guinea Worm Eradication Programme
GWSC	Ghana Water and Sewage Cooperation
HDR	Human Development Report
HICP	Highly Indebted Poor Country
ICT	Information Communication Technology
IIED	International Institute for Environment and Development
IDA	International Development Authority
IEWRM	Integrated Environment and Water Resource Management
IFPRI	International Food Policy Research Institute
IGF	Internal Generated Funds
IHDP	Integrated Human Development Programme

IMF	International Monetary Fund
INNGOs	International Non-governmental Organizations
IPs	Invited Projects
I-WASH	Integrated Water Sanitation and Hygiene
KfW	Kreditanstalt für Wiederaufbau
KVIP	Kumasi Ventilated Improved Pit
LEAP	Livelihood Empowerment against Poverty
LED	Local Economic Development
LLEDPs	Local Led Economic Development Plans
LI	Legislative Instruments
LRWSs	Limited Reticulation Water Systems
MASLOC	Micro Finance and Small Loans Center
M/MDCEs	Metropolitan/Municipal District Chief Executives
M/MDCDs	Metropolitan/Municipal District Coordinating Directors
MDGs	Millennium Development Goals
MoE	Ministry of Energy
MoH	Ministry of Health
MLGRD	Ministry of Local Government and Rural Development
MoU	Memorandum of Understanding
M/MPCUs	Metropolitan/Municipal Planning Coordinating Units
MMRD	Mixed Methods Research Design
MTEF	Medium Term Expenditure Framework
MTDP	Medium Term Development Plan
MWRWH	Ministry of Water Resources Works and Housing
NAFCO	National Buffer Stock Company
NCWSP	National Community Water and Sanitation Programme
NCF	National Economic Forum
NDPA	National Development Planning Authorities
NESP	National Environmental Sanitation Policy
NFEP	Non-Formal Education Programmes
NGOs	Non-Governmental Organizations
NIG	National Income Growth
NIRP	National Institutional Renewal Programme
NNGOs	National Non-Governmental Organizations
NNP	Net National Product
NORRIP	Northern Region Rural Integrated Project
NPA	New Policy Agenda
NRC	Navrongo Research Center
NT	Northern Territories
NWP	National Water Policy
NWSP	National Water and Sanitation Programme
OECD	Organization for Economic Cooperation and Development
OD	Open Defecation
ODF	Open Defecation Free
ODI	Oversea Development Institute
OIC	Opportunities and Investment Center

OPD	Out Patient Department
PAMSCAD	Programme of Action to Mitigate the Social Cost of Adjustment
PC	Programme Coordinator
PHCR	Population and Housing Census Report
PM	Presiding Member
PMT	Project Management Team
PNDC	Provisional National Defense Council
POCC	Potential Opportunities Constraints Challenges
POs	Partner Organizations
PPA	Programme Partnership Agreements
PPPs	Public Private Partnerships
PPT	Plan Preparation Team
PRA	Participatory Rural Appraisal
PSP	Private Sector Participation
PURC	Public Utilities Regulatory Commission
RA	Regional Assemblies
RGD	Registrar General Department
RCC	Regional Coordinating Council
RCD	Regional Coordinating Director
RD	Rural Development
REGSEC	Regional Security Committee
REPO	Regional Economic Planning Officer
REDTs	Regional Economic Development Theories
RDTs	Regional Development Theories
RM	Regional Minister
RPA	Rural Participatory Appraisal
RRDS	Regional Rural Development Strategy
RRDTs	Regional Rural Development Theories
RWD	Rural Water Department
RWS	Rural Water Supply
RWaS	Rural Water and Sanitation
SADA	Savannah Accelerated Development Authority
SADI	Savannah Accelerated Development Initiative
SAI	Security Authorities and Institutions
SAP	Structural Adjustment Programmes
SCs	Small Communities
SDGs	Sustainable Development Goals
SEND	Social Enterprise Development Foundation
SLA	Sustainable Livelihood Approach
SMA	Sector Ministries and Agencies
SMART	Specific Measurable Achievable Realistic Time-bound
SMT	Senior Management Team
SNMA	Savelugu Nanton Municipal Assembly
SNV	Stichtung Nederlandse Vrijwilligers (Netherlands Development Organization)

ST	Small Towns
STWSs	Small Town Water Systems
SWR	Savannah Woodland Region
SZFM	Safe Zone Flag Methodology
TaMA	Tamale Metropolitan Assembly
TCC	Tamale Cultural Center
UER	Upper East Region
UESP II	Urban Environmental Sanitation Project II
UN	United Nations
UNGA	United Nations General Assembly
UNDP	United Nation Development Programme
UNICEF	United Nation International Children Education Fund
UR	Upper Region
UWR	Upper West Region
VRA	Volta River Authority
WA	WaterAid
WaS	Water and Sanitation
WASH	Water, Sanitation and Hygiene
WASHPs	Water Sanitation and Hygiene Plans
WATSANs	Water and Sanitation Committees
WASHNET	Water and Sanitation Network in NG
WB	World Bank
WBR	World Bank Report
WDBs	Water Development Boards
WDR	World Development Report
WC	Water Closet
WCED	World Commission on Environment Development
WFP	World Food Programme
WHT	Water Harvesting Tank
WRC	Water Resources Commission
WRI	Water Research Institute
WSDBs	Water and Sanitation Development Boards
WSRP	Water Sector Restructuring Project
WSTLs	Water and Sanitation Team Leaders
WW II	World War II
WWC	World Water Council

Chapter 1: General Introduction

The provision of potable Water and Sanitation (WaS) infrastructural facilities and services to meet the needs of the world's growing population date back to the 1970s. For instance, in 1977, the UN convened a conference in Mar del Plata to deliberate and take initiatives in potable water provision. This conference was aimed at making clean drinking water accessible to communities. The UN Water Conference at Mar del Plata declared 1981-1990 as the first "International Decade for Clean Drinking Water" (UN, 1977). This was the first of its kind with subsequent follow up conferences and declarations. Again, in November, 2002 the Economic, Social and Cultural Rights (the Committee) advocated for the right to water (Salman, 2012: 44). According to (Salman, 2012) cited the General Comment No. 15, paragraph 2:

"The human right to water entitles everyone to sufficient, safe, acceptable, physical, accessible and affordable water for personal and domestic uses. An adequate amount of safe water is necessary to prevent death from dehydration, to reduce the risk of water related diseases and to provide for consumption, cooking, personal and domestic hygienic requirements".

Based on this argument, the United Nations General Assembly (UNGA) adopted Resolution 64/292 in 2010 declaring the right to safe and clean drinking water. Water and sanitation are human right that is essential for the full enjoyment of life and all human rights (Salman, 2012). Attempts by the global community to address access to WaS especially, for the poor and vulnerable are enormous and cannot be overemphasize. The "World Water Week" held annually in Stockholm brings together leaders and experts from the world's scientific, business, governmental and civic communities to exchange views, experiences and shape joint solutions to global water challenges. Today, March, 22nd annually is devoted to world water day, a symbolization to sensitize stakeholders to see the need to make drinking water accessible to everyone.

This global picture accorded Ghana the opportunity to also develop its water supply systems. A major land mark was when Community Water and Sanitation Act (Act 564) was enacted in 1998 establishing Community Water and Sanitation Agency (CWSA). The aim of Act 564 is to ensure that potable water supply and sanitation services are available and accessible to all citizens especially in rural communities.

Despite the major changes and numerous activities in the sector, most communities (rural) still lack access to potable WaS facilities. For instance, it was reported that; "more than 90% of households are within 30 minutes of their source of drinking water compared to 82.1% recorded in 1997 and poor services meaning "safe sanitation is available to only 55% households and these facilities are even scarcer among the rural poor with only 9.2% of their households having access to these facilities" (Ghana Statistical Service, 2010).

There are still variations to access and use of water globally. From the estimation according to (Salman, 2012), an average American uses 90 gallons of water a day while an average European uses 53 gallons a day. A sub-Saharan African uses only 5 gallons of water a day. The five gallons used by the sub-Saharan African is ten times the amount of water used by an average European and almost twenty times that of an American. Even in some instance, this argument does not hold, simply because of inaccessibility of water. On sanitation, over 2.6

billion people have no access to sanitation facilities globally, while 1.5 million children under age 5 die annually of waterborne diseases (Salman, 2012). These statistics are striking and attracts investigation into the “whys”, “what” and “how” of the problem.

Consequently, the statistics has attracted more stakeholders into the WaS sector more especially in Northern Region. For example, there are activities of international, national and local organizations and donors in this sector. Their activities attract attention and questions relating to; why there is still lack of access to WaS facilities in the midst of numerous activities in the sector.

More so, it was in the past that most rural people saw water as a natural resource that was provided freely by nature (Bacho, 2001) and probably did not factor management and preservation mechanisms to its use. Today, such communities are aware through media and stakeholder’s activities the need to manage their facilities for sustainability. However, there are still communities that cannot gain access to these services. This has resulted in the drinking of water from unapproved sources.

For instance, health workers in Central Gonja district (CGD), highlighted reasons why Northern Region accounted for slightly more than half of the 229 guinea worm reported cases in the country during the first six months of 2009. There was evidence of the use of water from unapproved sources such as dams and ponds hiking the spread and prevalence of guinea worm infestation. For example, persons who already had the infestation and had open sores, enter these water bodies and release the worm larvae for many more to get, once they drink from these infested sources (www.who.int/bulletin/volumes).

On the part of sanitation, some of the reasons accounting for poor sanitation in these areas from personal observations are the neglect as well as the failure to recognize sanitation as a matter of human dignity by local authorities. While there are by-laws on sanitation, their enforcement is ineffective resulting in the construction of houses without sanitary facilities. Poverty on one hand, hinder individuals in these communities from constructing these facilities.

If government and many other stakeholders are actively involved in the sector with sector reforms, donor participation and implementation of programmes, why then is the situation still like this? It will be interesting, therefore, to find out what has changed with these interventions. Has access to WaS facilities and services improved in rural communities in Northern Region or has the situation remained the same? If the situation is the same, what is/are the factors hindering improvement in the sector? This chapter presents a general background to the study, the problem statement and the relevance of the study. The chapter concludes with an outline of the entire study.

1.1 Background to the Study

The welfare implications of safe WaS cannot be overstated. Infectious diarrhea and other serious waterborne illnesses are leading causes of general ill health and mortality, especially infant mortality and malnutrition. Their impacts extend beyond health to economic in the form of lost work days and school absenteeism especially among the girl children. It is estimated that meeting the Millennium Development Goal (MDG) for access to safe water would produce an economic benefit of US \$ 3.1 billion (2000) in Africa, a gain realized by a combination of time savings and health benefits (Banerjee and Morella, 2011).

Saravanan and Gondhalekar (2013) cited in UNDP (2006) argued that WaS are among the most powerful preventive medicines available to governments to reduce infectious diseases. Investment in this area is to killer diseases like diarrhoea just as what immunization is to

measles- a life-saver (Saravanan and Gondhalekar, 2013: 6). The benefit of improved WaS is overwhelming because of the economic benefits of health, productivity and high income.

While acknowledging that there are gains in investing in WaS, (Bacho, 2001) stated that, education, health, potable water and sanitation particularly critical for Africa's development receives less investment as a result of the increasing debt burden. The situation has further worsened as a result of the over reliance on primary agriculture production, low technological advancement, hiking population growth, climatic change, a blurred democratic governance environment and more recently corruption. These factors, among others, have resulted in fruitless attempts to improve many sectors of the economy including WaS in order to reduce poverty especially in the northern part of Ghana.

Consequently, the problem is exacerbated because of low population growth in these areas coupled with rural housing pattern where housing units are dispersed and scattered. This makes provision of WaS facilities capital intensive looking at the facility cost and the population to a facility.

Irrespective of this picture, Ghana has committed herself throughout the years to the provision of WaS facilities especially in rural communities. Governmental development policy on WaS date back to British Gold Coast. During British rule in the Gold Coast, the Public Works Department (PWD) was created to provide both rural and urban water supplies (Smith, 1969; Bacho, 2001). Furthermore, in 1937, the Geological Survey Department (GSD) was again established (Smith, 1969). The mission of GSD was to investigate possible new water sources, advise public medical officers, political administrators and personnel on proper well digging and maintenance procedures, improve sanitary conditions and prevent further pollution of surface water sources. In 1944, a separate department of Rural Water Supply (RWS) was established solely to address rural water supply through hand dug wells, reservoirs as well as train and supervise local water administrators (Smith, 1969). To further make the sector vibrant and resilient, in 1977, the Ghana Water and Sewerage Corporation (GWSC) was established and charged with the responsibility of providing, distributing, conserving, and managing water supply development and installation, as well as coordinating all activities related to water supply in the country (Gyau-Boakye, 2001). These developments were an attempt to make improved water accessible nationwide.

Aside these, in 1998, Community Water and Sanitation policy was formulated and Community Water and Sanitation Agency established. The main policy thrust was that beneficiaries of potable water supply and sanitation were now responsible for the management of the facilities. This paradigm shift resulted in a significant improvement in access to potable WaS. For instance, water supply coverage was 56 percent (52 percent for rural/small town and 61 percent for urban areas). Sanitation coverage was 35 percent. In terms of rural urban differences, 32 percent of the rural communities and small towns and 40 percent urban areas were covered (GSS, 2006). Nine years later, in 2010, 69.6% of the population in the entire region had access to improved water and about 72.6% still had no access to sanitary (toilet) facilities (PHCR, 2013: 107-110). This is woefully unexpected looking at the policy transformation and reforms as well as the stakeholder involvement in the WaS sector. Improvement of the sector for accessibility to services however, has a strong link to many more sectors.

Literature explains the water and gender linkages. This is basically the case in the study region because; from personal observation after ten years working experience in the region, about 80% of women are breadwinners. Women work on their farms to provide food for the family. After the farm work, women are responsible to sell in market centers in order to make

additional income to pay school fees of their children, pay hospital bills and other social and household expenses. In addition to this, it is the same women and girls who return to the house to provide water for all domestic chores (Baden et al. 1994).

Not only is WaS linked to gender but to many more sectors. WaS development is linked to education, health, agriculture and tourism. The unavailability of water in a community takes children out of school to search and hunt for water. Government's policy of ensuring that all children of school going age are in school may not be achieved if availability and accessibility to potable water is not achieved. When communities drink from infected water sources, they are infested with water borne diseases. This could result in low agricultural productivity, the backbone of the rural economy in the region. A community afflicted with water related diseases will also experience a reduction in the number of tourists in the community. This would again reduce foreign exchange earnings that accrue from such activities. While admitting without doubt that these arguments stand, there is no evidence from research to conclude that communities that have developed their WaS sectors have drastically reduced poverty.

Although, Edwin Chadwick published a general report on the "*Sanitary Condition of the Laboring Population of Great Britain*" in 1842 to stimulate sanitary awakening and social reforms; this report by Chadwick described the prevalence of disease among the laboring people, showing that the poor exhibited a preponderance of disease and disability compared to more affluent individuals. The conclusion of Chadwick's report was that the unsanitary environment caused the poor health of working people. Disease was attributed to miasma and bad odors. Epidemic diseases such as typhus, typhoid, and cholera were attributed to filth, stagnant pools of water, rotten animals, vegetables, and garbage. This is evident in the linkages of environmental sanitation and health. It could then be argued that a good health care system controls unimproved WaS hazards directly and that health should rather influence poverty reduction to that of WaS.

Nonetheless, WaS development, education attainment, quality health care, high agriculture productivity, tourism among others have economic effects of reducing poverty. These linkages depend to a large extent on the angle one perceives and the policies implemented. (Sachs, 2005: 50) posits that "a good plan of action starts with a good differential diagnosis of the specific factors that have shaped the economic conditions of a nation".

This could probably be the reason why WaS development is among the targets at the global front, where, the (UN, 2000) challenged governments of member countries to ensure the attainment of key goals affecting poverty and human dignity. The global effort has increased international stakeholder involvement and community participation because of the realization that governments are no more in the position to provide these facilities and services for all as a "free gift".

While acknowledging the countries preparedness to make improved water accessible to all, it is worth mentioning that the Ghanaian situation has been aggravated by economic policies such as Structural Adjustment and Privatization strategies pronounced by international monetary organizations for government in the 1980s. In the heat of implementing these donor driven policies, attempts have been or are being made to privatize water supply systems giving rise to issues of ability to pay by vulnerable groups, conflicts between the profit and social motives by private investors and long term sustainability.

As these questions are being asked, it is observed that WaS development in rural communities are relegated mostly to donors and international organizations. One thing that is clear is that there is the realization that collaborative partnership between the state, private sector

and self-organized civil society groups is yet another experimental institutional arrangement that provides for enhanced access to potable water (Bacho, 2001).

1.2 The Role of Local Actors

The challenges in the WaS sector notwithstanding, there is local attention in WaS with local organizations involvement. While this is the case, there is little literature about their activities. There is abundant literature on the role of local actors in development, NGOs and their involvement in development (Riddell and Robinson, 1995; Abegunde, 2009; Esman and Upholt, 1984; Bralton, 1990 and Willis, 2010). For instance, these "bottom-up" organizations are more effective in addressing local needs than larger charitable organizations (Riddell and Robinson, 1995). According to (Adeyemo, 2002 cited in Abegunde, 2009) their coming together creates conditions which broaden the base of self governance and diffusion of power through a wider circle of the population. Is this the case also with the local organizations in WaS in the Northern Region? Why have international organizations taken all the attention from these local organizations? The main focus in the sector rest on donors and international organizations whereas these local organizations are probably the ones working to address local needs as posited by (Riddell and Robinson, 1995).

On one hand, decentralized planning and implementation where Districts Assemblies (DAs) plan and implement programmes is the current policy regarding local development nationwide. Working at the Metropolitan Assembly in the Planning Coordinating Unit, it was observed that while the assemblies in conjunction with some local organizations plan and implement activities together, some are hardly involved in the process. This has created an imbalanced and duplication of limited resources and at times breads local conflicts between governmental units, communities and these local organizations.

It is against this backdrop that this study is envisaged to understand how these local organizations operate in WaS in the region. This would unearth their contribution(s) and enhance policy planning.

1.3 Why a Study into WaS

Scientific research is a “process of trying to gain a better understanding of the complexities of human experience and, in some genres of research, to take actions based on that understanding” (Marshall and Rossman, 1999: 21). Through systematic and sometimes collaborative strategies, researchers gather information about actions and interactions, reflects on their meanings, arrives at and evaluates conclusions, and eventually puts forward interpretations and measures to impact change in human society. The choice of a researcher’s area of study indicates the interest and motivation not only to add to knowledge but to contribute significantly to change in the lives of the people affected by a phenomenon.

WaS issues are of critical concern to policy makers and the public, since access to WaS facilities is a basic human right for all to have equal access to. It is observed that while poor access to sanitation affects everyone, it is the poor and vulnerable, especially children, women, the disabled and aged who are mostly affected. Recently, it was reported that two girls were raped and killed in India, after they went into the bush to attend to “nature’s call” because of lack of these facilities in their homes (CNN, May 30, 2014). There may be several thousands of such unreported cases regarding rape, assault of girls and women. My first motivation was to research into an area that has impact on issues directly affecting girls and women. This I found in the WaS sector.

Again, after two years working experience in the Metropolitan Planning Coordinating Unit of Tamale Metropolitan Assembly, I became aware of the growing numbers of local NGOs or CBOs especially in WaS. I further became more enthusiastic especially in their response to most assignments of the assembly especially in plan preparation sessions.

Also, a cursory look at the prevailing literature revealed that while research was done in water resource management, economic and sanitation impacts in developing countries, the health sector and WaS economic analysis among many more, literature was silent on the activities of these organizations especially in Ghana. Where it was available, it was very scanty. I am motivated to find out how these organizations, with perhaps limited resources than government, work to probably achieve results that the governmental sector has neglected.

1.4 The Problem Statement

The provision of infrastructural projects is a challenge to many governments all over the world because of the huge financial and capital investments required in their planning and implementation. Population growth and changes in climate also influence effective provision of services that mostly rely on nature such as water provision. For instance, rainfall and drought, the availability of water bodies like rivers, lakes and dams adversely affect provision of water services. The problem of providing WaS facilities and services in Ghana is probably challenged due to a nexus of factors including; natural, political, economic, social among others.

There is ample evidence to suggest that, Ghana is endowed with several natural water bodies such as rivers, streams, lakes among others that could be harnessed and used for both domestic and industrial purposes. However, the availability and accessibility of improved water for domestic consumption is yet to be achieved especially in the Northern Region. This is because the provision of improved water through surface water is regarded an expensive enterprise for both government and donors. According to (Gyau-Boakye, 2001), provision of improved water through surface water was much more expensive than the supply of water through boreholes from groundwater systems. Other researchers have arrived at similar conclusions (Oclo, 2011 and Agyemin, 2011).

Regarding rural areas, attempts were made to drill boreholes in 1984 by some NGOs and other governmental institutions. Unfortunately, borehole drilling was much more successful in the south than in the north and resulted in regional inequity (Gyau-Boakye, 2001). The peculiar problem of Northern Region is that the region is covered by the Voltaian series. The main rock types here are siltstones, sandstones, clay, conglomerates and shales which give rise to low decomposition. According to (Bacho, 2001), borehole test drilled from the Catholic Church, GWSC and the Northern Region Rural Integrated Project (NORRIP) showed that within the Voltaian basin, the probability of hitting a high yielding well range from 0-50 % and water yields also ranges widely from dry wells to 28m/hr. This aggravated the problem of providing drilled boreholes in the region. Whereas the Greater Accra region had recorded the highest level of access to source of improved water of 97.1 %, Northern Region had the lowest access with 80.2 % (GSS, 2010).

Policy reforms in the sector led to the establishment of the Community Water and Sanitation Agency (CWSA) to address the disparities in access to WaS supply in rural communities. There is no doubt that these reforms have worked towards decentralized planning and implementation in the sector. Nevertheless, this agency is saddled with budgetary constraints. For instance, the agency's budgetary allocation nationwide in 2004 was Gh ₵ 12.5 million out of Gh ₵ 18 million requested. In 2005, Gh ₵ 5.7 million was approved out of Gh ₵

13.6 million while only Gh ₵ 4.7 million was approved out of Gh ₵ 11.0 million requested for 2006 fiscal year. Aside the activities of CWSA, there are other civil society organizations that augment the efforts of CWSA towards facilities and services delivery. For example, (Agyenim, 2011) illustrated how water projects at the various District Assemblies (DAs) in Ghana rely on funding from donors and international organizations. “Furthermore, DAs do not see water delivery/management as one of their core functions. They view it as an area reserved for NGOs, the central government and the donor community” (Agyenim, 2011:165).

In spite of the contributions of donors in the sector, governmental bodies are more projected in academic literature than donors, international and local organizations. For instance, (Entsua-Mensah et al. 2007:2) remarked that “CWSA as 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”. This is an indication of the challenges of CWSA in meeting the needs of access to WaS in rural areas. This study responsiveness was on CWSA. Again, (International Research Centre of International Water and Sanitation Centre, 2011:7) acclaimed some of the achievements made by the National Community Water and Sanitation Programme (NCWSP) over its first 10 years. These included “rehabilitation of over 3,683 boreholes and hand-dug wells (HDWs); construction of 3,216 new boreholes and water points; the assumption of responsibility for 113 small-town piped water systems for community management and construction of over 8,072 household & institutional latrines nationwide”. These reports have received much attention and have broadened the scope of discussions on CWSA.

Aside disseminating activities of CWSA and DAs, prominence accorded donors and international organization in the WaS sector in Ghana in general is overwhelming. For example, the World Water Council and World Water Forum in conjunction with OECD cataloged comprehensive statistics on bilateral commitments and multilateral contributions to the sector (OECD/WWC, 2008). The report however, did not include analysis of the contributions of their local partners in the sector.

In the same way and within the sector, activities of CBOs had largely gone unnoticed. Although, there is a comprehensive directory of Ghana’s WaS actors (www.wbmp.org/downloads/4d4bce9d3227c.pdf), much is not elaborated in details on what activities CBOs in the sector offer. This undermines their importance as one is not made aware what these organizations do differently from donors and government.

By the same token and within the same sector, water issues are more prominent than sanitation. This observation points to the proposition that in order to recognize the importance of the two twin issues, there is the need to begin to understand the consequences of discontinuities, there is a need to increase research knowledge of the two issues WaS and not only on water.

Going by the assertions of (Riddell and Robinson, 1995) that these grassroots organizations are more effective in addressing local needs than larger charitable organizations, it is interesting to unearth what these organizations (CBOs) have done differently from that of others.

1.5 Research Gaps

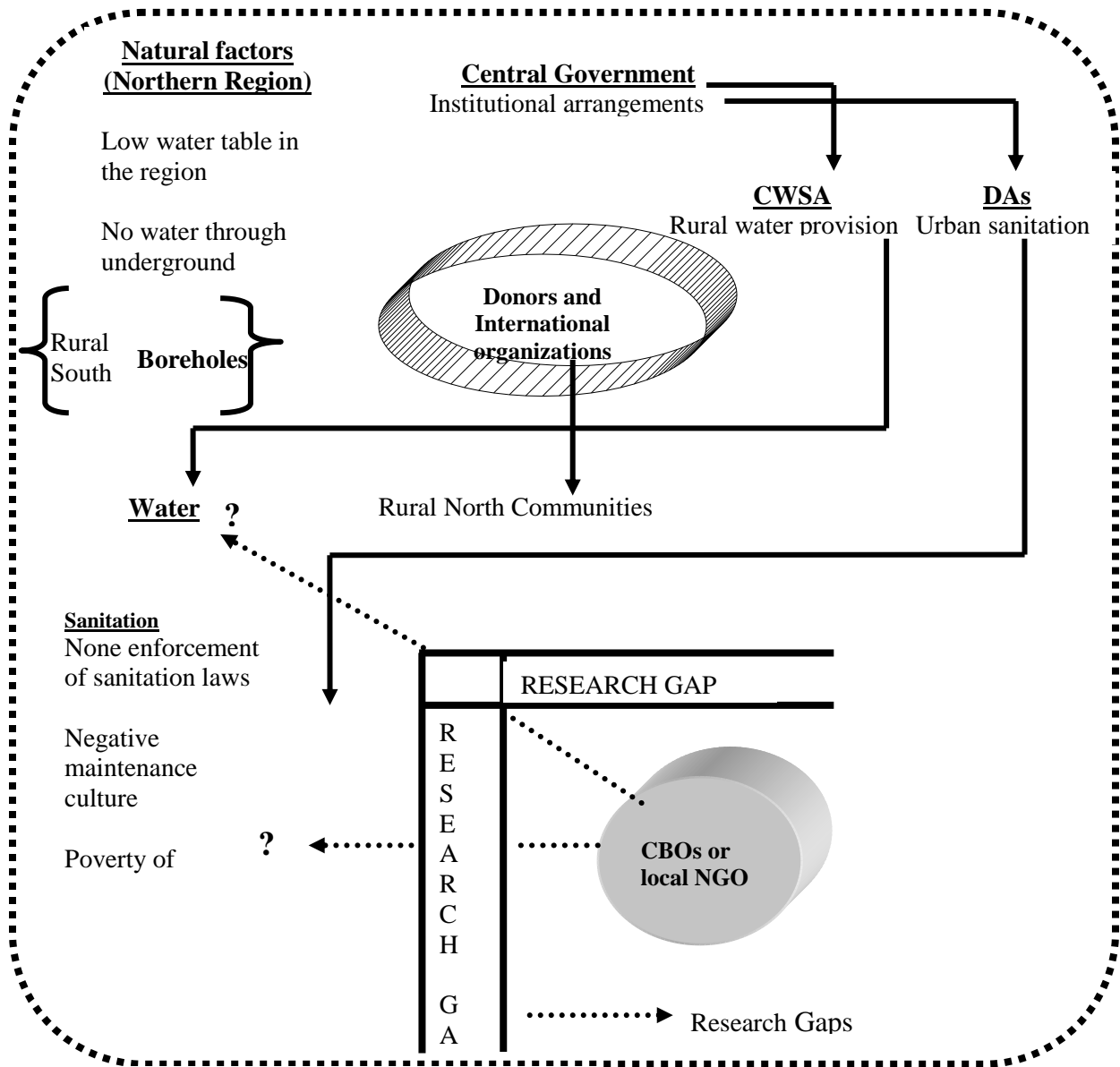
The substantive focus of this research is on grassroots organizations in WaS in Northern Region. This has become necessary because of the scanty literature on the activities of these organizations in the region. The sector is one of the oldest that has received attention from successive governments from colonial times to date. There are policy reforms where institutional arrangements now give equal attention to both rural and urban WaS supply and management.

While government and donor activities are widely published, CBOs' activities are relegated to the backyard. For example, many of the publications are on rural water sector reforms in Ghana (http://www.wsp.org/sites/wsp.org/files/publications/af_bg_ghana.pdf). These reforms place the community as the manager of WaS facilities. This is what CWSA advocates in the provision of WaS facilities. There are also research studies on sustainability of rural water supply services (IRC's Triple-S initiative, 2011) financing of the water, sanitation and hygiene sectors, community ownership and management of water among others.

While these are directly involved with the issues confronting WaS, little is researched into the local organizations that confront and dissect these issues on daily basis. In some projects such as the "Ex-Post-Evaluation Brief on Rural Water Supply III", this report synthesizes how the project constructed drilled wells in the Eastern and Ashanti regions with the aim of ensuring continuous access to safe water among rural population living in these regions. This, the project envisaged would improve their general living conditions and reduce waterborne diseases. This evaluation has similarities with this study; unfortunately, this project is in different regions than Northern Region. Besides, this project was implemented by German FC and funding from the Federal Ministry for Economic Cooperation and Development (BMZ) with Community Water and Sanitation Agency as the implementer. These are state players other than local organizations. In most cases, WATSANs are more prominent in the literature than CBOs in the sector.

This could probably be because of the small composition of CBOs. Nonetheless, (Konteh, 2000: 1) asserted that "several CBOs emerged that took over responsibility for community development from government". Going by this, an in-depth investigation into their structure, activities and working mechanism is not a misplaced priority. Assessing literature, it unveiled that there are yet gaps in the sector. These gaps are illustrated in figure 1.1.

Figure 1.1: Research Gaps



Source: Researcher's construct,

As depicted in figure 1.1 above, the main causes of inaccessibility to water facilities in rural areas are the low water table and the rainfall pattern in the region. While the southern communities are served with underground water through boreholes construction, this is not always possible in Northern Region. The problems of sanitation emanate from factors such as low enforcement of sanitation laws, bad environmental attitudes of communities couple with poverty where households are unable to construct sanitary facilities among others. These are some of the factors that hinder the development of the sector in the region.

Nonetheless, government and donors are actively engaged in the sector. As shown in figure 1.1, government uses its institutions to address the gaps in providing WaS facilities and

services in rural communities. For instance, Community Water and Sanitation Agency is mainly into water provision and the District Assemblies (DAs) are responsible for the sanitation component. Working in the assembly, it was observed that DAs are however, concentrating their efforts in urban sanitation where public facilities are constructed and managed by the private sector to generate income. On the part of donors, most of their activities are directed through the DAs to implement projects in these communities.

Figure 1.1 goes further to show the new arrangements involving CBOs in the sector. These organizations work alongside governmental and donor agencies. It is however, not known what activities these organizations are involved in. What component(s) of WaS facilities and services implementation are they involved in? Their contribution may be too small to be noted but however, small their contribution, the public needs to know to be able to assist them effectively in their activities.

1.6 Research Objectives

Based on the problem statement, and the research gaps underlined, there are basically two objectives of the study.

The first objective is to understand the activities of CBOs in the WaS sector in the Northern Region of Ghana. This understanding would explain whether CBOs work in isolation or seek to complement the activities of donors and/or governmental institutions or both. This would further unveil the underlying objective(s) of these organizations and their working mechanisms within the sector. Furthermore, the study would attempt to unravel what these organizations do differently from that of governmental agencies and donors in the sector. Aside, the focus would also be on whether governmental policies shape the activities of these organizations.

This general understanding would guide in proposing reasonable recommendations on how to incorporate their activities into mainstream decentralized planning and implementation system to avoid duplication, reduce waste and conflicts.

1.7 Relevance of the Study

The importance of any research work could be seen in the linkages between academic, theoretical and socio-economic policy issues the research findings and recommendations seek to address. This study is vital in all the above mentioned aspects. The issue of how to provide improve WaS on sustainable basis under serious climatic change, hiking and escalating population growth, scattered development patterns and declining resources leading to poverty is a great challenge confronting not only the leadership of many countries but on development planners.

The Government of Ghana is committed to accelerated development of the northern savannah belt of Ghana which has sharp development contrast with the southern belt. This would be done through the Savannah Accelerated Development Authority (SADA)¹. Government will embark on a series of coordinated development interventions to create sustainable employment, re-orient agriculture towards improved assets for the poor while adding-value to basic food and tree crops. There would be improved water resources investments, drainage and irrigation for

¹ SADA was established by the Republic of Ghana under Act 805 in 2010 to provide a framework for comprehensive and long-term development of the Northern Savannah Ecological Zone and to provide for related matters.

year-round agricultural activities. This study is timely, since, research findings would be incorporated into SADA strategy of government.

Secondly, this study is being undertaken in a German University. It is interesting to know that Germany is traditionally and strongly engaged in WaS. Germany is ranked among the third largest bilateral donors and the largest bilateral donor in this sector in Africa. Support to sub-Saharan Africa doubled from 2008-2010. Germany's total WaS Aid commitments were more than doubled from 2005 with (283 million US dollars) to (906 million US dollars) in 2009 www.sanitationandwaterforall.org. Retrieved on November 12, 2012. Furthermore, BMZ with financial support from Kreditanstalt für Wiederaufbau (KfW) supported the Rural Water Supply III with (4.60/4.60 million €) for the improvement of water facilities in two regions in the country. Though the report indicates that the project may not be renewed after phase III, a study of this nature provides additional academic data to other donors for effective and efficient support to the sector.

In Ghana, there are CBOs that operate in various sectors of the economy. Some are national whereas others are local with the aim of service delivery. Majority of these organizations are in WaS delivery. The contributions of these CBOs are often expressed informally in articles, newspapers, magazines and brochures and especially during projects commissioning. Academically, CBOs contribution in WaS in the region has not received much attention. There are little scholarly writings on these organizations particularly in Northern Region. This research would contribute to academic and scientific discourse where knowledge and literature on the subject matter of the area would be enriched.

Last but not the least; the Millennium Development Goals (MDGs) were adopted in 2000 by member countries of the United Nations. Ghana as a member of the UN started the implementation of these goals in the same year. The seventh goal is to ensure environmental sustainability with target 7C - halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation. If activities are implemented in this sector, the data from this research would serve as an assessment on MDG target 7C and indicator 7.8: proportion of population using an improved drinking water source and indicator 7.9: proportion of population using an improved sanitation facility in the region.

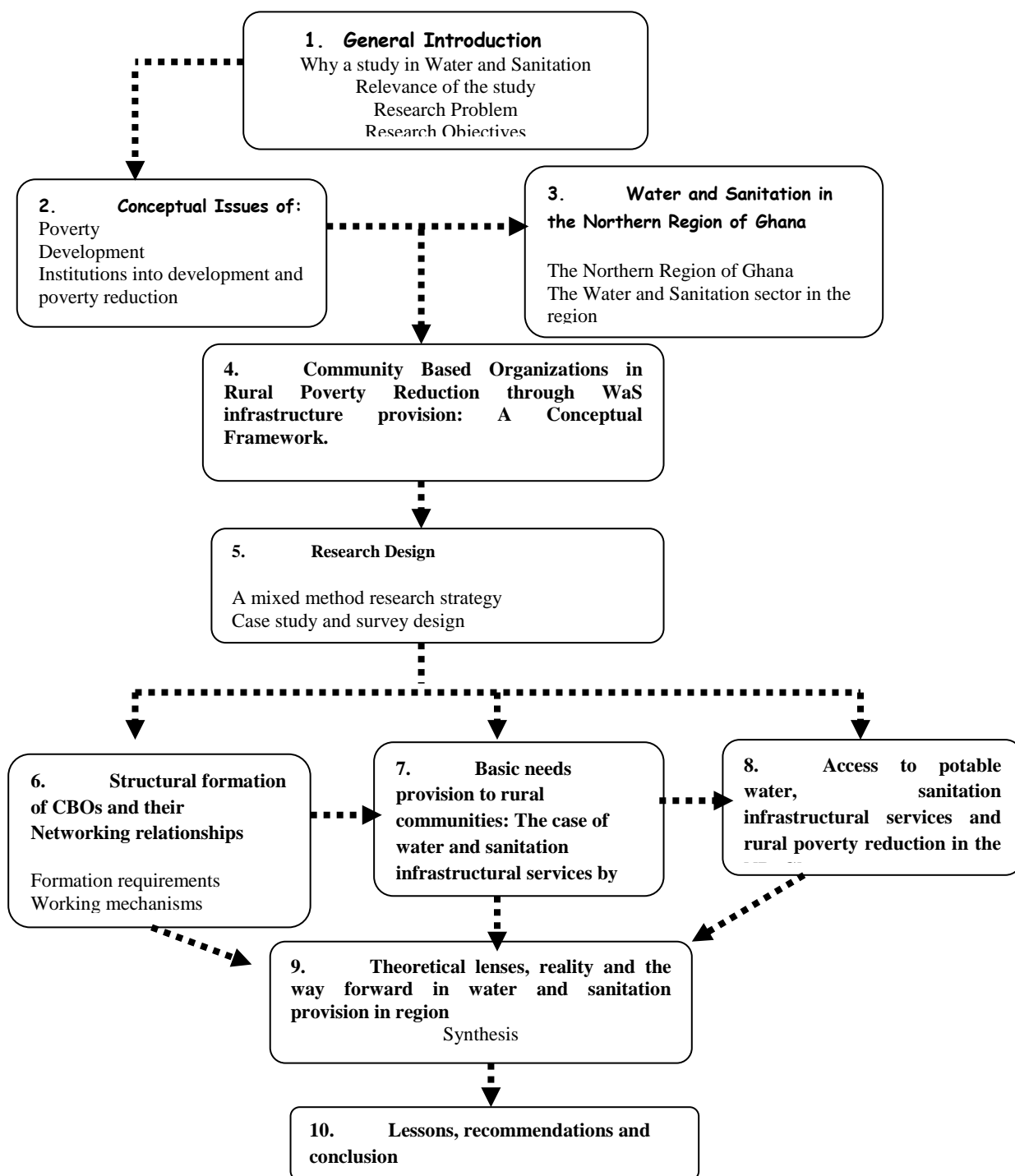
1.8 Structure of the Report

The report is structured in accordance with academic writings of the Faculty of International Spatial Planning of the Technische Universität, Dortmund. There are a total of ten chapters. The chapters have brief introductions and conclusions. Chapter one (1) highlights the background to the study. The statement of the problem and the objectives that the study seeks to achieve are presented also in chapter one. My motivation to the study is also included in chapter one.

In chapter two (2), I discussed some basic concepts of the study. These are issues of poverty and development. WaS in the study region is treated in chapter three (3) while the conceptual framework is presented in chapter four (4). In chapter five (5), I described the methodology used to obtain primary data. This data is used primarily to answer the research questions asked.

Chapter six (6) to eight (8) covers two case studies in Northern Region. These chapters also present primary data from a survey in three administrative districts. The final chapter presents findings of the study and recommendations outlined for policy consideration in WaS in general. The structure is presented diagrammatically in figure 1.2.

Figure 1.2: Structure of the Thesis



Source: Researcher's construct, 2014

As shown in figure 1.2, the ten chapters are further grouped into:

- ❖ Introduction
- ❖ Literature review
- ❖ Methods
- ❖ Analysis
- ❖ Conclusion

The introductory chapter gives an overview of the study. There are three literature review chapters. These are chapters two to four. The literature started with an overview of concepts of poverty and development. This is because the general view of providing WaS is to ensure human right to these basic needs, enhance quality life and reduce poverty. Chapter three gives an overview of the region. Decentralized planning of infrastructure is also discussed inter alia policies in the WaS sector in Northern Region. The review of literature ended with theories related to infrastructural development, the community and CBOs. This set the stage for the conceptual framework of the study. The methodology is a detailed presentation of the tools used in collecting data; how the tools were administered and how data was managed and analyzed.

There are four analysis chapters. Chapter six presents the formation procedures and working mechanisms of CBOs. The facilities and services that these organizations implement are presented in chapter seven. Chapter eight delves into an analysis of facilities and that of poverty reduction. The ninth chapter makes a synthesis of what the theories present, and the realities on the ground in WaS provision in the region. The last chapter presents lessons, findings, and recommendations.

Chapter 2: Conceptual Issues: “Poverty and Development”

“For the poor person everything is terrible-illness, humiliation, shame. We are cripples; we are afraid of everything; we depend on everyone. No one needs us. We are like garbage that everyone wants to get rid of”, a blind woman from Tiraspo (Moldova), cited in (Todaro and Smith, 2006: 7).

To write on concepts of poverty and development are more explicit illustrating like Todaro and Smith (2006) citing the blind woman from Tiraspo, Moldova.

In 2009, I was engaged by the Oversea Development Institute (ODI), London, as a Researcher Assistant (RA) to research on *“Gendered Risks, Poverty and Vulnerability in Ghana: To What Extent is the LEAP Cash Transfer Programme Making a Difference?”* This study was conducted in 2 districts (Chereponi and Gushiegu)² in Northern Region, Ghana. As a Research Assistant, I arranged logistics for the study. Two (2) researchers came from ODI headquarters and Accra and the team moved to the field to collect data. In Tamale, the researchers arrived at the airport and were driven into a 3 star hotel for debriefings. We communicated with our phones. We slept in air-conditioned rooms in this hotel with electricity throughout. We travelled the next day in a “Nissan Patrol” for hours to the 2 districts. The roads to these districts were in deplorable states. On arrival, we were greeted with the following conditions.

Most of the households we administrated questionnaires had no seats to sit on. The children in these communities were walking bare feet. One could see signs of malnourishment in most of the children. You could “see the inside of most rooms from the outside”. Women were walking long distances to fetch water from streams and rivers. Households were without sanitary facilities. I visited a primary school with only 3 teachers. It was a rainy season and most of the adults were on their farms, farming with simple hoes and cutlasses. One could count the major food crops being cultivated. At night the entire community was as dark as an underground tunnel. The story went on and on.

The two scenarios presented 2 different worlds within the region. These were the scenario of a rich environment and that of a poor one. One of wealth (developed) and one of poverty (no infrastructural facilities and services). The questions at the time and still are: why are some individuals and households poor? And why are some rich? Who is responsible for the different scenarios? How can the poor be liberated from their situation?

As indicated by (Daves, 2004), before attempts are made to efficiently distribute resources to achieve the overall goal of poverty reduction, it requires first hand information on: who the poor are; the situation and circumstances that has led them into who they are; where they reside, what factors (social, historic, political and economic) that these people (the poor) face; how do they (the poor) respond to or not respond to programmes and projects intended for them? What efforts can they do on their own to come out from this situation?

² Chereponi is one of the districts in Northern Region. This used to be Saboba Chereponi district but in 2004, Chereponi was carved out of Saboba and is now a district on its own under Legislative Instrument 1854.

Gushiegu is a district in the north-eastern corridor of Northern Region and shares boundaries with Chereponi district and others. This district was created in 2004 under LI 1783.

Globally, issues of poverty exist in every country. For instance, there are new reports of starvation in Africa especially the “horn”, slum dwellers in Asia, child beggars in Latin America and homeless street people in the United States and Great Britain (Daves, 2004). According to (Hall and Midgley, 2004: 45), this scenario projects powerful images that evoke compassion and understanding and transcend academic debates about definitions of concepts. Coincidentally, (Devas, 2004: 2) explained that the difference is probably that some countries especially of Africa, Asia and Latin America have conditions of severe or abject poverty, without access to adequate shelter and/or basic services. This situation is further compounded by the internal political and other external factors such as an escalated HIV/Aids pandemic (Sachs, 2005) and now Ebola outbreak. I opined that the concepts poverty and development are not a narrow path, but wider auxiliary routes with different viewpoints depending on how one perceives these concepts.

The scope of this chapter focuses on concepts in relationship to (a) issues and (b) strategies of poverty, and development. There are discussions on the issues of poverty and development. Attempts are made to present some of the ways by which the issues of poverty could be addressed to reduce the incidence of poverty. Finally, the chapter focuses on institutions that have worked through various policies and programmes to impact on the poor.

2.1 Challenging Nature of Poverty

The concept of poverty is an exigent task to write on. This is because of the intensive multifaceted debates regarding what its definition is? Who are categorized as poor? Where do they live and what economic conditions do this group find themselves in; as their economic conditions change over time.

Concomitantly, (Mensah-Abrampa, 2004: 4) explained also that the word poverty is as complex as the empirical experience. This is because the concept has to do with human behaviour and as such, there are varied individual feelings and experiences in relationship to poverty. In the same direction, (Clunies-Ross et al. 2009: 10) stated that the concept of poverty is a difficult one. There is an inevitably subjective element in judgments of others’ poverty and of our own. This is probably the case because it is not easy to judge others as poor and others as rich. There are some communities where people who are classified as poor prefer to be among the rich and in some, people classified as rich would prefer to be poor.

Discussing the issue on “*Climate Change and Poverty in Nigeria*”, (Agbola, 2011: 55) also highlighted that poverty is a fluid concept. According to (Agbola, 2011), poverty has social, cultural, economic, political, religious (the poor will always be with us), and more recently, environmental dimensions. This is empirically true because of the multifaceted dimensions and forms that poverty manifest in human societies.

From these, the discussion of poverty cuts across multiple variant but interrelated pillars that are in themselves interlinked. Since, these multi variant and interrelated pillars are inexhaustible in one single study; the discussion here narrows to the nature of the concept “poverty”. An attempt is made on some of the definitions of poverty, a categorization of the poor especially in the study region and possible reasons accounting for this condition.

2.2 The Issue of Poverty

The word “poverty” is, no doubt, a key word of our times, extensively used and abused by everyone. Huge amounts of money are spent in the name of the poor. Thousands of books and expert advice continue to offer solutions to their problems. Strangely enough, however, nobody, including the proposed “beneficiaries” of these activities, seems to have a clear, and commonly shared, view of poverty. For one reason, almost all the definitions given to the word are woven around the concepts of lack or “deficiency”. This notion reflects only the basic relativity of the concept. What is necessary and to whom? And who is qualified to define all that (Rahnema, 1991)?

These are the realities of the word and the concept “poverty”. This concept has many underlying connotations especially as it is applicable to humans. Studies on poverty are however old, as Henry Mayhew wrote on “*London Labour and London Poor*” in 1851. Other such as (Bruce, 1961; Chambers, 1971; Rahnema, 1991; Stitt and Grant, 1993; Escobar, 1995) and recently, (Sachs, 2005; Sen, 2010) among others all wrote on this concept. The entire World Development Report (WDR, 2001) was devoted to issues of poverty.

It is not misplaced, to ask what poverty is. Articulated facts justifies that the concept derives its conceptual explanations through the descriptive phenomena of human kind. For instead, “Over 1,500,000 billion people, more than 20 % of the world population (7 billion), are living in conditions of acute hunger, defined in terms of identifiable nutritional disease” (Escobar, 1995: 22). This scenario gives reason to the cause and effect of poverty, squalor, and misery in which these categories of people live (Wilson, 1953) cited in (Escobar, 1995).

Furthermore, (Escobar, 1995) explained that the conceptual descriptions probably gave periodic focus on poverty. In the views of (Escobar, 1995: 21-22), the period with acute hunger, defined in terms of identifiable nutritional disease in the 1940s and 1950s presented a new emphasis spurred by the recognition of the chronic conditions of poverty and social unrest existing in poor countries and the threat they posed for more developed countries. Poverty from this background and period according to (Escobar, 1995) is allied to acute hunger where nutritional levels especially in children became low resulting to death. This is where (WDR, 2000/2001: v) emphasized that poverty encompasses not only low income and consumption but also other components including nutrition.

From the 1940s and 1950s (Escobar, 1995: 22) again maintained that poverty in the modern sense appeared only when the spread of the market economy broke down community ties and deprived millions of people from access to land, water, and other resources. With the consolidation of capitalism, systematic pauperization became inevitable. Poverty within the presumable period of the 1970s and 1980s attaches the market place theories where it was expected that economic growth would drive development and reduce poverty through a trickling down effect.

Another stage was when management of poverty called for interventions in the expansion of “needs”. This stage called for interventions in education, health, hygiene, morality and employment, powerlessness, voicelessness, vulnerability and fear among others. The nature of poverty is therefore not static but changes with time and needs. While in the past it was regarded mainly as acute hunger, and came to deprivation in access to “needs”, issues of powerlessness, voice and vulnerability are emerging in the poverty discourse.

2.3 “Poverty” What is it?

The word poverty always creates a mental picture of where one can physically see the concept at play. Poverty is normally attached to developing countries in a global perspective. The least-developed countries with low economic growth and its associated terminologies of low Gross Domestic Product (GDP); per capita and what have you, are the locations with majority of the world’s poor people. The UN estimated that per capita income in the United States of America was \$1,453 in 1949, whereas in Indonesia it barely reached \$25 (Escobar, 1995: 22). As the concept sinks further into the individual countries’ literature, poverty has been seen mainly as a rural phenomenon. Most poor people in developing countries live in rural areas and their main source of livelihood is through subsistence farming which is mainly dependent on rainfall and other natural climatic conditions. Sachs (2007: 70) indicated that the poverty trap is mainly a rural phenomenon of peasant farmers caught in a spiral of rising populations and stagnant or falling food production per person.

To give specific definitions to poverty is therefore, a great challenge both to researchers and practitioners because of the complexity of the concept. Poverty is however, not a myth but a discernible and fundamental enigma to development efforts in many countries and its discussion should be intensified as long as mankind exist (Mensah-Abrampa, 2004: 4).

A clearer understanding of the concept is necessary as this would create a way to deal with the conceptual situations. According to the (World Bank, 2002 vol. 1: 29), the measurement and analysis of poverty, inequality, and vulnerability are crucial for cognitive purposes (to know what the situation is), for analytical purposes (to understand the factors determining this situation), for policymaking purposes (to design interventions best adapted to the issues), and for monitoring and evaluation purposes (to assess the effectiveness of current policies and to determine whether the situation is changing).

According to (Todaro and Smith, 2006: 193), poverty is explained through the situational scenario for people who suffer from under nutrition and poor health, have little or no literacy, live in environmentally degraded areas, have little political voice, and attempt to earn a meager living on small and marginal farms or in dilapidated urban slums. From this definition of the concept by (Todaro and Smith, 2006), poverty is more of a situational development where those considered poor are unable to meet certain requirements in society. Variables are assigned and attached to this explanation of the concept by (Todaro and Smith, 2006). These variables can be grouped as health, education, environmental, political participation and incomes. These are similar to what (Escobar, 1995: 22) stated that management of poverty called for interventions in education, health, hygiene, morality and employment.

Similarly, (Hall and Midgley, 2004: 46) explained that words such as social exclusion, underclass, inequality, poor standard of living are used interchangeable to describe the poverty status of a person. Just like (Todaro and Smith, 2006), who used situational variables to describe poverty scenarios, the definition by (Hall and Midgley, 2004) adds more terms such as social exclusion, underclass and inequality to describe the poverty situation of a person. From the definitions emanating from (Todaro and Smith, 2006) and that of (Hall and Midgley, 2004) the commonalities are that poverty is present when people are unable to meet certain variables in life. These inability further give rise for such people to be called different names from the norms in society. You are underclass because there is a standard class for everyone in society. This is as a result of your inability to have high nutrition, live in high quality health condition, get good education, have good job and earn high standard of life in society and which is making you socially excluded.

The World Bank and the other Bretton Wood institutions have different explanations to poverty. These institutions assign monetary value to describe the situation of poor people. The definition of poverty is in relationship to the income or monetary values that these individuals or households live on. This is what is termed the poverty line. The main poverty line is \$1.25 a day at 2005 prices, but other lines are also used by different individual countries. Going by this, one can compute this value in real terms of what other writers have written on poverty definitions. For example, \$1.25 is converted to Gh ₵ 2.43 in 2011. By implication, it means individuals and households who live below Gh ₵ 2.43 are within the poverty bracket. This definition goes to confirm the definition of lack of resources, deprivation and starvation that others have outlined. This is because a household with 5 members living on Gh ₵ 2.43 is equal to starvation, lacking resources, and being deprived of basic needs in society.

While the above used variables as well as income values to describe poverty, (Sachs, 2007) rather explained the concept by presenting poverty at 3 levels or degrees. According to (Sachs, 2007: 20), these are the poverty of extreme or absolute, moderate poverty and that of relative. By Sachs' submissions, there are levels within the concepts. This means others may even be better off than others within the same concept. What do these 3 categorizations mean? Accordingly, extreme poverty means that households cannot meet basic needs for survival. They are chronically hungry, unable to access health care, lack the amenities of safe drinking water and sanitation, cannot afford education for some or all of the children, and perhaps lack rudimentary shelter-a roof to keep the rain out of the hut, a chimney to remove the smoke from the cook stove and basic articles of clothing such as shoes. Moderate poverty generally refers to condition of life in which basic needs are not met, but just barely. On the issue of relative poverty, (Sachs, 2007) posits that it is generally construed as a household income below a given proportion of average national income.

These categorizations observed by (Sachs, 2007) summaries the issue of deprivation and lack and that of the income definition presented by the Bretton Wood institutions. Sachs (2007) categorization could be useful in policy decisions as different policies would meet the different levels of people within the concept.

From the ensuing literature discourse, poverty analysts consent on the notion that poverty refers to a relative deprivation of and from something(s). It is a state of being vulnerable. It is associated with deficiencies and the basic necessities require for human survival and decent human living or existence. Escobar (1995) said the poor were defined as lacking what the rich had in terms of money and material possessions (p. 23). Poor countries came to be similarly defined in relation to the standards of wealth of the more economically advantaged nations. From this angle, should every deprivation or lack of "something" be considered a poverty scenario or there should be more to the lack or deprivation? This is prudent because economics has it that human needs and wants are unlimited but our resources to these needs are limited. In this case and all things being equal, there would be a lack or deprivation of a sort. What does the lack or deprivation mean in these definitions? These could be the concerns that the (WDR, 2001) tried to address and highlighted specifically that, poverty is a lack of the resources required to participate in activities and to enjoy living standards that are customary or widely accepted in the society in which poverty is being measured (p. 23).

This is one of the simple explanations to the concept. Every human being depends on resources (natural and artificial) to meet one's needs or wants. These are the basic foundations of economies. In the absence of these resources, one is unable to meet other needs in society. In this definition, the poor in society lack these resources that they would intend use to meet other needs

and wants. This report however, used lack of resources in general but went further to outline that poverty is pronounced deprivation in the well being. To be poor is to be hungry, to lack shelter and clothing, to be sick and not cared for, to be illiterate and not schooled. These are deprivation of basic needs and what (Escobar, 1995) termed as the rubric of social work.

Most interestingly, in (WDR, 2001: 19) is that; to live in poverty is seen as a vulnerability that the person has no control over. This deprivation is not only limited to material deprivation but also of low achievements in education and health. Vulnerability is the risk that a household or individual will experience an episode in income or health poverty over time. What this further means is that, this vulnerability could further expose victims to a number of other risks (violence, crime, natural disasters, or being pulled out of school and so on).

Adding to (WDR, 2001) Sen (2010) submission is also that of deprivation. Sen (2010) views the concept on the premise of starvation a characteristic of the poor not having enough food to eat. This starvation is regarded as the relationship of persons to the commodity and the ownership of these commodities by persons. Sen (2010) suggested that the ownerships are a person's entitlements which transcend into a person's ability to avoid starvation. This is very remarkable because without these entitlements a person cannot have access to the resources that (Townsend, 2010) referred to in his definition. But unlike (Sachs, 2007) who gave categorization to poverty, (Sen, 2010) assents poverty on approaches. These are the biological approach that has to do with nutritional requirement of the human being, the inequality approach and that of the deprivation approach. Sen (2010) noted that the concept also has to do with a method of identifying a group of people as poor; and a method of aggregating the characteristics of the set of poor people into an over-all image of poverty.

From these terminological debates are the common understanding that the concept poverty has to do with deprivation parameters of income, inaccessibility to basic needs and service, inability to live a better quality of life and the capacity to be responsible to one's social responsibilities and be recognized socially, religiously and politically in society. Moving from these contributions, this study views poverty as; a multitude dispossession that inhibits a person from meeting the basic needs as a result of situational vulnerability and deprivation of natural resources. The "basic needs" here refers to food, clothing and shelter. A person's socio-economic background could deprive or inhibit one from possessing entitlements to live a decent life in society.

2.4 Who are the Poor?

In some communities, especially the rural areas, everyone is regarded poor because this situation perhaps accords people the opportunity to be exempted from civil responsibilities. The situation also calls for support from stakeholders and probably the reason for the many numbers. Nonetheless, to analyze who the poor are; some statistical highlights may be of relevance to begin this discussion. A summary of global poverty indicators are presented in table 2.1.

Table 2.1: Global Poverty Indicators

Years	Population (in billions)	Indicators	Location
1987	1.2	Consumed less than the equivalent of \$1 a day, lack access to safe drinking WaS, infant and child mortality rates five times higher, whereas maternal mortality rate is about 14 times higher	Global
1993	1.3 and 3	Consumed less than the equivalent of \$1 in goods and services a day	Global
1996	0.5	Spending below \$1 a day	South Asia

Source: (Rao, 2000)

From table 2.1, (Rao, 2000) summarizes indicators to bring to light who the poor are. As shown in table 2.1, in 1987, 1.2 billion people were living on \$1 a day globally, lacked access to safe drinking water and sanitation, had infant and child mortality rates five times higher, whereas maternal mortality rate were about 14 times higher. In 1993, for instance, this steadily grew instead of declining. In 1993, 1.3 to 3 billion people still consumed less than the equivalent of \$1 a day in goods and services in their respective countries.

Apparently, (Sen, 2010) stated that the poor are those people whose consumption standards fall short of the norms, or whose incomes lay below that line. Sen (2010) and (Roa, 2000) describe the poor in relationship to their consumption standards. This feature of the poor is pegged on consumption requirement which is very vital because every human being consumes and is the basis for our existence. Sen (2010) also presented a biological approach of the concept of poverty when he cited (Rowntree, 1901) who defined families as being in primary poverty if their total earnings are insufficient to obtain the minimum necessities for the maintenance of merely physical efficiency.

The (WDR, 2000/01) describes people who are poor as those who often lack adequate food and shelter, education and health, deprivations that keeps them from leading the kind of life that everyone values. From the study conducted prior to the (WDR, 2000/01), termed “*The Voices of the Poor*” the study shows that poor people are active agents in their lives, but are often powerless to influence the social and economic factors that determined their well-being. This is agreeable as you will most times hear from the poor “what can we do?”

Deliberating on the issue of the poor, it is presented that, most of these hundreds of millions of people are likely to be illiterates and live in ill health; though not all rural poor are necessarily malnourished, malnourished (or undernourished) people are almost always poor (El-Ghonemy, 1990: 18). This definition of the poor by (El-Ghonemy, 1990) corroborates with the World Bank (1993) discussion papers on poverty reduction in East Asia by Frida Johansen. Johansen (1990: xii) observed that the poor were generally younger families, with more children and higher dependency ratios than the non-poor-extracting a basic living from small farms, often too small for subsistence and from seasonal, informal off-farm jobs. They tended to have less formal education and often were ethnic minorities.

In regions where the dominant occupation of the rural dweller is agriculture; the use of traditional methods of farming coupled with less or no subsidies on agricultural inputs; problem with the acquisition of land; a large number of these small farmers in such ecologically areas face poverty. The poor are categorized also as the casual and regularly hired agricultural landless

workers not receiving grain-wage equivalents who must therefore rely heavily on the market to acquire their entire grain food.

Additional dimension identifying poor people is in pregnant and lactating rural women who may only take one meal a day; still work on a small piece of land to cultivate food; walk long hours in search of energy (firewood) and water for the household; who may not have access to medical examination and attention before delivery (Sachs, 2007). In such situations, the woman and child are at risk to maternal disorders and that of mortality. In such situations, the children are likely to be malnourished.

Recent observation on this problem in sub-Saharan Africa specifically in Ghana shows that, in the rural areas, children born into poor families turn to be the labourers of the family. Such children are unable to go to school but only work on the family's farms and that of others for additional income. Tamanja (2012) discussing *Seasonal Migration of Basic School Children in Namoo* observed that children in Namoo in the Upper East Region (UER) migrate for various reasons but mostly due to parental/household poverty (p. 17). The interviews from the children suggested that they migrate to Accra and other southern communities to earn money and either remit or use for educational purposes. This suggest how children at very teen ages migrate to urban centers in search of unskilled jobs which are not readily available and at times such children end up on the streets selling all kinds of goods for survival.

Another feature of the poor in recent times is their vulnerability to epidemics and pandemics notably HIV/Aids. The poor are those who cannot afford to purchase anti-retroviral drugs when they are contracted with HIV virus. "Medical ward is in fact, a shocking euphemism, because in truth, it is not a medical ward at all. Sachs (2007) reported in his book *"The End of Poverty: Economic possibilities of our Time"* that it is a place where Malawians come to die of AIDS" (p. 8). Most of them rely on public service for free medication which also comes with public stigma and its psychological effects. It is reported that countries at the center of the HIV/Aids epidemic in Africa, such as Botswana and Zimbabwe, one in four adults are infected. AIDS orphans are becoming an overwhelming burden on both traditional and formal support mechanisms, and all the gains in life expectancy since the middle of the 20th century will soon be wiped out (WBR, 2009).

Moving from the household level to society, the poor communities are those that have little or no access to infrastructural development. The poor walk long hours to get to market centers and during rainy seasons, some feeder roads leading to such communities are rendered unmotorable. Access to educational and health facilities are seriously challenged and people in these communities who can access and afford these facilities are categorized as rich.

In the political and social fields, the poor are those whose voices may not be heard in both political and social discourses. Poor people are not voted for in most democracies. Their role is to vote for the rich in society and they are often exposed to ill treatment by institutions of the state and society. They are powerless to influence key decisions affecting their lives. This is where (WDR, 2000/01) stated that what people say poverty means to them, expands the definition to include powerlessness, voicelessness, vulnerability and fear. They are the ones who sit at the back rows during community meetings because they have no financial contribution to make. They are the group whose doors are closed to having, feeling and possessing technological luxuries of the time.

While using powerlessness, voicelessness to describe the poor, (Devas, 2004: 23) concluded that whereas there are places especially in urban communities where the poor are getting their voices heard, the outcomes depends on a number of factors. These include the

nature of the particular local democratic institution and process, the resources available, and the ability of the poor to organize and articulate their demands. It is therefore discussed that the actions of city government can make matters worse for the poor, through inappropriate and repressive policies and interventions, and can be supportive, for example, by ensuring access to essential infrastructure and services (Devas, 2004: 1).

Assessing the terminologies used to describe the poor, it is obvious that the poor are people who lack basic needs, resources, and are deprived of a good and decent living. Some argue that their lack of resources is limited to food, shelter and clothing. However, the case is now more than just these needs but a host of others including social and economic infrastructure. In sub-Saharan Africa, for instance, the poor live in communities that lack good health care systems, deplorable road networks, lack improve WaS facilities and a host of other facilities.

It is probably against this background that (Devas, 2004: 1) highlighted that the position of the poor depends on a host of economic and social factors, institutions and relationships: the market for labour, goods and services; household, kin and social relationships; and the lack of basic infrastructure, land, services and public safety.

2.5 Poverty in Geographical Locations

Poverty manifest itself in different ways in different geographical (urban and rural) regions; but perhaps the causes may be attributed to similar factors notably of a poor macro-economic austerity, persistence conflict and wars as well as natural catastrophes of famine and drought.

Hall and Midgley (2004) in their book, *“Social policy for development”* distinguished urban poor from their rural counterpart. In the views of (Hall and Midgley, 2004: 123), the urban poor experience vulnerability for very different reasons as opposed to their rural counterparts. They may pay more for their goods and services and are often more vulnerable to changes in market conditions and price increases. There are at times decline in real wages, because they live in an almost entirely monetized economy. This is practically the point because the urban poor cannot do without paying for certain goods and services. While the rural poor experience conditions of inaccessibility and unavailability, the urban poor are saddled with affordability.

Another distinctive feature between them is the relationships that exist in the built environment. The urban poor live in poor conditions of appalling overcrowding and congestions, constant threat of severe floods and a constant industrial polluted environment. Though, they both have similarities of an intake of contaminated water, poor or unimproved sanitation and inadequate social services; that of the urban communities are relatively serious because they live in a controlled environment as compared to the rural settings where open spaces, overcrowding and congestions are minimal.

The urban poor may have no access to land and may generally own or lease some land, largely in order to grow food crops, but do not produce enough to meet their subsistence needs. According to Campion (2012), the urban poor are usually easy to locate in the urban landscape. Campion (2012: 38) cited the UN-HABITAT (1996) stated that lack of access to land by the poor in urban communities facilitates the development and expansion of slum and squatter communities within urban areas. Their rural counterparts may have access to unfertile lands and use outmoded farming methods, the rural poor depends on a host of other factors to produce food in large quantities to meet their household consumption needs. It is probably against this background that (Riddell and Robinson, 1995: 12) posit that the poorest in sub-Saharan Africa generally have access to small plots of land but lack the means to cultivate it productively and, as

a result, have to supplement their meager agricultural incomes with earnings from casual labour, or else go without the food they need.

Throwing more light on rural poverty, (Dixon, 1990) used the following features to explain who is poor. A person who is landless or have too little land, have too large family size, malnutrition in ill-health, uneducated, have low or/and irregular income, have a weak bargaining position, indebtedness, preoccupied with survival, low life expectancy and high infant mortality rate. This definition from (Dixon, 1990) however, combines features of the poor in both geographical areas. Just like other writers (Hall and Midgley, 2004; Campion, 2012) who categorized the poor as landless, the urban poor are more landless than the rural poor. Nonetheless, (Dixon, 1990) added another feature large family sizes that is more identical to the rural poor. For example, it is common to see large extended families in rural communities than in urban communities. The difference could be because the urban poor are exposed to family planning practices than their rural counterparts or probably because of the love for children to work as farm labourers in rural communities.

From this discourse, it could be concluded that both the urban and rural poor exhibit similar characteristics. The differences could be deduced from one of inaccessibility and none availability of social and economic facilities and services in the rural communities to none affordability of these facilities and services among the urban poor. For example, there is availability of public sanitary facilities in urban communities but one is expected to pay for its use whereas there is inaccessibility of these in the rural communities.

2.6 Possible Reasons for Poverty

It is important to delve into the possible reasons that plunge individuals, households, countries and even continents into poverty. Writing intensively on the issues of poverty and economic growth in his book *“The End of Poverty: Economic Possibilities for our Time”* (Sachs, 2007) draws attention to some essential economic rationale for poverty. Sachs (2007) views these as mostly economic. These are:

The inability to save: This is a common indicator of poverty on individuals, households and communities. Persons are normally not in the position to save either income or other resources for future investment. For example a household that relies on farming should be in the position to save an amount of their produces for future investments. For instead, if a household cultivates 2 acre land, with a total number of 6 people, the household should feed on this as well as save part for re-investment in the future. Instances where this household is not able to save, may lead them into the poverty trap.

Absence of trade is another factor. This is normally the absence of effective and meaningful trading activities in the community or region. For example, the Shea tree is predominantly in the northern part of Ghana, and the only cash crop. If there is effective trade in this cash crop; farmers in the region would not only rely on food crops but would have other alternatives to additional incomes. Aside this, there should be accessibility to communities and regions to engage in effective economic trade.

Technological reversal is one such factor elaborated by (Sachs, 2007). In most rural areas in sub-Saharan Africa, one of the means to human livelihood is through informal education, where the younger ones learn the occupation of their parents through skill practice. With the AIDS pandemic, it is common to see orphans in a whole community who have not had the opportunity to learn from their parents, and to have this technology transfer to be able to build and live on it. In the absence of this, the younger generation who might have not gone through

the formal education system may find themselves struggling with only one occupation, farming. In cases when crop farming fails due to bad weather and other climatic conditions, the story of poverty is obvious.

Natural resource decline is another factor. Sachs (2007) explains this mainly on individuals and households who depend on farming as their main source of livelihood. From the assertions of (Sachs, 2007), this decline in natural resources does not necessarily mean that there is no additional land but part of the existing farmland gives way to environmental decline. This may be partly due to inability of the household to afford modern farming technology, use of fertilizers and insecticides among others. Part of the household's farm land is now reduced because it has become unproductive. Household food cultivated may also reduce. In instances where household members have increased in number while their land has reduced, the problems of poverty set in.

Adverse productivity shocks are the natural unforeseen disasters such as the drought, pests and diseases, floods, famine among others that families are rendered vulnerable to. In some cases civil unrest resulting in losses of lives and property compounds the problems. From the documentary "An Inconvenient Truth" (2006) the narrator Al-Gore explained how global warming is playing fast on disasters of ice melt downs, flooding and drought.

Population growth is one of the factors that (Sachs, 2007) identified as a possible reason for poverty but this is highly debatable since, population growth could be a source of potential market and cheap labour in some instances. For instance, one of the reasons for Brazil, Russian, India, China and South Africa (BRICS) coming together was because they control the world largest populations and sees this as an advantage that can work to their economic fortunes. Though population growth is seen as a disadvantage to development and poverty reduction, it is a blessing because of the market value of large populations such as India and China. However, it is an undeniable fact that population growth exerts pressure on infrastructure especially on natural resources such as water.

One of the issues that (Sachs, 2007) failed to consider or did not mentioned is the internal poor attitude towards work of most governmental institutions and workers especially in developing economies. The factors raised by (Sachs, 2007) are realities at the individual or/and household levels. What this means is that, if the individuals or households are able to overcome these factors enumerated by (Sachs, 2007), the household would not be in the position to avoid the poverty trap. Notwithstanding, government on its part has a role to play in creating an environment for growth and opportunities.

Most times the argument is that, developing economies have no financial resources to implement programmes and projects. Nonetheless, the argument here is that financial resources alone are not enough to solve the problems in these countries. At the macro level, the absence of institutional discipline is one of the factors that should be considered. What are the attitudes of governmental workers towards productivity? Do people work to ensure higher productivity? Do people have the sense of patriotism and nationalism in ensuring that it is the nation first? Do governments have the political will to ensure that political appointees are punished for illegal acts of mismanagement and corruption to the state? Do all governmental workers act in the interest of the state or for individual interest? It is when we are able to answer these questions proficiently at the macro level that developing economies would make efforts to ensure that state owned institutions are working to enhance higher productivity, growth and expansion. When this happens, opportunities are created to ensure that factors raised at the micro level are tackled meaningfully for poverty reduction.

2.7 Economic Perspective of Poverty

It is important to recognize the different lenses used to describe the concept of poverty. To the economist, poverty has to do with a person's inability to possess a certain amount of material wealth or money (purchasing power). Incomes are the underlying factor to the economist since, basic needs of housing; shelter and food are uniformly acquired with money in the market place. Drawing from the income dimension or income poverty, two main categorization of poverty is identified namely absolute and relative poverty.

Conventionally, a distinction is drawn between absolute poverty and relative poverty. The explanation of (Devas, 2004: 16) is that, the former relates to those who do not have sufficient income to afford a minimum level of nutrition and basic needs, while the latter is concerned with the position of the poor in relation to the rest of society. This is normally an indicator of the degree of inequality. Others such as (Mensah-Abrampa, 2004: 4) posit that relative poverty does not necessarily mean that those affected are unable to live "a life fit for human beings" but may mean that due to the distribution structure prevailing in an economy, individual economic entities suffer deprivation to an unacceptable degree. Further explanations from the view point of Clunies-Ross et al. (2009: 11) emphasized that the relatively poor are those who are poor in their own eyes and in the eyes of those among whom they live. This is because this group may have reliable and adequate food supplies, tapped water, clothing and shelter, even good health services if they fall sick but if their incomes stand far below the medians or modes in their societies, they may find their social life and contacts limited and a feeling that their status are low to be recognized. This group count themselves as poor.

Besides, there is the emerging literature of the newly poor bracket whose annual incomes used to be above the poverty line \$370 but due to the impact of some economic adopted policies of government such as Privatization and other Structure Adjustment Programme (SAP) implemented by individual countries, their incomes have now fallen below the poverty line. The economic perspective of poverty has given rise to the poverty lines and other measures of poverty.

2.8 Measure of Poverty

2.8.1 The Poverty Line

Whether relative or absolute poverty, there is a line that is used to describe who is poor and who is not. The poverty line is the starting point of poverty analysis. It serves as an objective standard by which the so-called poor are distinguished from the non-poor. According to (Ray, 1998: 250) in his book *Development Economics*, the notion of poverty line is as a critical threshold of income, consumption, or, more generally, access to goods and services below which individuals are declared to be poor. Income poverty lines are useful way of measuring poverty, but the focus is on minimum consumption needs. The disagreements of the poverty line measurement is that it provides little information about the health, education, housing and other conditions that characterize the lives of poor people.

Nonetheless, proper understanding of these concepts (the poverty line) to the lay man is probably one's inability to be able to afford to pay for the children to go to school; learn how to read and write; not having a permanent paid job with social security benefits during retirement; losing children to illness brought about by unclean water and poor sanitation; fear of the future and the quest to have more children because of unpredictable circumstance of death of the younger ones and their mothers. This is premise on the poor Kenya's man who said:

“don’t ask me what poverty is because you have met it outside my house. Look at the house and count the number of holes. Look at the utensils and the clothes I am wearing. Look at everything and write what you see. What you see is poverty” (Todaro and Smith, 2006: 7).

In a more extreme situation, the poverty of food insecurity is highlighted to explain the situation of the individual’s inability to get to eat; inadequate, improper and at times total lack of access to essential services and utilities such as housing, transportation facilities and networks, health, education, energy, water, marketing centers and the like.

This poverty line is further worsened in the third world because opportunities, potentials and resources that could be used to generate income ventures are also compounded by the emerging climatic change catastrophes as a result of the activities of man leading to the continuous vulnerability of the poor. To many Ghanaians, the poverty line is one which one does not see any hope of resurrection into economic glory.

2.8.2 Lorenz Curve and Gini Index

The poverty line is not the only means of measuring the poverty levels in society. One of the ways is through the Lorenz curve. This is a graphical presentation showing the distribution of one variable (incomes) across the population. This graph has two axes drawn with proportions of people on the horizontal axis and proportions of a variable such as incomes on the vertical axis to show the equality of distribution of the latter variable over the population. The summary of this graphical analysis is that the farther the Lorenz curve deviates from the diagonal of the diagram, the more unequal the distribution is. The Gini coefficient is a numerical measure of this inequality.

The argument here is also that this curve takes cognizance of only the incomes of the individual without other variables such as education levels, health and basic facilities of the individuals. In instance where rural populations have inconsistent incomes or no incomes at all, it is difficult to use this curve to analyze rural poverty.

2.9 The New Lens of Poverty

Sachs (2007: 81) purported that during the 1960s and 1970s, the rich countries told the poor countries that: “poverty is your own fault. Be like us (or what we imagine ourselves to be-free market oriented, entrepreneurial, fiscally responsible) and you too, can enjoy the riches of private-sector-led economic development”. The Bretton Wood institutions prescribed the same “drugs” to all countries in economic distress. To these institutions, the problem of economic decline and stagnant growth was as a result of excessive government spending, excessive intervention in the markets, poor governance, state ownership of major investments, high borrowing among others. The recipe for countries in economic distress was therefore, to tightened individual countries with privatization and liberalization while good governances became the key therapy to high economic growth. The aims of these were to have adverse effect on reduction of poverty. Years down the lane, most of these countries have implemented the self made therapies, but are still facing the problem of poverty. Ghana is an example of one of the countries that implemented Bretton Wood institutions’ therapies. Yet, poverty is still glittering in the eyes of this country that has great opportunities and potentials.

Against this backdrop, economist such as (Sachs, 2007) is of the view that good development economics should be seen now like clinical medicine where the medical doctor goes through a set of rigorous procedures to address one medical problem. Sachs (2007: 79) affirms that clinical economics should train development practitioners to hone in much more

effectively on the key underlying causes of economic distress, and to prescribe appropriate remedies that are well tailored to each country's specific conditions. This to a large extent should be the case. For example, even within the country, communities should be approached differently with different strategies to reduce poverty. This is because, strategy one could work for one community but would not work in another community. This explains why (Sachs, 2007) contented that good development economics should be like clinical medicine that goes through a set of procedures.

In this direction, poverty and its extremes should be view or diagnosed as a holistic set of underlying factors other than just one or two causes as prescribed by many conservative countries and economies. Addressing poverty should be based on a deep physical examination and diagnoses that the doctor runs through his or her patient with series of questions. It is when we are able to address the checklist questions that we can make a thorough fair to poverty solutions. This idea may be the underlying ideology behind MDGs which the world is seeking to address.

2.10 Development Trajectories

The concept of poverty cannot be discussed without development. This is because the two are twins, interlinked and interrelated. The two concepts are also seen as opposite concepts in that, if you are not one, then you are the other. You are either developed or not developed. And if you are not developed, then, one of the reasons could be that you are poor, the reason why you are not able to develop.

Development equally has the same dimensions as poverty. Apparently, (Todaro and Smith, 2006: 15) suggested that, there are different forms of development. The term development may mean different things to different people. Development cuts across a wide range of issues and sectors. In the words of (Adams, 1990: 4), concepts of development have a complex pedigree and etymology. According to (Adams, 1990: 2) who cited (Frank, 1987) explained that there is a long history of development thinking before development began dating back to the rise of mercantilism and economic liberalism which slowly- largely through the emerging colonial empires of the later nineteenth century –gave way to the emergence of a specific ethical ideology of development. In the views of (Adams, 1990), development meant the projects and policies, the infrastructure, flows of capital and transfers of technology which were supposed to make that imitation possible.

Development is also a value word, implying change that is desirable. What constitutes development depends on what social goals are being advocated by the development agency, government, analyst or adviser. We take development to be a vector of desirable social objectives; a list of attributes which society seeks to achieve or maximize. The elements of this vector might include some of these.

1. Increases in real income per capita;
2. Improvements in health and nutritional status;
3. Educational achievement;
4. Access to resources;
5. A 'fairer' distribution of income;
6. Increases in basic freedoms.

While admitting to the above attributes illustrated by institutions such as the World Bank, (Mensah-Abrampa, 2004: 1) added that the first promoters of the term "development" saw it as "economic growth". According to (Mensah-Abrampa, 2004: 1) citing Lewis (1955) "first it

should be noted that our subject matter is growth and not distribution". Under this developmental era, emphasis were placed on high level of industrialization, high level of production, technological application and high performance level of the general economy. This school of thought meant that as industries grew; jobs would be created and people would be employed; incomes of individuals would be high which would attract savings and investment and a general picture of individual development and a reduction in economic inequalities. This era did not think of the inequalities in distribution of natural resources globally. Aside, there was no thinking of other components of development that are not related to industrialization, production, technology and general economic growth. This thinking was narrowed to the earlier thinkers of development.

Todaro and Smith (2006) further supported this thinking and again explained that development under the economic terms meant the capacity of a national economy, whose initial economic condition has been more or less static for a long time, to generate and sustain an annual increase in its Gross National Income (GNI) at rates of 5% to 7% or more. Others expatiated on the economic definition of the concept development (Lewis, 1955; Todaro and Smith, 2006). This is merely on the general economic growth of the individual countries. This definition of the concept did not go beyond looking at issues of individual development especially rural communities whose contributions to GNI are nothing to write home about.

Consequently, (Hall and Midgley, 2004) refuted that many countries that recorded high rates of economic growth in the definitions of (Lewis, 1955; Todaro and Smith, 2006) still have a high proportion of their population in the poverty gap. Based on assessments that economic growth was not impacting directly on the majority of the citizens, a re-orientation of the concept emerged. This redirection probably supported (Hall and Midgley, 2004) assessment that there was poverty in the midst of economic growth. Accordingly, (Mensah-Abrampa, 2004: 2) citing (UNRISD, 1980) claimed that stakeholders evaluating these changes focus attention again on improvement on the quality of people's life with an integration of other factors such as physical resources, technical processes, economic and social aspects to the development dimensions. Additional terms are still being added to the development phase and one cannot describe how development would be conceptualized in the 22nd centuries since, societies are not static and human behaviour is more dynamic but complex.

It is probably against the realization that economic growth was not meeting the standards of reducing poverty that the UN came out with the Human Development Report (HDR) to measure the performance of individual countries with indicators other than economic activities and their growth (namely GDP and its growth rate). The report stated that other indicators are important for development, including life expectancy, literacy and enrolment rates (Bubbico and Dijkstra, 2011). This approach argues that income, commodities and wealth are means to an end. They do not constitute a direct measure of the living standard itself. Development should benefit the people, and should consider the life that people lead: their achievements, freedoms and capabilities.

Subsequently, (Sen, 1999: 3) in "*Development as Freedom*" displayed a different view of development. "Development can be seen, it is argued here, as a process of expanding the real freedoms that people enjoy". In line with (Sen, 1999), the narrower views of development are attached to GNP with personal incomes but individual incomes alone are not means to expanding the freedoms enjoyed by the members of society. There are other determinants that expand freedoms other than the income dimension. Though income plays a role, (Sen, 1999) insisted facilities for education and health care as well as political and civil rights expands freedoms than

just incomes. I however, disagree with (Sen, 1999) because these determinants of freedom are gotten from income. For instance, educational and health facilities that are mentioned by (Sen, 1999) are acquired through incomes. The income component cannot be taken off from the concept of development. Although, freedoms are best suited for the concept, incomes lead to these freedoms.

The question in development studies is whether an increase in one concept would lead to a reduction in the other. As economist laid emphasis on economic growth, the question is: will economic growth necessarily lead to the desiring development that all are yearning for? Weighing the two concepts, it is clear that a high level of human development is no guarantee of a low level of human poverty and vice versa. This is so because issues of development and poverty have cultural and traditional connotations that economic growth alone cannot address.

From this discourse, this study envisage development as a process of change that seeks the well being of human regarding social, economic, cultural, religious, environment and traditions hone towards the entirety of growth. All these aspects give the completeness in development. For instance, the earlier definition of the concept recognized development on country basis. However, the country constitutes different individuals. The definitions failed to reconcile the individuals in the concept of development.

The study definition takes into consideration the economic issues of the individuals that should address the market theories of creating jobs, incomes, standard of living among others. While looking at these, the social aspect of the concept includes the individual's education attainment, health, social amenities, and recreation etcetera. Traditions and culture are overlooked but these are important for development. For example, traditions and cultural preservations promote peace and avoid civil conflicts. This is practically so because of communities with chieftaincy institutions like Ghana. These traditions and cultures also serve to promote tourism. It is reported that most Eastern African countries such as Kenya are economically robust because of foreign exchange earnings from tourism activities. While acknowledging the positivity of traditions and culture, peoples' traditional beliefs hinder health solutions. An example is the Ebola virus outbreak in West Africa, where most of the people attribute the spread to punishment from gods and spirits. "God is angry with Liberia and that Ebola is a plague. "Liberians have to pray and seek God's forgiveness over the corruption and immoral acts (such as homosexuality, etc.) that continue to penetrate our society. As Christians, we must repent and seek God's forgiveness." (<http://www.wnd.com/2014/08/liberia-ebola-a-plague-from-god-due-to-sin/#Q91j9rwzAJB1RtbR.99>) retrieved on August 14, 2014.

It is the same with religion. Individual's religious belief play a role in development. It is common to see how countries are raised down because of religious disagreements. Nigeria is one such example of religious conflict. Human and material properties are lost in such conflicts that economic growth fails to address. Girls are prevented from being educated. The environmental component combines force to ensure sustainability of the other indicators of social, economic, religious and so on. In a nutshell, the concept development encompasses the social, economic, cultural, religious, environmental as well as traditional in a multi display of individual growth emanating from 'secret'³ indicators towards a combined state development.

³ The researcher used 'secret' indicators to mean social, economic, cultural, religious, environmental and traditions to development.

2.10.1 An Economic Perspective of Development

In the works of (Edmonds, 2003), development which connotes advancement and progress was not an important part of human agenda. Economists discuss development in relative terms of macroeconomic and financial imbalances. These discussions go further into deliberations of Gross Domestic Product (GDP) growth accompanied by a rapidly increasing population; unsustainable balance of payments deficits characterized by imports growing faster than exports and a country's inability to service external debt and its consequences. Others include budget deficits characterized by high public expenditures with less fiscal revenues which could lead to economic stagnation and negative growth. It is argued that a weak monetary policies characterized by rampant inflation and negative real interest rates would render a country bankrupt leading to a situation of structural adjustment. Development to the economist is when all these are working efficiently to the attainment of the desirable economic growth. It is behind this ideology that (Hope and Kayira, 1997) categorized majority of African countries as experiencing serious economic crisis.

“The majority of African countries are experiencing a serious economic crisis. That economic crisis, though showing signs of moderation in some countries, has resulted in elusive development in most of the others with far-reaching negative consequences on their populaces. When there is no development, there is hopelessness; and where there is hopelessness, there is no effort to work toward development” (p. 3).

The ordinary citizen on the streets of any country who has no idea what these terms imply may say that there is no development even if these economic indicators are sound and working favourably towards economic growth.

It is based on this that (Bubbico and Dijkstra, 2010), indicated that the development debate appears to be at last, costing towards a consensus. Developing nations must not focus their energies on the growth rate of their GDP, Net National Product (NNP), Gross National Product (GNP) and the like but instead try to achieve Human Development (HD), or comprehensive development. Bubbico and Dijkstra (2010) probably came to this conclusion because in rich countries such as China, large numbers of children work 12 to 14 hours a day, even so just barely enabling their families to survive. In many countries, more than 100 babies out of every 1000 live births die in the first year of life while in others more than half the population has no access to electricity or safe drinking water and improved sanitation.

Against this background, the post-Washington consensus recognizes that a broader set of instruments (are) necessary and (that) our goals are also much broader. Strglitz (1998a) further emphasize rightly the need to focus attention on better income distribution, environment, health care and education (p. 31). The UNDP beginning with the Human Development Report (1990), has argued strongly for an indicator of nation's progress, which is a weighted average of:

1. The nation's literacy and educational achievements
2. The citizen's life expectancy and that of per capita income.

More recently, the World Bank has argued for broadening development goals beyond tradition macroeconomic goals such as National Income Growth (NIG), fiscal health and the balance of payment stability, to include 'societal development' such as basic human rights, access to a just legal system, literacy and good health (Edmonds, 2003: 9) cited (Stiglitz, 1998a; Wolfensohn, 1999).

Streeten (1994) has sought to bring order to these objectives by classifying them into 2 categories: resource development and humanitarian progress and giving 6 reasons why we should be interested in human development.

- i. It is desirable as an end in itself
- ii. It can promote higher productivity and so enhance human command over goods and services
- iii. It reduces the birth rate, which is a generally desirable effect
- iv. It is good for the environment
- v. It can contribute to a healthy civil society and democracy
- vi. It can promote political stability

Despite the economic deliberation of development, current concentrations on these concepts by stakeholders are to implement a holistic strategy that would not only focus on the economic environment of individual countries but which would include as well the political, human and environment components to the concept “development”.

2.11 Forms of Development

Unlike poverty that has aligned contrast in geographical locations of rural and urban, development hardly present these clear contrasting views. A region which is developed whether rural or urban has similar features than is seen in the concept of poverty. The major contrast is in the form development take. In this categorization, the World Bank has used the income indicator to draw this conclusion. But under World Bank, the forms and classifications are countries in low-income, lower-middle-income, higher middle-income, and high-income, based on the countries’ GNI per capita in current prices. For this study, the forms are discussed under three sub-headings. The aim is to point out the form development takes. This is basically on incomes, GNI per capita and recently inflation.

2.11.1 High Economic Development

The World Bank set the original per capita income thresholds for the different income groups by looking at the relationship between measures of well-being, including poverty incidence and infant mortality, and GNI per capita Felipe et al. (2012). According to Felipe et al. (2012: 6) citing Kuznets (1971) economic development is a very complex process that involves: (i) the transfer of resources (labor and capital) from activities of low productivity (typically agriculture) into activities of higher productivity (industry and services); (ii) capital accumulation; (iii) industrialization and the manufacture of new products using new methods of production; (iv) urbanization; and (v) changes in social institutions and beliefs.

Countries under this group have witnessed consistency in growth. An example is the USA that have maintained income growth rate of 1.7% for almost two centuries until the recent recession from 2008 to 2010.

2.11.2 Middle Economic Development

Most of the countries that fall under this category have gained economic stability in GNI per capita, stable inflation and stable population growth. These indicators positioned Ghana in 2010-2012 as a lower middle economic developed country. Indeed, countries that have made it to the middle-income bracket may slide back to the low-income group, perhaps due to a major shock, such as wars or plunge in commodity prices if the country is excessively dependent on a narrow set of commodities Felipe et al. (2012). This is realistic as Ghana is back to the International Monetary Fund asking for support in the midst of oil production. This could be the reason why

Felipe et al. (2012) explained that there is no clear and acceptable definition of what the middle income trap is. Nonetheless, Felipe et al. (2012: 7) citing (Spence, 2011) definition of middle-income transition is “that part of the growth process that occurs when a country’s per capita income gets into the range of \$5,000 to \$10,000”. This stage is a process and the process could be sustained and move upwards or decline and back to low economic status.

2.11.3 Low Economic Development

To be a low economic country implies to have a negative growth in GDP per capita. Low economic developed countries rely primarily on subsistence agriculture. In the views of (Sachs, 2005: 31), “the real story of modern economic growth has been the ability of some regions to achieve unprecedented long-term increases in total production to levels never before seen in the world, while other regions stagnated, at least by comparison”. By implication, these countries have remained at the same position for a longer period and probably resorting to borrowing normally from the World Bank or International Monetary Fund to fund infrastructure projects.

2.12 Necessitating Factors Accounting for Development

To outline the possible factors that account for economic growth and development; I have used 3 economies to explicate the factors. These economies are the U.S.A, Great Britain and Germany. In the case of the U.S.A, per capita gross national product for example grew an annual rate of around 1.7% during the period 1820 to 1998. Sachs (2005) elucidates that this rich economy has also achieved a steady growth built on consistency.

Great Britain on its part has a relatively open, with more scope for individual initiative and social mobility than most other societies of the world. Again, (Sachs, 2005: 33) justified that Britain had strengthening institutions of political liberty. Britain’s parliament and its traditions of free speech and open debate were powerful contributors to the uptake of new ideas. Aside, Britain became one of the leading centers of Europe’s scientific revolution. These are some of the factors that accounted for growth and stability in Britain. While admitting without doubt to these factors, there is the debate that Britain colonized many African countries that had rich mineral resources such as gold, bauxite and diamond. An example is the case of Ghana. In the process, most of these minerals were export to enrich the country. Nonetheless, it is debatable that if British took these resources from us at a point in time, and Ghanaians now man our own resources, why have we not made economic impact and gains from these resources? This debate from one perspective could support arguments that it is strong institutional and political openness that plays the game rather than natural resources though natural resources cannot be completely ruled out.

On the other hand, Germany’s economic history started with the industrial revolution when constitutional governance was introduced, railway development paved the way for European integrated and regional trade with the flow of ideas and technologies across regions. But (Sachs, 2005) elaborated that the German story is as a result of favorable natural resources including coal, timber, rivers and rainfall. Accordingly, Europe benefited from a more benign disease environment, less vulnerable to tropical and sub-tropical diseases like malaria. On the contrary, (Sachs, 2005) discussions failed to respond to the nineteenth century industrialized period of Germany. Discussing German economy growth, (Pierenkemper and Richard, 2004), in their book “*The Germany Economy during the nineteenth century*” elaborated how this period contributed to growth of the economy. According to (Pierenkemper and Richard, 2004: xiv), this period went hand in hand with the process of large-scale structural change “industrialization”

with the absolute and relative growth of industrial activity and the shift in employment of resources which that growth implies.

There is still evidence of this growth as of today. Germany is still the groundbreaker of the European Union. While acknowledging the status of Germany, it is prudent for the country to take a second look at some of their social policies such as unemployment benefits that encourages laziness, and influx of migrants into the economy.

2.13 WaS and Economic Growth Linkages

One of the discussions of environmental threats is centered on water. Our understanding of water is vital because water is essential to the existence of man and all living things. All living things depend of water for survival. It is unique because it is available in its uniqueness throughout the world. There is always uneasiness when water is not available in the household, community and beyond. No wonder it has also become a political subject in the Ghanaian economy especially during political seasons.

Many researchers have referred to water as a development issue (Bacho, 2001; Ocloo, 2011; Saravanan and Gondhalekar, 2013; Banerjee and Morella, 2011). While recognizing this development parameter, there are also the cultural and social dimensions associated with water. The argument of water as a development issue is that there is a strong relationship between WaS and development. This is the linkage where the use of unimproved water would lead to health problems, lost of productive hours, use of meager household income and the general decline of economic resources at the household level.

Sanitation as well is a developmental need especially in rural communities in developing countries. This is because rural communities get there water supply from dugout wells. When excreta are washed into these sources, this could result in pollution and further compounds health hazards. It is also against human dignity to see people attending to “nature’s call” in open fields or paraded themselves in long queues in an attempt to “free” themselves. On the contrary, water supply systems determine the type of sanitary facility to provide in communities. For instance, one cannot construct a water closet sanitary facility where there is no constant supply of water. The construction of Kumasi Ventilated Improved Pit (KVIP) latrines very popular in Ghana is normally preferred because of its use without water which also comes with numerous problems. The dual relationship between the two terms may explain why they are always attached together.

Secondly, sanitation facilities in most urban communities serve as sources for internally revenue generation to local authorities. Monies accruing from public toilets are enormous. Aside, these facilities employ though a small number of people to manage the facilities.

2.14 Poverty, Development and the Environment Nexus

Of recent, environmental issues are gradually becoming very topical in the development discourse. Poverty, Development and the Environment are interactive and interrelated. The interactive nature of these concepts and their relationship stems from the fact that human developmental needs are limited and scarce. These limited resources are readily available in man’s immediate environment. However, fast and aggressive development which is accompanied by destruction to forest for agricultural purposes, heavy industrialization and the emission of greenhouse gases and others have consequences on the environment and as such could increase our poverty situation. The basis for understanding the environment, its drivers and players as well as its linkages to poverty informs development discussions and decisions. Environmental changes and challenges are manifested in various forms and dimensions. These forms of manifestations affect human society locally, nationally, and globally. Today, climate

change which is a conditional issue of the environment is a global phenomenon. This is because human beings derive their source of livelihood from the environment. In the explanations of (Agbola, 2011: 65), the basic idea of vulnerability originates from the realization that shocks, of both economic and non-economic nature, can exacerbate the problem of poverty. This is because there may be a group of individuals who are not currently poor, but are nonetheless in such a state that a sudden shock (such as climate induced catastrophe like famine) could easily push them into poverty.

The stake realities of the concepts of poverty, development and the environment is that human and economic development take a stem root from natural inter alia human environment. The deterioration in environmental assets affects all but the poor are mostly and adversely affected on higher rates. The analysis is that, conditions with much greater exposure to air and water pollution, poor hygiene and sanitation causes poor health, which decreases the potentials of high labour in agriculture especially for countries relying solely on high man power. Again, this situation could also decrease the potential for educational attainment, and hence, brings about low human capital, inefficient utilization of time and the circle of abject poverty. Environmental damage tends to affect the poor and particularly those who rely heavily on fragile natural resources for their livelihood. For instance, the rural population in Northern Region, Ghana depends on trees (fire wood and charcoal) for their energy needs. The returns on natural capital are greater than on their human capital. Polluted areas such as “Sodom and Gomorrah”, the digital dumping ground in Agbogbloshie/Accra are cheaper for the poor to reside. Because of their status as squatters, access to safe drinking water and sanitation is usually denied.

If poverty affects the environment and causes environmental degradation and vice versa, does development any good sign to discuss? Rao (2000) stated that the more prosperous countries are contributing more to global environmental problems than others, both in per capita and absolute terms. The prosperous countries contribute more in the arena of global environmental issues like greenhouse gases emissions, as well as urban air pollution emanating from industries. Global warming is now a reality than a myth. Guggenheim (2006) in “*An inconvenient truth*” dilated on how glacier and icy regions are under treats from global warming. For example, it was graphically shown in this documentary that Mountain Kilimanjaro which had decades of snow in the 1970s now has little snow in 2000 and within a decade, there will be no more snow on Kilimanjaro. These are the impacts of industrialization. The Kyoto protocols were directed to the developed countries, which are the polluters and causing a great damage to the environment. A link of the poverty, development and environment nexus is presented on figure 2.1.

Figure 2.1: Poverty, Development and the Environment Nexus



Source: Researcher’s construct, 2014

Figure 2.1 displays how in the quest to develop, man approaches the environment and uses the land, water bodies, natural mineral reserves, trees and vegetative cover, the atmosphere among others to satisfy the needs of housing, food, transportation networks, communication, energy and industries etcetera. As man enjoys the environment and the needs he gets from it, he exhibits excitement for meeting his needs. But beyond this, man has destroyed this same environment causing excessive global warming and severe climatic change conditions. This is evident from media reports on weather conditions across the globe. Some examples are Japan tsunami (March 11, 2011), 2013 Atlantic hurricane season that caused damage close to at least \$1.51 billion (US

Dollars), typhoon Haiyan among others. As these conditions are on-going and causing destruction to food and property like “typhoon Haiyan” that led to the death of 1,774 people in the Philippines in 2013 (CNN, November 11, 2013), there is a realization that we are again poor with no food, shelter and clothing (our basic needs). Figure 2.1 places man in the center of this nexus. Man is poor, undeveloped and looking for development. In the process of using the environment to develop, severe damage is unleashed onto the environment causing additional environmental conditions that worsen or aggravate the situation causing further poverty especially among those who are already poor. This has drawn the attention to the need for sustainable use of the environment.

2.15 Sustainable Development Goals (SDGs)

Based on the discussions on economic growth and development on poverty and the environment, a new strategy in international development literature evolved. Sachs (2009: 5) pointed out that there is the realization that the world’s current ecological, demographic, and economic trajectory is unsustainable, meaning that if we continue with “business as usual” we will hit social and ecological crises with calamitous results. This strategy is based on the notion that development by itself is good, if this is sustained for future generations. This has to do with the thinking of the environmentalist. A review on sustainable development is therefore incomplete without the environmentalist.

The term sustainable development took center stage of the development agenda and revolves from an environmentalist perspective. Globally, the environmentalist agenda is conservation and ecological balance. The failings of orthodox approaches to development however, have increasingly fuelled criticism of a different order from the environmentalists (Adams, 1990: 5). One dynamic lesson is the use and management of forest resources on a sustainable yield of timber, which started centuries ago. This term of sustainability has emerged at a time that natural resources are overexploited to meet the demands of the fast growing population. The situation is very alarming in developing economies and among poor communities that rely on the natural environment to meet their daily needs of food, fuel and housing (2fh).

The concept gained recognition in the 1960s and 1970s when the UN set up an independent organization known as the World Commission on Environment Development (WCED); to examine the problems of environment and development facing the world and considers possible solutions to remedy the situation. The organization was chaired by the then Prime Minister of Norway, Gro Harlem Brundtland and the report is referred to as the Brundtland Report in most circles. In this report, emphases were laid on the level of environmental destructions and its effects on economic growth. The report highlighted that poverty has adverse disadvantages to environment destructions.

Despite the benefits of nature to humans as a place where one can use these resources to enhance life, there is clear evidence of high levels of pollution in water bodies; major disturbance to the ecosystem through periodic bush burning; destruction and the depletion of irreplaceable resources such as timber and minerals without an equivalent replaceable rate among others. These ecological conditions are being worsened in an attempt by individual countries to attain rapid economic growth. This phenomenon is being practiced in most countries especially the developing economies and unless growth is channeled by participatory policies into resource saving, conservation and sustainable technologies, a time would come, when the world would not be in the position to replenish these resources. These among others alerted the international

community to remedy the situation. Future development needs should take into consideration the impact of human activities on the environment and the need to incorporate environmental safeguards that provide for any cost required to remediate further damage (UN principle 12).

The contribution of (Redclift, 1984) that nature exists for man is uncompromisingly challenged. Nature needs to be protected for its own sake, not merely to preserve its potential for man. This concern with the stewardship of the natural environment has been married to the idea that human respect for nature is lost in the pursuit of material gain. Materialism, the production of goods from nature, represents an abdication of human responsibility for the natural world.

What has promoted the debate and added urgency is a pace at which natural resources are being depleted and the environment polluted. Against this background, (Cotgrove, 1983: 19) affirms that “the rate of depletion and pollution led some groups to use environmental dangers as levers to promote fundamental social change”.

The concern is now on preservation, management and use of non-renewable natural resources such that future generations will have the same access to these natural resources that we have today. The commonest definition is from (Adams, 1990: 3) who defines sustainable development to be that of “our common future, development which meets the needs of the present without compromising the ability of future generations to meet their own needs”.

The contribution of (Repetto, 1986: 15) advances sustainable development as a “development strategy that manages all assets, natural and human resources, as well as financial and physical assets, for increasing long-term wealth and well-being”. While (Adams, 1990) uses sustainable development as meeting the needs of today without compromising the needs of the future, (Repetto, 1986) has a different view of sustainable development and see it as a strategy. Repetto (1986) explanation of sustainable development is corroborated with that of (Turner and Pearce, 1990). According to (Turner and Pearce, 1990: 4), sustainable development is a goal and this goal rejects policies and practices that support current living standards by depleting the productive base, including natural resources, and leaves future generations with poorer prospects and greater risks than our own.

In the position of (Rao, 2000: 235) “the concept of sustainable development ceases to make a meaningful contribution to the quality of life on the planet if; it is devoid of the perspective of the processes leading to poverty and resource deprivation”. Rao (2000) further stated that the persistence and deterioration of the poverty problem is rooted deep in the problems of inequitable initial asset distribution across different sections of the community, and lopsided public policies affecting property rights and property entitlements. This is empirically true due to the poverty and development situations in Africa and Ghana in particular. The northern part of Ghana is challenged developmentally due to one of the reasons of inadequate natural resource location. The rich mineral deposits are situated in the southern sector of the country. The climatic conditions favour the farmers in the southern regions than the northern regions.

Notwithstanding, the contributions of the various writers on sustainable development were centered on environmental use of resources on sustainable manner to allow for future use. Apart from (Rao, 2000), who added public policies to the explanation (Adams, 1990; Repetto, 1986) emphasized on preservation of the use of environmental resources in a sustainable manner to allow for future use as well. This is agreeable to some extent looking at the background of the concept from the Brudtland Report that laid emphasis on environmental destructions and its effects on economic growth. Indeed, there appears to be a link of the term sustainable development to the environment, however, these writers neglected and failed to consider other

areas such as sustainability of policies and projects. For example, the concept or goal of sustainable development should not rest with the environment alone, but should go to incorporate sustainable policies and projects.

Against this backdrop, this study does not only see sustainable development as the reasonable use of natural resources and the environment to achieve economic growth and development but also the realistic control and management of policies and projects to meet the needs of today and that of future generations. The world is battling to meet the goals of the millennium (MDGs). While working to meet these goals, we should as well work to sustain these goals for the future. This is especially so because projects and policies in sub-Saharan African and Ghana in particular are mostly not sustainable. These are what I refer to as Sustainable Development Goals (SDGs).

2.16 Reducing Poverty in a World of Rich Resources

It is clear that policies have been implemented to reduce if not fully eradicate the scourge of poverty in human societies. This situation still exists and manifests itself probably in new forms. The development planner would not relent on the notion that past strategies did not work towards eradication but would advance new strategies towards the reduction of poverty especially in rural communities.

Approaches to reduce poverty have evolved over the past 50 years in response to deepening understanding of the complexity of development. In the 1950s and 1960s many viewed large investments in physical capital and infrastructure as the primary means to development. In the 1970s awareness grew that physical capital was not enough, and that, health and education were important. The (WDR, 1980) articulated this understanding and argued improvements in health and education that promotes growth in the incomes of poor people. The 1980s saw another shift of emphasis following the debt crisis and global recession and the contrasting experiences of East and South Asia, Latin America, and sub-Saharan Africa. Emphasis was placed on improving economic management and allowing greater role for market forces. Again, the (WDR, 1990) proposed a two-part strategy: promoting labor-intensive growth through economic openness and investment in infrastructure and providing basic services to poor people in health and education. In the 1990s, governance and institutions moved toward center stage to include vulnerability at the local and national levels.

In view of this, (WB, 2002) admonished that poverty reduction interventions will focus on improving income security, education and health capabilities and on empowering those population groups living in poverty or near the poverty line in addition to those at relatively high risk of falling into income poverty (vol. 1, p. 3).

Numerous statistical studies confirm that rapid economic growth is the engine to poverty reduction, using both income and non-income measures of poverty (WB 2002, vol. 1, p. 3). This is because economic growth is a prerequisite for raising per capita incomes in society as a whole, and thereby expanding other economic opportunities of which the poor are able to take prime advantage. Through economic growth, there is a wide opportunity to provide the resources required to support increased social expenditure in other sectors such as education, health, water and sanitation, agriculture, and many other areas of the economy. Another important point is that this growth is also needed essentially for additional investment which is necessary to sustain improvements in living standards in the longer term.

Though (WB, 2002) held this argument of economic growth and adverse indicators associated with such growths, (Riddell and Robinson, 1995: 14) disputed the economic growth

dynamics to poverty reduction and concluded that evidence suggests that growth alone has not been able to reduce poverty to any great extent in the absence of more direct policy initiatives. There is therefore the need to combine other programmes with macroeconomic policies to address poverty alleviation. These programmes could operate at the global, national, local, and household levels.

2.16.1 Global Level

At the global level, many interventions are taken to ensure poverty reduction. Most of these are declarations, initiatives and funds. At the global level, the Global Fund to Fight AIDS, TB and Malaria have now been instituted. Economic Policies such as Africa's Growth and Opportunities Act (AGOA) were instituted and have paved the way for Africa's competition in US markets. Others include the Millennium Declaration on poverty reduction among others.

The MDGs

The realization that the issue is not only that of poverty but that of extreme poverty especially in the developing economies compelled the world to identify a combined set of investments well attuned to the needs of these economies that would at least set to break the poverty roots. One of the notions is that the new approach towards this global solution should be based on global cooperation among nations with an active interplay of other stakeholders such as civil society.

Based on this orientation, the United Nations and many world leaders expressed a global determination to end some of the most challenging and vexing problems inherited from the twentieth century (Sachs, 2005: 210). These became the world declaration to help countries within the poverty trap to address hunger, disease, access to education, health, basic needs and honorable life. These became the MDGs. They were 8 in number with 18 targets that are concrete, time bound, achievable, measurable towards poverty reduction.

According to (Sachs, 2005), the MDGs wisely recognize that extreme poverty has many dimensions, not only low income, but also vulnerability to disease, exclusion from education, chronic hunger and under nutrition, lack of access to basic amenities such as clean WaS, environmental degradation such as deforestation and land erosion that threatens lives and livelihoods. There is hope of a changed world from extreme poverty to a significant sustainable world. The fight to achieve MDGs is on-going especially in sub-Saharan Africa.

However, the consensus was that of cooperation, partnership and global participation from the developed countries to the developing economies. Since this was a combined effort, the developed economies were to contribute their quota to solving these world crises. There are still questions as to whether poverty would change with the attainment of these goals. This is because in 1978, the international community pledged "Health for All" by the year 2000 yet the world met 2000 with more challenging difficulties with HIV/AIDS pandemic with advancing malaria figures from sub-Saharan Africa. In 2014, there is an outbreak of Ebola virus in West Africa killing close to 729 people by the end of July, 2014 (CNN, July 3, 2014). In 1990 the World Summit for Children also pledged universal access to primary education by 2000 yet these are still issues of the Millennium Declaration.

Will the world be in the position to address these concerns in the face of terror attacks especially the famous 9/11 on US soil and the subsequent wars in sovereign countries? In 2012-13, the world witnessed the "Arab spring" with political instability within the Arab community. Current developments in the Euro zone where some economies are down on economic recessions and bankruptcy such as Greeks and Spain are worrying developments. How about the tsunamis experienced in Indonesian and the recent one in Japan causing lost to live and properties? Is there

a global trust among nations, institutions and organizations to work in cooperation and in partnership for the attainment of these goals? Are the MDGs enough to ensure a reduction in poverty? Or do we need to envisage another Global Declaration in the future?

National Level

In the case of Ghana, the Livelihood Empowerment against Poverty (LEAP) programme where a monthly amount of money is given to poor households is one social intervention to reduce poverty. There are however, challenges with this programme as remittances to the poor are not regular and the selection of beneficiaries raises “eye brow”. Another programme is non-formal education where non-literate poor communities are taught numeracy and literacy. This intervention is to ensure that illiterate population receives little knowledge in numeracy and literacy. This educational provision is directed towards the promotion of human resource development. There is also an attempt by countries to physically redistribute land from the rich to the poor through land reforms. Zimbabwe is an example of land redistribution policy in Africa. The problem with land provision to the poor is that the provision of the physical land alone is not enough to alleviate poverty. Riddell and Robinson (1995) demonstrated how poor farmers lack the resources to cultivate the land productively (p. 17).

Micro-credit schemes such as Micro Finance and Small Loans Center (MASLOC) are also designed to physically provide credit with low interest rates to poor farmers and other economic groups. The design and intention of credit to the poor is laudable but some poor communities have abused the system because these groups see this form of interventions as a free gift from central government and as a result, there are high percentages of none loan recoveries and in some cases, a direct collapse of the system. Other safety-net measures such as fertilizer subsidies, seasonal employment programmes are being implemented at national level to augment the plight of the poor.

Local Level

At the local level, most of the interventions are directed towards vibrant rural agricultural production. These strategies enhance the productivity of smallholders in order to increase incomes and food production. The package in most cases involves an expansion in rural services in health and education, as well as other measures to stimulate agriculture production. In the agriculture sector, investments in irrigation and the provision of fertilizer and high yielding seed varieties are all incentives aimed at poverty reduction at the local level. There is also the need for Local Economic Development (LED) in general. According to (Oduro, 2011: 41) who cited (World Bank, 2003a: 1), explained LED as a process by which public, business and non-governmental sector partners work collectively to create better conditions for economic growth and employment generation. At the local level, it is the processes where stakeholders in development are enabled to use local economic potentials to stimulate local growth and development. This intervention gained prominence in the Medium Term Development Plan (MTDP 2010-14) especially in pilot assemblies in Ghana. Tamale Metropolitan Assembly was one of such assemblies that designed and drew their MTDP to highlight the local resources available to harness for development. These resources served to attract local, national and international investors. The aim of this intervention is to open local communities up for aggressive local enterprises. This would gradually lead to employment and income generation thereby reducing poverty.

This has led to the establishment of the cement factory in Buipe in Central Gonja District. Nonetheless, most of the assemblies are yet to market their plans to attract local enterprises development. It is prudent for all stakeholders to facilitate the process of LED to open local communities up for local and small scale industrialization.

2.17 Institutions Championing the Developmental Agenda

As governments battle to address poverty and facilitate development, other institutions remain very important in shaping the policies and programmes of economic and social development especially in developing economies. Poverty reduction strategies are of major priority to these agencies and institutions. Some of these are:

2.17.1 The State

The state remains the major and most important player and driver championing development activities. Many central governments in sub-Sahara Africa still have the responsibility of providing for her people basic social infrastructure in education, health, agriculture, transportation, energy, WaS among others. It has the legal instruments to control this process especially through revenue generation unlike other entities.

Aside the responsibility of providing basic social infrastructure and senerios, the state, determines development policies and priorities through its statutory institutions such as the National Development Planning Authority (NDPA), Sector Ministries and Agencies (SMA), Security Authorities and Institutions (SAI) and others in the case of Ghana. Despite the presence of these institutions, central government still has challenges in equitable distribution of resources to all communities. In the assertion of (Hall and Midgley, 2004: 13) government activities are based on capital. Government is normally perceived as being out of touch of the people at the grassroots and their wishes. This is even worse as the grassroots see heavily centralized decision-making procedures on their wishes. This at times leads to funding problems resulting in inefficient and ineffective use of resources.

Based on this, most central governments have adopted decentralization and resource allocation. In Ghana, this process started in 1988 with the creation of decentralized districts. Significantly, central government transferred some degree of authority and power to these entities for them to plan, have control over budgets and implement projects. Aside, the decentralized authorities have legal status to generate revenue. This process has in one way brought the decision making, participation and collective development closer to the people especially at the grassroots who are the end beneficiaries of projects.

Another area that the state holds high control than any other institution is its territorial sovereignty to lobby and negotiate with bilateral and multilateral institutions for financial aid and grants to initiate development programmes and projects. The state in this direction does not only lobby for financial support but also creates the enabling environment for other state actors to work. In this direction, central government is expected to establish peaceful and conducive legal frameworks (ensuring freedoms and the rule of law), guaranteeing macro-economic stability, investing in basic social services and in infrastructure, protecting the poor and the vulnerable with safety nets, conserving the environment and promoting sustainable development policies (Hall and Midgley, 2004: 12).

2.17.2 Civil Society Organizations

The complex and multidimensional nature of development has made it impossible for only the state to execute programmes and projects in a sustainable manner. Other important actors are civil society organizations. These institutions and organizations are key actors in the design and implementation of social policies. Institutions under this category range from Non-Governmental Organizations (NGOs), grassroots or local organizations (CBOs), Religious bodies and their organizations, social movements, trade unions as well as business entities. One of the major roles of these organizations is their collective voice to social policy. According to (Hall and Midgley, 2004: 12), these organizations put pressure on larger international development and financial institutions such as the World Bank and International Monetary Fund, bilateral aid agencies, to adopt a more sensitive and responsive attitude towards people needs.

Non-Governmental Organizations

It is very common to see projects implemented in Ghana by NGOs. These organizations have a vital link in development and poverty reduction. From the description according to (Riddell and Robinson, 1995: 26), NGOs are agencies or groups which are different from government bodies. However, this definition encompasses a whole range of organizations which differ in size, function and geographical location. In a similar stance, the term is used to describe small, locally based, and loosely established voluntary and large grassroots type of associations, as well as large, national, and even transnational voluntary associations with formal constitutions, employing hundreds of staff (Riddell and Robinson, 1995: 26). NGOs bring together attainable ingredients for change and development. They have a unique approach towards popular grassroots mobilization through Rural Participatory Appraisal (RPA) techniques. Their relationship with the state is a major determinant of their development contribution, depending upon whether voluntary organizations act in parallel with government, in direct opposition or as a vehicle for strengthening the representation and bargaining power of weaker groups in society (Hall and Midgley 2004: 16). These organizations are into categories of development work (funding development projects), relief and emergency work, development education, research and advocacy work and those solely on voluntary work.

One of the commonest features of these organizations is their ability to work through groups on a one-to-one basis. They are also concerned with the capacities of the local people to plan and control their own development. They embark on capacity building and training programmes for personnel at sector ministries and agencies as well as the local people.

Research plays an important role in development. Most of these organizations have undertaken researches in various countries on poverty and development issues. They have also assisted institutions in research and advocacy with expertise and financial support to carry out researches. The key component of most of these organizations is advocacy on governmental programmes. “SEND Ghana” is an example of NGOs into research and advocacy. This organization played a role as a watch on government especially during the implementation of programmes. One such was the Highly Indebted Poor Country (HICP) initiatives. Currently, advocacy works were being carried out on the Savannah Accelerated Development Initiative (SADI) by central government.

The Private Sector Organizations

The private sector comprises notably three areas of:

- a) the formal economy of firms and enterprises,

- b) international business and transnational corporations and companies,
- c) the informal sector.

The major role of the private sector towards poverty alleviation is their policy of creating employment which is directly linked to wages and salaries. They are also engaged in other social responsibilities in society. A communication company (MTN) in Ghana came to the rescue of a poor community in the Eastern region (Kodjonya Presby School) when the town was hit by a rain storm and one of the schools in this community destroyed (www.myjoyonline.com, November 1, 2012). MTN came to re-build the school as part of their corporate social responsibilities to society. There are many of these examples across the country.

International Bretton Woods Institutions

The World Bank Group which has a mission statement of: to fight poverty with passion and professionalism for lasting results, is one of the institutions contributing to poverty alleviation programmes and projects especially in sub-Saharan Africa and Ghana in particular. The aim of the Group is to help people help themselves and their environment by providing resources, sharing knowledge, building capacities, and forging partnerships in public and private sector. For instance, the World Bank has articulated a more comprehensive social and economic policy agenda that requires the active involvement of many public and civil society collaborations in policy design. This is a drive towards poverty alleviation, social justice, sustainable development and more recently the fight against HIV/Aids.

However, these institutions have come under heavy criticism within sections of the Ghanaian society especially after the implementation of SAPs masterminded by these institutions. These adjustment programmes were seen as adjustments without human face as many in the public sector lost their jobs and as such moved again into the poverty bracket.

Notwithstanding this debate, the Bretton Woods institutions are still at the top of programmes geared towards economic growth and poverty reductions. These programmes range from loans and grants for direct infrastructure development; research works, capacity building and the transfer of technology.

2.18 What Difference have these Organizations Made?

To eradicate poverty in totality is a challenge, but to reduce it, is attainable. The level of attainment is what policy makers and all development stakeholders are battling to achieve. The organizations discussed above have at various levels contributed heavily towards poverty reduction and economic growth and development. The difference that most of these organizations have made is to use the community as an entry point of reducing disparities and inequalities.

There were physical infrastructural projects such as market centers that were constructed under projects such as Programme of Action to Mitigate the Social Cost of Adjustment (PAMSCAD). An example of one such project is a market center (Kalpohim market) in the North-sub Metro, TaMA. This market since its construction has been abandoned and never patronized by the community. This perhaps could be because the beneficiaries were not directly involved in the planning and implementation of this facility. These organizations have now come to the realization that if development is to be sustained, the beneficiaries should be part and parcel of all the processes of their development. The constant participation of communities, central government and organizations through networking, partnerships and collaborations are conceptualized as a workable solution for sustainable development and poverty reduction.

2.19 Conclusion

To conclude, this chapter discussed the key concepts of poverty and development. The main issue is that poverty is not a myriad but a discernible fact physically visible in almost every rural community in sub-Saharan Africa, Asia, and Latin America. The chapter dilated the issue of poverty that have varying definitions but mostly on a “lack” “deprivation” and “vulnerability”. While most of the writers narrowed their definition in economic terms, I explained poverty as a multitude dispossession that inhibits a person to meet basic needs as a result of situational vulnerability and deprivation of natural resources. The “basic needs” here refers to food, clothing and shelter. A person’s socio-economic background could deprive or inhibit one from certain possessions and entitlements to live a decent life in society.

Poverty should be addressed as a multi conceptualized concept. Aside, an attempt was made to identify who the poor are. In the analysis, most of the poor include rural farmers, pregnant and lactating mothers. There was a link between poverty and migration. Recently, teen youth migrate to urban centers because of poverty of their parents or/and households.

The concept of development was also discussed where economic development remains the focus of many countries. Development is also a fluid concept with different pedigree of meanings. However, (Adams, 1990) explained that development means the projects and policies, the infrastructure, flows of capital and transfers of technology which were supposed to make that imitation possible. Other definitions added more ingredients such as education, health, and total human development. This is where I used “secret” indicators to explain a multi display of indicators such as social, economic, culture, religious, environment and traditions to achieve development targets. Forms of development and reasons that account for some countries’ development were reviewed. The discussion on development and poverty added the environmental face. Sustainable development merged from the environmentalist ideologies and that of the economist.

Development and poverty reduction interventions remain high on the agenda of all stakeholders but mostly on the state, NGOs, private sector and donors. It was reviewed that these institutions have contributed towards reducing poverty through individual projects and programmes. While admitting the enormous contributions, it was observed that the world is beginning to face new challenges in the quest to reduce poverty and attain development to an appreciable level. These are the political uprising in most countries and the threat to human security. As we battle to reduce poverty, it is envisaged that our efforts towards poverty could be re-directed towards human security with alarming terror attacks such as the emergence of Islamist States of Iraq and Syria (ISIS) group globally. Will we be in the position to eradicate poverty and ensure economic development in totality in the midst of wars and terror?

Notwithstanding these fears, the chapter concludes and I agreed with the school of thought that sees development and poverty as fluid concepts because these concepts are attached to human beings and human societies that are dynamic and not static.

Chapter 3: Northern Region and Water and Sanitation Development

Critics argue that the underdeveloped nature of Ghana stems from its unitary political ideology. But regional or federal units were one of the concepts Ghana adopted aside the unitary state. The aim was to enhance holistic development of the region. This is because from independence the country adopted a unitary state with a central political system but had regions within the unitary state. However, governance (unitary) and the planning processes were mostly centralized starting from the Guggisberg Plan in 1919 to the Economic Recovery Program from 1975-1980 (OECD, 2001). These periods witnessed top-bottom planning and implementation approaches. It is argued that this approach detached community involvement and as such, projects after implementation lacked participation of the beneficiaries especially in maintenance (Diaw and Schmidt-Kallert, 1990: 7).

Nonetheless, the decentralized system started in 1988 positioned the region to utilize its potentials and ensure holistic development with beneficiaries' involvement. This could enhance infrastructural planning and implementation also in WaS.

The outline of this chapter is in two sections. The first section highlights major features of the region. The political structures and how these structures influence infrastructural development are discussed. The second section deals directly with policies and infrastructural development in WaS. The discussions here are however, silent on WaS infrastructural facilities and services for small and rural communities in the region which are presented in chapter 7.

3.1 Historical Background to Northern Region (NR), Ghana

Many confuse Northern Region with Northern Ghana (NG). Some use the two interchangeably but the two have distinct difference. Northern Ghana comprises three distinct geographical regions and portions of the northern parts of Brong-Ahafo and Volta regions as stipulated in the SADA (Savannah Accelerated Development Authority, 2010, Act 805) working documents whereas the Northern Region is just one of the regions within Northern Ghana. Writers such as (Adu Boahene, 1996) stated that this confusion may arise as a result of the historical background of Northern Ghana during Europeans invasion in West Africa and the shared role this invasion played in most territories in present day states. Historically, the three Northern Regions were known as the Northern Territories (NT) during the 1900s and were declared British protectorate after series of embattled wars and conflicts between the British and other European traders on the coast of West Africa.

Northern Ghana (protectorate) was annexed as part of the then Gold Coast when the British defeated the Ashanti kingdom in a series of wars at the time, thereby making the Ashanti and Northern territories part of the then Gold Coast (GC) in 1901. According to (Bacho, 2001: 17) this singular historical event in January 1902 brought together people from, hitherto diverse and independent ethnic origins under the political unit know today as Northern Ghana. During this single period, the colonial policy for the north affirmed its subordinate economic and political position because there was little or no infrastructural development like the southern regions of the country (Bacho, 2001). In addition to actively promote labour migration, the government prevented investment, and adopted a protective attitude towards the population, which kept northerners apart from development which colonialism brought elsewhere (WDR, 2006: 2).

Northern Region, therefore, became a single region in 1960 when the Northern Territories were further segregated into two comprising Upper Region (UR) and Northern Region. This division was perhaps to facilitate for effective administrative and governance convenience from the then vast Northern Territories with land area approximately 97,700 km² constituting about 40.9% of the total land size of Ghana. Tamale became the capital of the Northern Region since its creation till today.

Again in 1983, under the leadership of the then Head of State at the time, Upper Region was further partitioned into two known as Upper East Region and Upper West (UW) regions with Bolgatanga and Wa becoming their capitals respectively. Today, the SADA initiative recognizes the northern parts of Brong-Ahafo and Volta regions as part of Northern Ghana since, the aim and objective of this initiative is to ensure a holistic development of these portions of the country that was deliberately neglected during colonial times. There is however, a healthy debate that a further division of Northern Region into two or even three regions could fasten the development process, since, smaller units turn to place greater attention on the people at the grassroots. Aside, the fast development of the youngest region (UW) motivates such arguments.

3.2 Regional Division and Development

Regions are normally established for the purpose of planning, implementation and governance. Ghana adopted the regional style designed as an administrative division and/or a sub-national entity. This administrative division is granted a degree of autonomy to plan, manage and develop through local government leadership. An in-depth discussion of the concept “region” is presented in chapter 4.

In the context of Ghana, these subdivisions have a degree of autonomy to plan and implement programmes and policies. This became more effective when the Provisional National Defense Council (PNDC) instituted the decentralization concept in 1988. With this, the regions were further sub-divided into districts (110) at the time. According to (Aye, 1996), the idea was to ensure grassroots participation in decision-making and accountability to the people involved. The PNDC government may:

“... not only be regarded as the culmination of efforts to democratize state power and advance participatory democracy and collective decision-making at the grassroots, but also the supposed belief of the PNDC in accountability, openness and the involvement of the people in the process of decision-making as the most effective ways for enforcing accountability and that these can be better achieved by ensuring popular supervision at the district level.” (pp. 32- 33)

Similarly, (Ahwoi, 2010: 3) confirms that the aim of sovereign countries demarcating herself into further smaller units is to make effective management of the geographical entity for the sake of development, and the affairs of their people easier. Decentralization where the region plays the role in coordinating the activities of the districts is gradually setting the pace for Regional Development (RD) in Ghana. Another argument is the lack of financial resources for the region. Financial decentralization is yet to be realized, since, central government still holds finances and distributes these to the region. However, attempts are made to ensure a composite budgetary system; a way of controlling financial resources; take independent policy decisions for development.

Today, Northern Region is fast growing because; most of the countries north of Ghana such as Burkina Faso, Mali and Niger use the region to cart their goods from Ghana’s sea ports.

Consequently, there is vast land, one of the resources that aid development. For these reasons, immigration and private sector investments in the entire region especially Tamale are increasing. This is evident in the number of financial institutions established in 2009. For instance, between the periods 2007 to 2012, a total of 16 financial institutions were established from a total of 6 in the previous plan period (2006-2009) for TaMA (TaMAMTDP, 2010-14). It is therefore prudent to ensure basic infrastructural development in the region to commensurate with these fast growing improvements, since, population growth exerts pressure on infrastructure.

3.3 Northern Region in Geographical Retrospect

Northern Region covers a large geographical land area in Ghana. This is the only single region that stretches from the eastern to the western corridors of the country. The region occupies a land area of 70,384 km². Many attribute the undeveloped nature of the region to the vastness in terms of land size. This is because districts and communities are distant from each other making administrative work very expensive and also less effective. The vastness also comes with the diversity of ethnic groupings, each, with unique cultural and traditional characteristics. These need to be factored into planning and implementation.

Nonetheless, land size could also attract investments. The availability of land could serve as an incentive to investors in agriculture, local industrialization among others. However, the bear land is a disincentive for agricultural and industrial activities. It is prudent for regional planners and policy-makers to utilize the vastness of the land to create industrial zones. Value could be added to the land such as extending electricity, WaS facilities, roads, and creating industrial zones that would attract the needed investments. With the land size, an inland port could be created to open the region up to the neighbouring countries mentioned earlier. While suggesting these, there is the challenge with financial resource. Public Private Partnerships (PPPs) could address this challenge.

On the contrary, this is one of the regions with the least population figures as compared to other regions in the southern part of the country. The region has low population development as compared to Ashanti and Greater Accra regions. It is an undisputable fact that continuous migration of people from this part of the country to the southern part for job opportunities and greener pasture has contributed to the low population figures of the region. That is the more reason why the region has to utilize the availability of the land to create industrial zones, inland port, international airport to ensure that jobs are created and out-migration reduced.

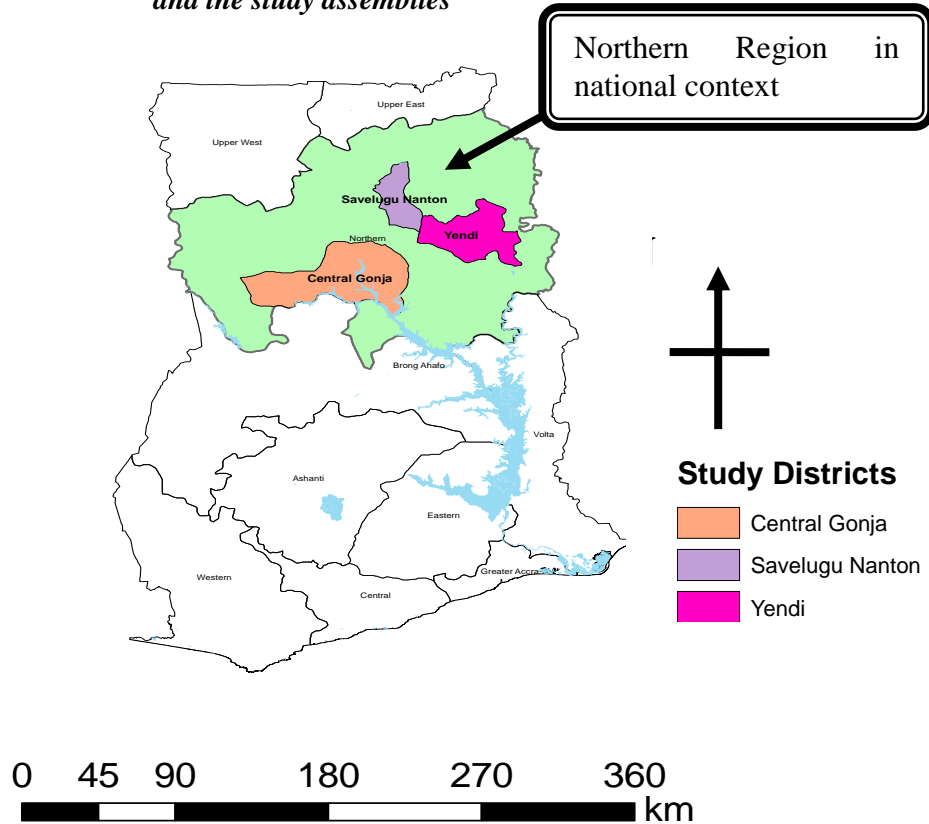
3.3.1 Geographical Location

The region is geographically located on latitude 8°S and 10° N and longitude 3° W and 1° E respectively. This location exposes the region to direct sunray especially when the sun is directly on the equator. While this is very severe and rising a lot of climatic concerns, the availability of the sunrays could be tapped to produce solar energy to supplement energy production through hydro. It cannot be debated that climatic change is affecting hydroelectric energy production because of current experiences in 2006-07, when the Akosombo dam had low water accumulated and this affected energy production nationwide. Available sun in Northern Region could be tapped and used as alternative energy supply to neighbouring regions and countries.

On the contrary, the region shares international boundaries with northern western (Togo) to the east and northern eastern (Cote d'Ivoire) to the west. Internally, the region shares boundaries with Upper West and Upper East regions to the north western and eastern respectively and the Brong-Ahafo and Volta regions to the south western and eastern respectively. This location places the region in a strategic position to utilize key elements of

regional development planning, targeting local economic potentials that could attract the neighbouring countries and regions. Figure 3.1 shows the location of Northern Region in national.

Figure 3.1: Map of Ghana showing Northern Region in National Context and the study assemblies



As can be seen in figures 3.1, the region is vast in terms of land size and population distribution from the other two regions (Upper East and Upper West). This vastness in terms of land size comes with the rurality of the region. From the (PHCR, 2013), 69.7% of the communities are rural. The report cited Tolon Kumbungu district (92.5%), Saboba district (90.6%), and Kpandai district (90.0%) to be highly rural. Apart from Tamale Metropolis (73.0%), Savelugu Nanton (39.7%), West Gonja (32.7%) and East Mamprusi (32.4%) districts that had a portion of their populations in urbanized communities, the remaining communities are rural (GSS, 2013). This explains the poverty dynamics of the region. Aside, these communities are unable to contribute to GDP growth in terms of paying taxes because of poverty. Again, it goes back to suggest the reason why infrastructure is lacking in the region because the citizens are unable to pay taxes which is again used to develop infrastructure.

3.3.2 Geophysical Features of the Region

The geophysical features of the region are very important as these have influence on water provision. The region is ranked 1st in terms of land size but has different geographical features very distinct from the southern regions. The geophysical features under discussion comprise relief, climate, drainage, soil and vegetation.

Generally, the region is not different from other regions within Northern Ghana in terms of relief, climate and vegetation. Northern Region lies on a low land area located about 180 meters above sea levels with some few isolated hills. The region is described as a zone consist of dissected peneplain (a land surface worn down by erosion to a nearly flat plain, and later uplifted and cut by erosion into isolated hills and valleys or into flat upland separated by valleys). This is clearly shown in figure 3. 3.

Figure 3.3: Eroded Land in Wamalie in Tamale



Source: Field work, 2014

Figure 3.3 shows clearly the nature of the land in the region. It is evident that most of the land losses their fertility to erosion. On one hand, there are few hills in East Mamprusi districts known as the “Gambaga escarpment”. This scarp forms the line of cliffs along the Volta River basin and elevates the northern boundary of the basin and the eastern section of the granite plateaus of Wa and the Mamprusi areas. Moving towards the southern sector of this escarpment is a narrow plateau followed by a gradual slope to the surrounding land. The general elevation is between (1,000-1,500 feet) or (300-460 m) given rise to a relatively cool and moist climatic conditions in this area. Though, these plateaus and

escarpments have low mineral deposit, granite deposits could be developed and used in construction. This could open up the region for quarry activities. Apart from the Palugu Quarry, there are no quarry activities in and around the isolated scarps in the region. The rest of the region have scattered highlands not comparable to the eastern part of the country where the highest mountains are located.

On the part of climate, the region is much drier than the southern regions. The dryness of the northern part of the country may be attributed to the area’s proximity to the Sahel, and the Sahara regions. The region experiences one single rainfall pattern from May to October. This has a strong bearing on water provision. This is because; there is limited or no supply of water throughout the year. In the wet season, an average annual rainfall ranges from 750 to 1050 mm (30 to 40 inches) is recorded. This condition further makes it impossible for rain harvesting in the region.

Aside, the dry season begins after the cultivation of farm produce usually from November. The highest temperatures are reached at the beginning of this season. This is the period where water is also scarce for both humans and animals.

Figure 3.4: Women, Children and Animals Competing for Water in Kusawgu



Source: Field activities, 2014

As can be seen in figure 3.4, cattle and humans are taking water from the same source. This shows how climatic conditions (rainfall) have on humans and animals during the dry season in the region. Scarcity of water compels animals to stray into the bush exposing them to theft. Farmers rely on these animals as additional assets and bundle of entitlements. The reduction in the numbers of their animals compounds the woes of farmers and increases poverty in the region.

Aside the scramble for water, there is also the effect of this development on agricultural activities. This condition affects farming activities and worsens the poverty situations of farmers. According to the International Food Policy Research Institute (IFPRI, 2012), the agricultural sector is believed to have the potential to grow at rates as high as six percent (6%), but climate change could potentially inhibit such progress in the long run, given that the sector is particularly vulnerable to this ongoing phenomenon.

Besides, the region used to experience the dry and cold “Harmattan” winds from the north eastern corridor but for the past 2 decades, these winds are less intense than before. Temperatures during this period now range between 24° to 28° Celsius daily. The UNDP Climate Change Country Profiles (Ghana) indicate that mean annual temperature has increased by 1.0°C since 1960, an average rate of 0.21°C per decade. The rate of increase has generally been more rapid in the northern regions of the country than in the south. This situation further dries up water bodies. This development could be seen in a different perspective. For instance, it is expected that these changes should attract investment into recreational facilities like swing ponds. This is however, lacking in the region. District Assemblies could partner with private investors to ensure that these are constructed for public use to generate additional income for further development.

Figure 3.5: Vegetation of Wambong during the Rainy Season



Source: Field activities, 2012

In the area of vegetation, the region lies within the Savannah Woodland Region (SWR). The vegetation consists predominantly of grassland, especially, savanna with clusters of drought-resistant trees such as baobabs and/or acacias. The nature of the vegetation is shown in figures 3.5 and 3.6.

Figure 3.5 shows how the vegetation of the region looks like during the rainy season. This was around September, 2012 when the research team was on the field in Wambong on the Yendi-Saboba road. Figure 3.5

depicts the vegetation from the eastern corridor of the region. Notwithstanding, the northern, southern, and western corridors have similar vegetative cover. Apart from some parts of Kpandai, and East Gonja that have vegetation similar to the southern part of the country, the rest are similar to the photograph in figure 3.5. Most of the trees here are shea trees with isolated baoba, dawadawa and niim. This is however, different from the dry season as most of the short trees in this figure are burned down leaving the places eventually bare. The vegetation within the dry season is captured in figure 3.6.

As shown in figure 3.6, the region lacks rich economic trees. Aside the shea trees in figure 3.5, there are few which are also under threat of bush fires. Other tree types are short scattered wood logs of dawadawa, niim, acacia, mahogany and baoba among others with varying economic importance. For example, “dawadawa” is a local spice prepared from the dawadawa fruit. This spice has some medicinal value for the treatment of blood related diseases such as hypertension. However, these are underutilized. There is little research and industrial activities on these trees. Currently, the “Niim” tree is being used to produce items such as oil, mosquito repellent and mouth wash. This serves as a local potential for market research and local economic development in the region. The branches from this tree are also used as a support system for local buildings and for art and crafts. These trees are all grown in abundance in the region. There is the need to seek support and investment to utilize these trees for local economic development. This would add additional value to the region by creating jobs, increasing household incomes and reducing poverty.

Figure 3.6: *An Isolated Baoba Tree in Mion in the Sang District*



Source: Field data, 2014

Aside, the health sector would be in the position to use these to curb diseases. While advocating for local economic development of these trees, it is prudent to enforce laws on bush burning and distraction to preserve vegetative cover in the region. The vegetative cover has a deep bearing on precipitation that affects agricultural development in general and access to water for domestic use. SADA is engaged in forestation and reforestation activities

but activities of bush burning are still rampant. Measures to reduce the depletion of the vegetation

would enhance rainfall, promote local industrialization, create jobs and reduce poverty.

In addition to the trees, there are naturally grown tall grasses during the rainy season that are used to make the local “Zanamat”⁴ in the region. The making of the Zanamat by most farmers during the dry season reduces rural migration.

Generally, the region is naturally endowed with water bodies. There are three major rivers namely the White, Black, Red Volta and River Oti and their tributaries that drain through the region. These rivers also drain into the Akosombo dam for electricity generation. The White Volta is the source of improved water supply to TaMA and its environs. With these drainage

⁴ Zanamat is a locally weaved mat. It is used in fencing gardens and other related domestic purposes. This mat is made from tall grasses grown during the rainy season in the region.

channels, it is argued that prudent infrastructural development could utilize these systems to develop and expand the activities of Ghana Water Company to produce improved water for domestic and export purposes. There is also frequent flooding from these river banks normally during the rainy season. One such was the flooding of the White Volta that caused destruction to lives and property in 2010 (see figure 3.7).

Figure 3.7: Flooding of the White Volta, Buie in 2010



Source: Flooding of White Volta, 2010

region to get yielding dugout wells one of the main sources of improved water for small communities and rural areas in the country.

On the part of soil, the main types in the region are sandstone, gravel, mudstone and shale that have weathered into different soil grades. Due to seasonal erosion, soil types emanating from this phenomenon are sand, clay and laterite ochrosols. As a result of the availability of clay, most women in some parts of the region are engaged in clay work (Jakaliyile clay activities) development. The engagement of the women in small scale enterprise development increases household incomes and reduces poverty. There is however, the need to build the capacities of these women and improve technology for them to use to increase productivity. Beside building on their capacities and increasing production, there is the need for the region to embark on the campaign of use “made in the region” goods. Production of clay ware without market would be a disincentive to these women. The President of the Republic is embarking on the use of “made in Ghana” goods. This campaign should be taken to the regional level to ensure the use of these clay wares to sustain production.

3.4 Demographic Features

Based on (PHCR, 2013) statistics, the region has a total population of 2,479,461 comprising 1,229,887 males and 1,249,574 females (GSS, 2013). This data shows an increase in the population of the region of 36.2% as against the 2000 population which was 1,820,806. The population in the region also shows a youthful pattern of 44.9% and ages less than 15 years. This growth suggests the need for an increase in infrastructure especially in WaS facilities and

⁵ Foot soldiers are the youth wings of the various political parties in Ghana. These are the youth who campaign for the parties during election years. They work towards the success of their parties, and they go attacking political appointees such as M/DCEs and Ministers for jobs and contracts.

services. For instance, the Dalum Water Treatment Plan (DWTP) which was constructed in 1972, was designed to served only 83, 623 people (PHC, 1970). The population in the Tamale Metropolis grew from 83,623 to 135,952 in 1982, 202,317 in 2000 and 371,351 in 2010. This is 15.0% of the population share in the region. Population growth implies an investment in infrastructure especially with changes in climatic conditions.

The Moshi-Dagomba constitutes about 16% of the population of Ghana. This is the main ethnic group in the region. PHCR (2013) figures indicate that approximately 52.7% of the people in the region are Dagbane speaking. Next to the Dagbane speaking are the Gurma (mostly in Kpandai, Nanumba South, Nanumba North, Zabzugu-Tatale, Saboba and Bunkpurungu-Yunyoo) districts with 27.3%. The ethnic polarization in the region serves as an advantage to develop the tourism industry since these groupings have unique cultures and traditions worth preserving and earning income from. Nonetheless, this poses a challenge in chieftaincy succession as many of the ethnic conflicts in the region were rooted in chieftaincy issues. Despite this, it is an opportunity to use this polarization to embrace participatory planning in these communities.

3.5 The Local Economy

According to (PHCR, 2013), the local economy of the region is made up of economic and non-economic groupings. The economic activities in the region are agriculture, forestry and fishery accounting for 74% while clerical support workers, services and sales had the minimum of 0.4%.

From the Ministry of Food and Agriculture (MoFA), Tamale, the region has 70,380 sq km representing (7 million hectares) of land however, 4.9 million hectares of land is available for agricultural activities. There are 16,580 farm households in the region with an estimated 324,551 number of farmers. The major farming systems are mono cropping, mixed cropping, mixed farming and livestock farming. Major crops are maize, rice, sorghum, millet, cassava, yam, groundnuts, cowpea and soybean (MoFA, 2013).

Additionally, (PHCR, 2013) shows that industrial activities are minimal. The major industry which employs majority of the people is agriculture, forestry and fishery. However, within TaMA, the trend is different. Wholesale and retail trade, repair of motor vehicles and motorcycles accounted for 30.4%. Craft and related trades workers constitute 8.1%. This is expected because of the activities at the Tamale Cultural Center (TCC) and others in the region. Due to these, tourism activities are flourishing and contributing in employment of the local economy. Some of the exhibitions at TCC are illustrated in figure 3.8.

Figure 3.8: *Art and Craft Shop at TCC*



Source: Field data, 2012

As can be seen in figure 3.8, most of the youth are engaged in art and craft activities in the region but this is mostly in the urban centers. TCC is attracting most of the tourists to Mole Game Reserve in the region. These self employed activities engage the youth there by reducing crime rate. Regrettably, TCC has disregarded face lifting of the center to attract more activities and to increase investment. For instance, most of the structures in the yard are individually owned. They are not uniformly constructed to give a pleasant artistic look to the area. Aside, the ground is not paved hindering

economic activities during the rainy season. It was expected that since, the center is attracting tourist and other economic activities, TCC would take the necessary actions to ensure that the place is user friendly to meet the desire revenue.

Aside, the local economy constitutes a great number of individuals in the informal sector of buying and selling. There is no community in the region without a market. One of the biggest markets in the region is the Aboabu market in Tamale. See figure 3.9.

Figure 3.9: *Aboabu Market in Tamale*



Source: Field data, 2012

This market also lacks development as in the case of TCC. During rainy days, it is very difficult to walk in this market. Yet, this and other markets house a higher number of people in the informal sector in the region. This is where most of the internally generated income comes from. At one of the meetings with occupants of stores and stalls of TaMA which I was the secretary, the occupants agreed unconditionally with the assembly on regularly payments to the assembly. This was evident that these people knew the impact of their contributions to the local economy. It is however, expected that such places should be modernized to attract high income.

3.6 Northern Region Administrative and Political Structure

Next to the geographical features and the local economy, are the administrative structures that have a full bearing on infrastructural development of the region. Northern Region had 20 districts since 2008, this number however, increased to 24 in 2012. (Details of the districts are presented in appendix 8a). The body that oversees the political and executive function, administration and that of planning is known as the Regional Coordinating Council (RCC). Politically, the region is headed by the Regional Minister (RM) who is appointed by the President of the Republic and approved by the vetting committee of Parliament. The Regional Minister chairs many committees especially the Regional Security Committee (REGSEC). The Minister works with many other security officers to ensure peace and security in the region, a prerequisite for development. The head of the administrative functions is the Regional Coordinating Director (RCD), whereas, the Regional Economic Planning Officer (REPO) oversees the planning functions of the region.

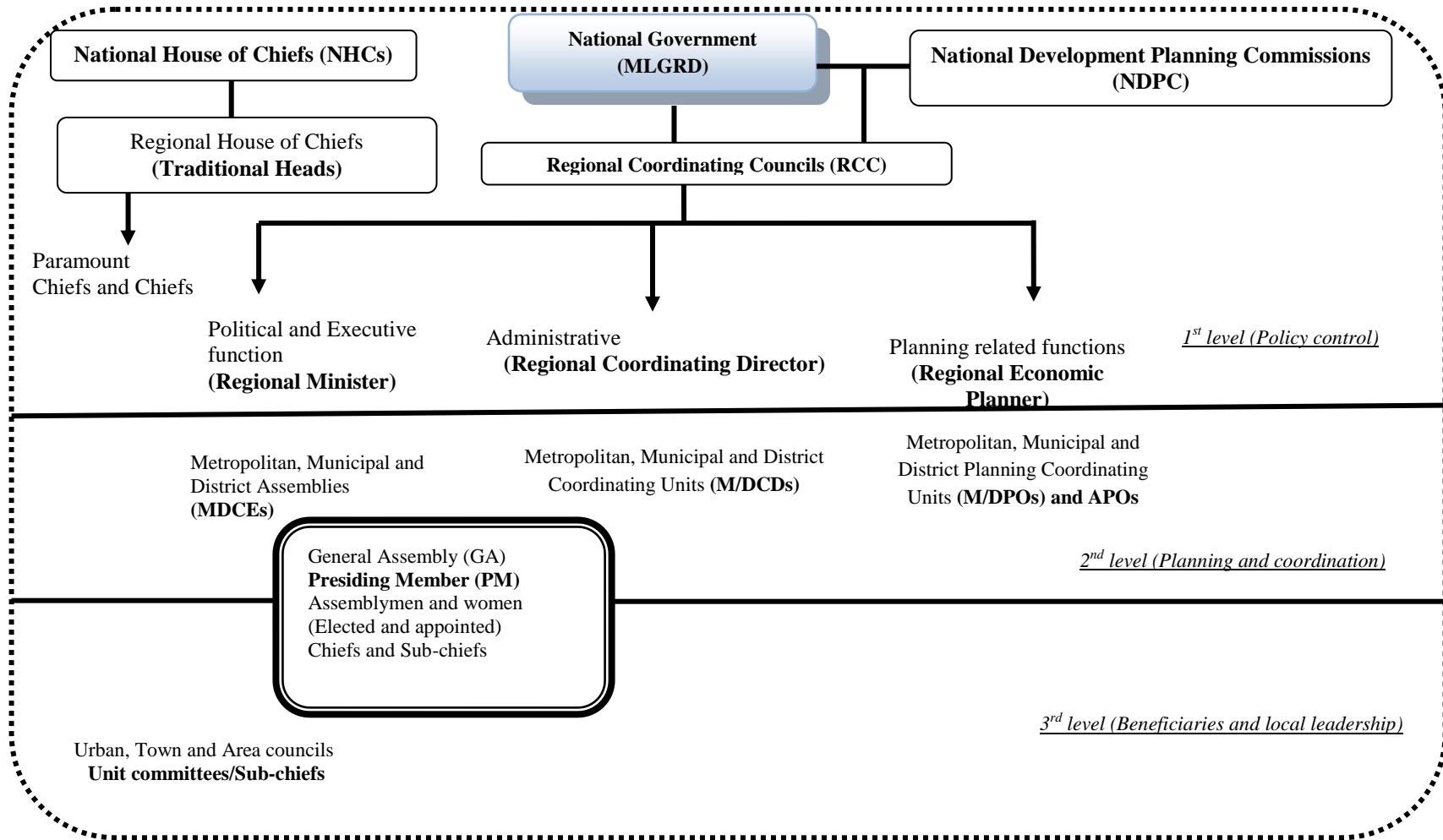
Under these officers, are the Metropolitan, Municipal and District Chief Executives (M/DCEs) who are also appointed by the discretion of the President and approved by two thirds ($\frac{2}{3}$) of the General Assembly (GA). The GA is made up of elected and appointed members representing their electoral areas in a metropolitan, municipal or district assembly. In instances where the nominee fails to get approval for three (3) consecutive times, the President makes a new appointment. M/DCE is the political head, whereas, the Presiding Member (PM) is the head of the GA of the district.

Next to the Chief Executives are the Metropolitan, Municipal and District Coordinating Directors (MDCDs) who are tasked with the responsibility of the day-to-day administrative function of the district. The Metropolitan, Municipal and District Planning Coordinating Units

(MDPCU) perform a vital role in planning related activities of their respective assemblies. The administrative and planning functions of the region and that at the districts level are the responsibility of Civil Servants (CSs). These officers support as well as give guided professional advice to the political heads at the various assemblies and at the regional level. In the case of Northern Region, these mandated bodies and institutions are available apart from some few districts where professionals (Civil Servants) are probably inadequate. Perhaps, one of the most challenging issues is inadequate financial resources to ensure effective management and development of the region. Financial resources are lacking because the source of finance to the districts is the District Assembly's Common Fund (DACF). These are quarterly releases from Central Government which are basically always in arrears. This inhibits effective work at the various assemblies.

The next important authority to the above discussed are the traditional rulers. The traditional rulers are the land owners (Tindaanas), chiefs and queen mothers. They hold customary lands in trust on behalf of their people. Because land plays an important role in infrastructural development, they are prominent stakeholders in the decentralization process in Ghana. The organogram of the region is illustrated in figure 3.10.

Figure 3.10: Organogram of the Regional Political and Administrative Bodies



Source: Researcher's construct

The organogram presented in figure 3.10 seeks to explain the linkages in the regional administrative structure under the decentralization policy in three levels. The Regional Coordinating Council represents central government at the regional level. This unit deals directly with Ministry of Local Government and Rural Development (MLGRD). In most cases, governmental programmes and policies to the region are directed from MLGRD to RCC and to the various districts. Besides MLGRD, it is NDPC which is responsible for planning related activities nationwide. In some cases, NDPC gives directives to the region and to the districts or would pass these through the ministry to the region and to the assemblies.

At the regional level, there are three (3) basic administrative bodies who work inclusively on policies and programmes. The 3 bodies are the Political and Executive organ, general administration, and that of planning, coordination and implementation organs. Apart from the political head who is appointed, the rest of the heads have worked through the ranks to their present levels. In this structure, RCC does not plan but basically coordinates the activities of the metropolitan, municipal and district assemblies in the region. According to figure 3.10 this is the 1st level and could be termed policy control level.

The next is the planning and coordinating level. These are the metropolitan, municipal and district structures. The structures here are political and civil servants. Aside these structures are the local leadership who are elected democratically including representatives of traditional rulers. As shown in figure 3.10, the General Assembly is part of the 2nd level and that of the 3rd level. This is because the compositions of the General Assembly are representatives of their communities (beneficiaries) who are also part of the administrative, coordinating and planning structures. They do this through committees and boards of the assembly. The traditional rules are members of General Assembly of the districts, municipals and metropolitan assemblies except they (chiefs) have no voting powers like the assembly men and women.

Unlike the centralized structure, where administrative and planning activities were carried out at the top to the bottom for implementation, the current decentralized structure is one of effective administrative and planning processes that take decision-making closer to the beneficiaries. However, the planning process is still saddled with institutional lapses (disjoint coordination) resulting in gaps during infrastructural planning and implementation.

3.6.1 Practical Demonstration of how the Organogram Works

The presentations in this section are based on my prior knowledge and working experience as an Assistant Planning Officer at TaMA and interviews conducted with the Regional Planning Coordinating Unit team during field activities in the region. In this part, I used two projects to demonstrate how RCC and the assemblies work to ensure infrastructural development of the region. These are the GUMPP project and the MTDP (2010-14) that TaMA is currently implementing. The presentations here are also to bring to light the institutional gaps in coordinating planning and the implementation of activities. These gaps could probably account for the infrastructural deficit in the region in particular and especially in WaS sector.

The GUMPP Facilities

GUMPP stands for Ghana Urban Management Pilot Project. This project had its background from the empowerment of decentralized local government structures to plan, implement and evaluate projects for re-planning. There was the realization that decentralization has played a major role in increased urbanization as most district capitals suddenly became the focus of development, attracting the influx of rural migration especially to urban centers in the various regions in the country (GUMMP Compact unpublished, 2010). The problems of urbanization

and its associated challenges of poverty suddenly became evident as demand for services outstripped supply, creating pressure on existing infrastructural facilities and services (GUMMP Compact unpublished, 2010). With increasing population growth figures compared to low rates in job creation and the inability of the local authorities to mobilize local funds to run the local economy, urbanization became more of a constraint (curse) than an asset (blessing).

In 2007, MLGRD working through a World Bank Economic Sector Work (ESW) initiated interventions towards reducing urban poverty as identified in ESW. MLGRD sought and obtained support from a Development Partner, L'Agence française de développement (AFD), to undertake poverty alleviation Pilot Projects in Ghana. These included economic development projects that will directly and immediately impact on poverty reduction of the urban poor. This intervention was to provide services to enhance quality of life as well as to enhance and increase citizen's participation in governance as envisaged by the decentralized system. GUMPP facility implementation is being carried out in 4 assemblies: Ho, Kumasi, Sekondi-Takoradi and Tamale in the country. The planning process that I seek to demonstrate here is based on the processes that were carried out at TaMA.

In this project which the compact described is not just a project funding programme but adopted the Municipal Contract approach. Municipal Contract approach tends to meet the urban challenges in a more comprehensive and integrated manner in solving the identified problems (GUMPP Compact unpublished document, 2010). This approach follows a structured path. Firstly, it assesses the municipal governments' investment, financial and organizational situation; based on this assessment, responsive strategies are developed, programmes are designed and the resources to address these problems are mobilized (GUMPP Compact unpublished document, 2010).

The selection of the metropolitan and municipal assemblies to pilot this project was from MLGRD. A team of consultants were contracted by the Ministry to carry out an audit of:

- i) Urban
- ii) financial and
- iii) organization's resources and assets in TaMA.

In this process RCC was however, not involved in the process. This process involved MLGRD and TaMA with the consultants carrying out what is termed (the audit process) with professionals at the assembly. A number of interviews were conducted in this process in some selected communities.

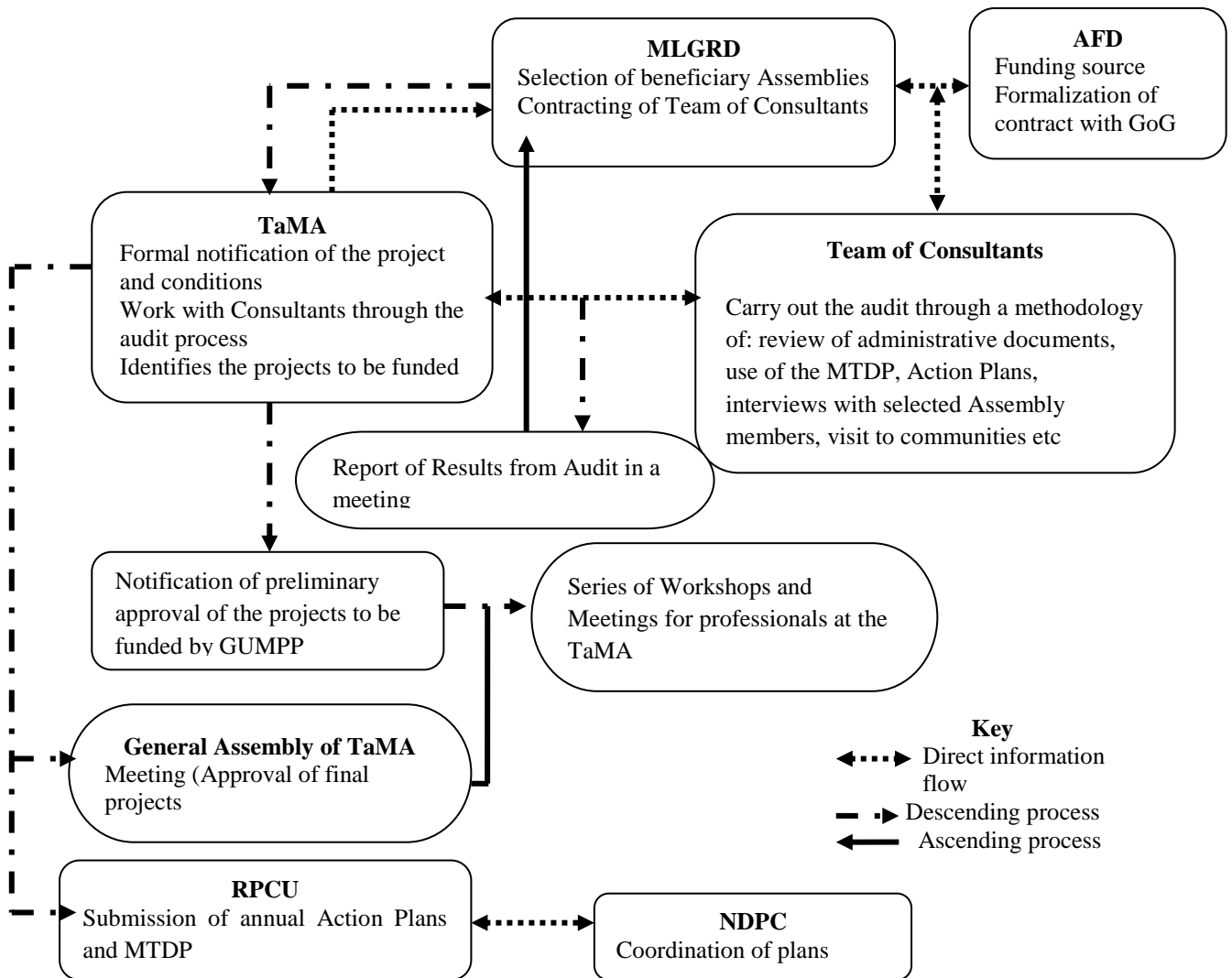
The second stage accorded MPCU to identify 5 critical and crucial project areas that this project would fund. This took into consideration the socio-economic benefits of the proposed projects to the assembly when implemented. The projects identified were included in the audit process and these gave the consultants the opportunity to evaluate whether these selected projects actually merited implementation based on the information from the general audit of the metropolis. At the end of the audit, a report was sent to MLGRD. After series of workshops and meetings with professionals from the assemblies, the ministry and AFD finally gave approval for the projects to be implemented under the compact.

The next stage was for General Assembly to approve of these projects in a general assembly's meeting. The projects were approved by 2/3 majority of the Assembly members in a General Assembly meeting of the assembly. The minutes of the meeting were again forwarded to MLGRD for the signing of the compact for the implementation of the projects to start.

In this description, it is clear, that RCC was totally not involved in the process. RPCU only became aware of this from the submission of the Annual Action Plans (AAPs) and

MTDP for the years that these projects would be implemented. Below is a graphical presentation of the process in figure 3.11

Figure 3.11: Planning Process of GUMMP Facilities, TaMA



Source: Researcher's construct

As can be seen in figure 3.11, I attempted an explanation of how one particular project known as GUMPP was planned and is being implemented at TaMA of the region. In this project, RCC had little or no direct involvement in the planning process. The process was more of the Ministry representing government on one side and TaMA represented by the local representatives and professionals on the other side. The donor had direct dealings with the ministry and information from the donor to the assembly came from the ministry. The assembly also passed information to the donor through the ministry. With decentralization, the central power for the implementation of projects rest with the General Assembly. In this project compact, the General Assembly decided as to whether the projects identified by the professionals and the consultants were priorities to the assembly. It was after this stage that the final approval was issued by the ministry and final approval given to the donor. RPCU was then notified in Annual Action Plans and MTDP normally submitted to RPCU for onward submission to NDPC.

The MTDP (2010-14)

The second demonstration is from the Medium Term Development Plan (2010-14). This is a 4 year development plan prepared and implemented by every assembly in Ghana. A brief historical background of this planning structure is derived from the Ghana-Vision 2020. The major development programming strategies and approaches to achieve the general goals and objectives of Ghana-Vision 2020 at the national level have involved the following initiated frameworks. According to the report submitted to International Institute for Environment and Development (IIED) and National Development Planning Commission by (Vordzorgbe and Caiquo, 2001), these frameworks include:

1. The National Economic Forum (NEF,1997)
2. The Public sector reforms under CSPIP, MTEF, and NIRP (1994)
3. World Bank sponsored Comprehensive Development Framework (CDF, 1999)
4. Japanese promoted Integrated Human Development Programme (IHDP)

With these frameworks, there are also other cross-cutting strategic approaches that the country has adopted and which are geared toward ensuring a comprehensive and sustainable development nationwide. These include:

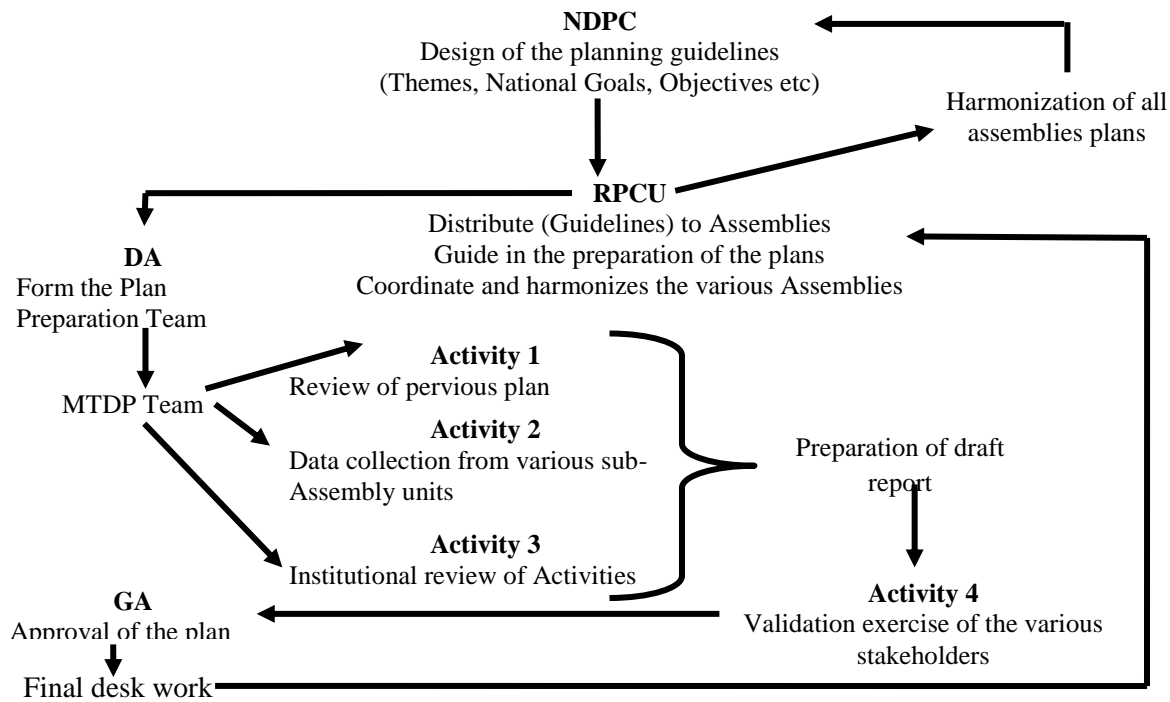
- ❖ The Decentralization policy (1988)
- ❖ The Poverty Reduction Strategies (1995)
- ❖ Natural Resource Management Initiatives (1995)
- ❖ Gender Mainstreaming

These development strategies and frameworks are national in nature but the various regions and districts prepare their development strategies and plans under the decentralized planning system within planning guidelines derived from Vision-2020 development policy and strategic framework. The coordinated body for this plan is NDPC. The preparation of the First Medium-Term Development Plan involved wide participation by various stakeholders with subsequent MTDPs. The preparation of the Medium-Term Plan commenced with NDPC distributing “Guidelines” for the preparation of sector and district medium-term plans. These guidelines are sent to all sector Ministries, Departments/Agencies and District Assemblies.

At RPCU, these guidelines are further distributed to the various M/MDPCUs. RPCU after this point would also be part of the plan preparation process giving personnel to some assemblies when the need arises. The role of RPCU is however, to monitor and coordinate the implementation of development activities in the region. Aside this, RPCU has a role to evaluate activities of the various assemblies. The unit’s evaluation updates and further provides additional data for planning at the various assemblies.

The process of this plan is however, different from the process illustrated with GUMPP facilities. The processes that were carried out in the preparation of MTDP (2010-14) are illustrated on figure 3.12.

Figure 3.12: Planning Process of MTDP (2010-14)



Source: Researcher’s construct

As can be seen in figure 3.12, the preparation of MTDP (2010-14) involved two-sided process. One side (MPCU) performs the actions and the other side (RPCU and NDPC) receives information (the plan). From figure 3.12, after the planning guidelines are sent to the various assemblies, M/DPCUs form a Plan Preparation Team (PPT). This team outlines the activities to be carried out to the final draft of the plan. One of the crucial parts of the planning stages is to bring the various stakeholders together in a validation exercise session. After this is done, and all stakeholders have made inputs into the plan, a first draft is then prepared and presented to the General Assemble for approval.

After the approval of the plan by the General Assembly, the final draft is forwarded to RPCU for onward submission to NDPC. The role of RPCU in this process is to harmonize the plan and forward it to NDPC.

3.6.2 Comparing and Contrasting the two Planning Processes

From the descriptions of the two planning processes within the same assembly, it is evident that MLGRD played a vital role in the planning process of GUMPP while NDPC provided the guidelines for the preparation of MTDP (2010-14). Consultants were also hired outside NDPC, to audit the assembly before the start of GUMMP activities. These consultants were private entities working outside governmental structures. It was expected that professionals from NDPC with long service and experience could have been used as consultants for GUMPP project like the MTDPs. It was however, not ascertained whether it was because of donor’s requirement to use external professional (consultants) to do baseline and other audit activities. There was also a weak linkage between RPCU that monitors and supervises planning and implementation of programmes and projects in the region and the TaMA in the GUMMP facilities planning.

Notwithstanding, the two planning processes followed the guidelines stipulated by NDPC for all related planning activities. GA met to approve the two plans as working documents of the assembly.

3.6.3 Discussion of the Planning and Implementation Gaps between the two Processes

Base on the issues compared in the two planning processes and the work as a researcher, a discussion of the two planning processes is worth elaborating on. This aspect is to expose perhaps planning and implementation gaps that have become a cultural practice in the country especially during infrastructure planning and implementation. To me, the gap has to do with the institutional arrangements that manage infrastructural planning in the country. This is because of the two set of planning procedures in the two processes illustrated in GUMPP and MTDP (2010-14). The two plans set to deal with the same issues.

In the GUMPP facilities, one would have expected to see the planning process being championed by NDPC which is the mandated institution directly involve in all planning processes in the country. MLGRD could have played the role of coordination. In this role, the ministry would mediate for government at the donor level. MLGRD could as well monitor the work of NDPC which would plan with the piloted assemblies to select the projects for implementation.

Apart from this lapse, there is a disconnection within governmental institutions that plan and implement in isolation from that of NDPC, RCC and DAs. For instance, Ghana Water Company (GWC), Volta River Authority (VRA), and Electricity Company Ghana (ECG) among others do their planning and implementation without the involvement of the assemblies. Water extension projects are the sole responsibility of GWC and CWSA. Incidentally, inaccessibility of water in a community is the responsibility of the various assemblies. It is expected that planning for water and other utilities by the various institutions should involve the DAs in their processes. This, in most times, is lacking and creating data gaps for all the institutions involved. Lack of data in planning could result in ineffective planning as well as uncontrolled development especially in the area of infrastructure provision.

3.7 Operations of other Civil Society Organizations in the Region

Northern Region has attracted the contributions of various organizations aside governmental structures. These organizations have played a key role in infrastructural development especially in the area of WaS in the region. According to (Willis, 2010), NGOs are organizations that are separate from the state and from the market. Their activities are normally voluntary, as they provide an opportunity for people not involved in state operations to be part of the decision making process. In this study, they are the philanthropic organizations defined globally as UN agencies, development agencies of foreign missions, international and national NGOs. Their contributions have played a very significant role in Northern Region and in the WaS sector in particular. A brief discussion of CSOs is presented in chapter 2 but this section of the chapter highlights the various programmes and policies that these organizations and institutions have implemented in WaS.

These CSOs are categorized into various groupings based mainly on how they operate in Ghana. Based on this, they are grouped as:

- 1) UN agencies and bodies
- 2) Development Agencies of foreign missions
- 3) International NGOs

Who are the UN agencies and what do they do?

These are agencies under UN charter. UN was founded as an international organization in 1945. It has among its administrative bodies the General Assembly, the Security Council and many others. Aside these administrative units are other agencies that were created on separate occasions to deal with specific themes. Some of these are UNDP, UN University, UNICEF, World Food Programme, and the list is seemingly endless. However, in this study, UNICEF

is mentioned and discuss because UNICEF is directly into the implementation of programmes and policies in WaS.

UNICEF was established with the mandate to advocate for the protection of children's rights, to help children meet their basic needs and expand their opportunities to reach their full potentials. WaS issues affect girls and children worldwide. UNICEF working in the sector is to make children and women to meet their basic needs for which the agency was established. The following questions are asked to guide the discussion.

How are they working in the region?

UNICEF overall objective in this area is to; contribute to the realization of children's rights to survival and development through the promotion of the sector and support to national programmes that increase equitable and sustainable access to use of safe water and basic sanitation services, and to promote improved hygiene United Nations (2006).

In an interview with the RPCU team, and that of the WASH Specialist at UNICEF, Tamale, it came to light that UNICEF by their standing orders on operations, do not involve in direct implementation of projects and programmes in the region. UNICEF does their implementation through partnership with other NGOs, DAs, communities and other private sector entities. The procedure with DAs starts at RPCU where needy communities and assemblies are identified from the Annual Action Plans, MTDPs and other related planning documentations at the RPCU. UNICEF writes formally to the selected assemblies indicating their support to implement (N) number projects in WaS. The rest of the process would now be done at M/DPCU. M/DPCU provides a list of beneficiary communities based on WASH Plans. Once a community is selected to benefit from a facility or programme, it is M/DPCU that carries out all the necessary activities and then sent reports to UNICEF. The financial aspect is done from UNICEF to RCC and to the beneficiary District Assembly.

On the part of NGOs, these are partners that UNICEF have worked on projects with over time. The process is not different from that of DAs but the difference is in the contractual agreements in the form of MOUs that are signed. Details of these working arrangements are presented in chapter 6.

What are their programmes in the Water and Sanitation sector?

I-WASH Programme

In a related interview with the WASH Specialist, in 2012, in Tamale, the WASH Specialist disclosed details of the agency's programmes in the WASH sector to me. The WASH Specialist explained that:

I-WASH programme was an architect of the agency in the region. The WASH Specialist said, "with the aim of addressing the needs towards access to WaS in region, I-WASH was designed to contribute to the eradication of the guinea worm pandemic" (Kabuka Mwatama Banda, UNICEF Tamale, July 20, 2012). The programme started in 2007 with the aim of changing negative behaviours and attitudes in WaS supply and usage. The project the WASH Specialist explained was European Union/UNICEF funded project with an intention to improve water supply in endemic districts in the region.

Some of the objectives of the programme elaborated were:

- i. Stopping Guinea Worm transmission
- ii. Provide safe water sources
- iii. Hygiene education
- iv. Improved sanitation

There were 3 levels of management of the programme starting from national, regional to the district level. At the district level, the project he said, worked with District Water and Sanitation Teams and the District Project Delivery Teams (DPDTs) targeting the guinea worm endemic areas. The WASH Specialist confirmed that initially, the following districts were covered in the region. They were the East Gonja district, Kpandai, Central Gonja, Gushiegu Karaga, Tolon Kumbugu, Savelugu Nanton, Zabzugu Tatale, Yendi, Nanumba North but later extended to West Mamprusi and North Kimtapo (Gurunpe).

The projects under the programme included the rehabilitation of boreholes, drilling of more boreholes, establishing limited mechanized schemes, instituting household level ceramic filters, ensured filtration from dams as well as pipe filters. Table 3.1 presents the planned projects under I-WASH programme implemented by UNICEF in the region.

Table 3.1: Sustainable Safe Drinking Water by June 2012 against Planned Targets

Key Indicators of achievement	Original target	2009 target	2011 target	End-2012 target	Achievement by Mid-2012	Planned achievement by end-2012
No. of people in GW endemic communities who gained access to all year round water supply	267,000	267,000	267,000	267,000	245,639	342,839
Successful boreholes drilled	270	253	200	253	168	188
Hand dug wells completed	20	12	12	12	9	9
Improved water schemes rehabilitated	80	108	200	200	108	199
Limited mechanized schemes completed	60	60	41	41	30	36
Alternative water systems completed	30	30	33	33	36	53
System rehabilitations and expansions	0	Cf. note 2	17	17	12	15
% of constructed water supply facilities functioning by end of project	85%	85%	85%	85%	Not available	Survey will be done

Source: I-WASH Office, UNICEF Tamale, 2012

As shown in table 3.1, it is apparent that the programme (I-WASH) instituted to eradicate guinea worm in the region achieved its original target of 267,000 in 2009 to 342,839 in 2012. There is justification to suggest that UNICEF added 188 borehole facilities in the endemic assemblies and rehabilitated 15 water systems in the region. Though, the target in boreholes drilling of 253 end-2012 was not achieved (188), the number of boreholes drilled (188) is a remarkable achievement. The component that is missing is the sanitation drive. The WASH Specialist explained that the sanitation component supported the Community Led Total Sanitation (CLTS) policy where communities were triggered and later supported to construct household facilities. Specific figures were however, not available for the sanitation component of I-WASH programme in the region.

It was explained, that I-WASH was implemented across the region by various local NGOs operating in the WaS sector. Currently, World Vision international is implementing yet another programme known as GI-WASH.

Development Missions of Foreign Governments

These are not in the group of NGOs neither are they under UN bodies. Development missions of foreign governments work on behalf of sovereign governments to implement various

programmes and projects in the region. Most developed countries have special interest in improving living standards in developing countries. Notably among this group is Canada International Development Agency (CIDA).

CIDA is Canada's lead agency for development assistance and has worked continuously in the WaS sector in the region to improve access to improved WaS especially to communities living in poverty. An interview with the CIDA Programme Coordinator, Tamale elaborated how CIDA has worked over the years to provide improved water to many rural communities that lacked these facilities. The statistics were however, not given because the officer in-charge of research and data was not available at the time of field activities. Other examples are GIZ of the German government and DANIDA of the Danish government. Full details of DANIDA's contribution in the sector are discussed in chapter 6. These organizations work on behalf of their governments and on guidelines drawn with the GoG at national levels.

International NGOs

The last group is the presence of international NGOs in the region. Some of these are World Vision, WaterAid, Oxfam, Stichting Nederlandse Vrijwilligers (SNV), Christian Children Fund of Canada (CCFC) and Catholic Relief Services (CRS). They are international organizations working in Northern Region. Their working procedures are based on the organization's standard procedures on project planning and implementation. Most of these organizations used to work in isolation (that is work without the involvement of government) but with Act 564, they now work with CBOs and other governmental agencies working in WaS sector. For details of their activities refer to chapter 6.

Other Organizations (Coalition of NGOs in WaS (CONIWAS))

While the first two organizations are governmental and directly deals with physical projects implementation, CONIWAS is a network of organizations comprising Ghanaian NGOs, CBOs and other civil society organizations that are operating in WaS sector nationwide. The mission of this coalition is mainly to present a voice to assist the voiceless. This coalition works in partnership with sector players to influence policies, remove barriers and promote access to potable water, sanitation and improved hygiene for the poor and vulnerable (Water and Sanitation Monitoring Platform, 2010).

One of the core goals of this organization is to build partnerships with relevant stakeholders in order to increase access to WaS for the poor and vulnerable in all areas. In the region, this coalition comprises some of the following organizations mentioned under international NGOs and other CBOs. One prominent contribution of CONIWAS is the institutionalization of the Mole Conference⁶ organized annually in the country.

The main scope of the coalition is to effectively coordinate and network among NGOs and CBOs in WaS sector in the country. Members of the coalition also benefit from updates (publications) on new global policies in the sector.

3.8 Summary of First Section

This part of the chapter presented a discussion of the geographical features of Northern Region. One remarkable feature is that the region stretches from the eastern to the western

⁶ Mole Conference derives the name from Mole one of the Game Reserve in Ghana. Mole Conference series started in 1989 when a group of non-state actors in the water and sanitation sector organised the first conference bringing together policy makers and practitioners in the sector. The objectives were to create a forum for dialogue on sector issues; and to build the capacity of local organizations to share their experiences and articulate key emerging issues to government for redress.

corridors of the country. The vastness in land size could be utilized through industrial zones, inland port and international airport development. These activities would open the region up and create job opportunities thereby reducing poverty and out migration. Furthermore, the geophysical features present alarming signs of deteriorating climatic conditions; these challenges should as well present an opportunity for local investment in climatic related businesses to add jobs to the local economies in the region.

Consequently, the region has varying cultural and ethnic traditions. These are considerations that should be tapped for tourism promotion. While harnessing tourism from the diverse cultures and traditions, planning should consider intensive community participation.

One additional challenge is the inability of institutions to adequately market the region to attract local investors. This is because the region cannot point to the contribution of investor projects just like what happens in the southern sector with small scale mining, agro-processing and the like.

The political and administrative structures necessary to drive the development agenda were also discussed. There is evidence of rapid concentration of private businesses in the region. This is an indication of trust for the local economy. Two planning processes were highlighted to bring to light the planning and institutional gaps during infrastructural planning. Apart from government, other bodies such as the UN agencies, international and national organizations in WaS were also discussed. The next section discusses general infrastructure development, the WaS sector and its policies.

3.9 Infrastructure Development

It has long been recognized that adequate supply of infrastructural facilities and services are an essential ingredient for productivity and growth. Fay (2005) analysis indicates that this assertion is so, because infrastructural development is vital in every economic development process because; infrastructure does not only contribute to economic growth, but it is also an important input to human development. Infrastructure has also been recognized to be an ingredient for achieving all the MDGs. Buhr (2003) refers to infrastructure as "essential" since they initiate changes of economic variables, for instance, changes of costs of the firms or changes of household utilities.

While the issues of infrastructural development are very technical because of their life span, there is the financial component involving huge capital investments. This is more critical when the population is fast growing and the need to add more stock to the existing stock. Notwithstanding, governments especially in sub-Sahara Africa are becoming increasingly interested in infrastructural development as infrastructure forms an important part of economic development. Considering the provision of these infrastructural facilities and services as a basic task of the state; private agencies and other civil society organizations are gradually taken the responsibility in providing most of these facilities and services be it institutional or material. The state is becoming interested in these other sources of engagement in infrastructural development where much attention is placed on private sector involvement to raise the capital needed to meet these growth objectives.

This part of the chapter attempts an examination of the infrastructural development components in WaS. The discussions include the policy frameworks and the components of change that seeks to ensure equitable access and sustainability of facilities and services in the sector.

3.9.1 Infrastructure Development in Northern Region

The region lags behind in major infrastructure such as education, health, agriculture, roads and energy. In education, there are still communities without school facilities. Most times,

such communities use the shade from trees to conduct lessons and during rainy days, classes are suspended. Health facilities are similar to education. Although, government is expanding Community Health Planning Services (CHPS), not every community has these facilities and services. The same is applicable to agriculture, roads and energy. The cry for facilities and services in every sector in the region is a wakeup call for government and other stakeholders.

3.9.2 Urban Water Service Provider

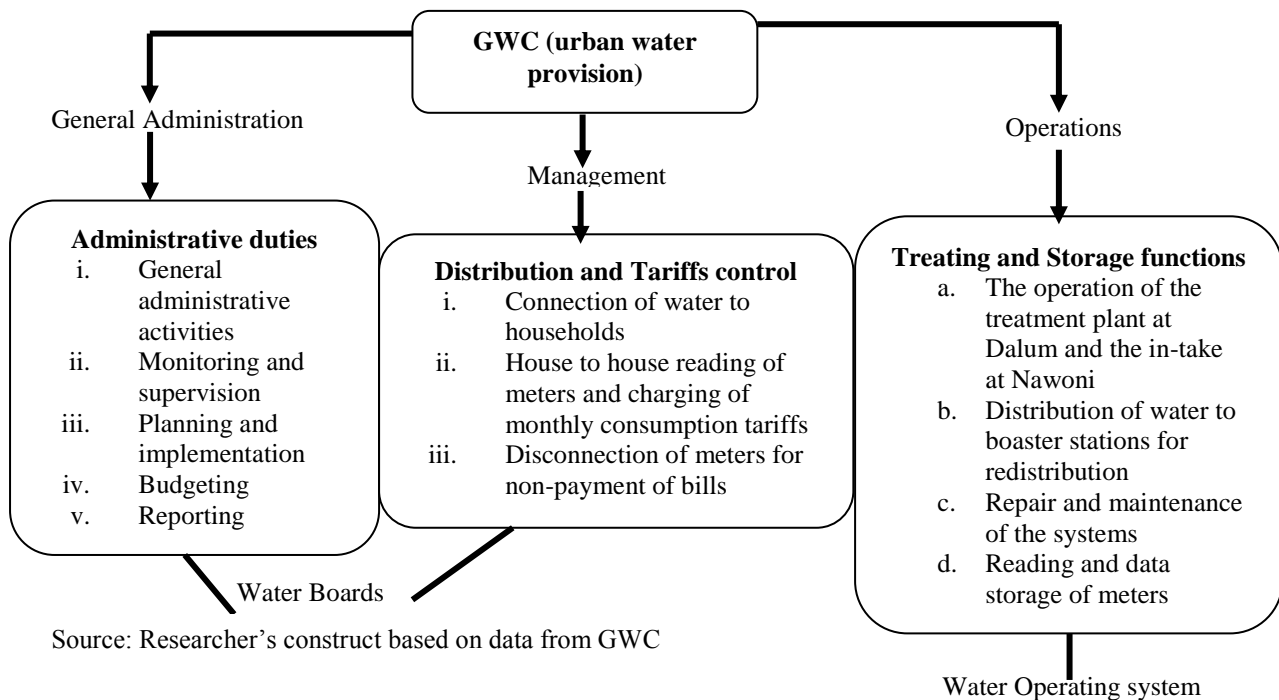
The discussion of WaS infrastructure addresses the needs in urban communities in the region. The rural infrastructural facilities and services are discussed in chapter 7 based on field data.

The Ghana Water Company (GWC)

Ghana Water Company (GWC) is the urban water service provider. This company is mandated to ensure the treatment, storage, distribution of water to urban communities in the country. GWC inherited Ghana Water and Sewage Company (GWSC) which was established with the aim of ensuring the treatment of water from running water sources such as rivers, and streams; to be stored and distributed through running pipes to vantage points for household collection and consumption. In the region, GWC is operating in 4 assemblies namely; Tamale Metropolis, Sanerigu District, Yendi and Savelugu Nanton Municipalities.

In Tamale, the company's water source is the White Volta. Water from the White Volta is channeled to the Dalum Water Treatment Plant which treats and distributes this water through booster stations into the urban township for consumption. The capacity of Dalum Water Treatment Plant at the time of construction was 20,000 m³ supply per day with a population of 83, 623 (PHC, 1970). An additional new water treatment plant was constructed by BiWater Company in Naawuni bringing the water treatment plants to two in the region. Naawuni is the abstract (or intake source). One of the plants is currently on standby. The regional structure of GWC is elaborated in figure 3.13.

Figure 3.13: Regional Structure of GWC



As shown in figure 3.13, GWC basically does three functions. These are general administrative activities, operations of the water plants and management of the system. For

the administrative duties, the company plans, budget, reports, monitors and supervises the activities of all the other units. To ascertain whether the company plans with the local authority (DAs), an officer of the company explained that planning was basically at the company's level and not with other entities but further explained that memos are sent to stakeholders regarding policies and plans.

On the area of management, the officer stated that, this function ensures water distribution and tariffs control. The team under this unit ensures that households are connected either directly into the housing unit or to a source (stand pipe) for use. The unit also sends personnel to read meters and prepare monthly water bills for households. In times of default in payment of bills, it is this unit that goes to disconnect users from the service.

The last function as narrated by the officer is the treatment and storage component of the company. This unit is at the Water Treatment Plant source. They are mostly engineers working to treat the water and distribute to booster stations for re-distribution. As shown in figure 3.13, the last level is the water boards and water operating systems. The water boards perform the function of water administration and management in municipal and district capitals where GWC supplies water to. The water operating system performs the function of only storage because the treatment aspect is done at the Water Treatment Point. (For details on the water boards and water operating systems, refer to chapter 7). The company has similar stations in the Yendi Municipality and that of the West Gonja district but the Damongo treated plant is currently not functioning as a result of the drying up of the river Sorie. In the Yendi Municipality, the company is operating with water from the river Dakar. Today, the sewage component is being handled by the individual DAs.

3.9.3 Water Infrastructure in Urban Communities

To appreciate the nature of water infrastructure and the prevailing conditions in water supply in the region, it is important to understand some of the basic housing infrastructure and conditions, as well as the economic circumstances that exist in urban communities.

Northern Region is predominantly Muslim and most of the urban communities in the capitals were constructed before and immediately after independence. These housing structures are very old and mostly in dilapidated state. Housing units in the urban township are mostly privately owned with few governmental low cost houses in scattered communities. Those that are privately owned serve the accommodation needs of the owner and his/her household and those of workers who are in the region to work for government or the private sector. Most of these households live in multi-families (many families in one compound). The housing units range from compounds to single-storey buildings. The average size of a household in these multi-families structures is between 10-20 persons.

In 1972, Tamale water scheme was instituted, pipe lines were laid and water connected to the housing units discussed above. Due to lack of maintenance and routine services, most of the pipe lines laid during the initial period of Ghana Water and Sewerage Company operations have either broken down or blocked (Edward Agyekum K. GWC Tamale, July 9, 2012). As a result of this, most households are not served with direct services to their housing units.

However, in 2008, BiWater completed another water project for the Tamale Metropolis. New pipe lines were laid connecting almost every household and community in the Metropolis. According to Mr. Edward Agyekum, "Tamale received only 60% that is why you could see that some areas in Tamale could get water and may be once in a week and others were not getting at all. Those who were on the transmission line like Gurugu, Joysilayilli were getting water 24 hours because once we are pumping, they were getting until we finished. With the BiWater project, I can assure you now that everyone is getting water" (Edward Ayekum K. GWC Tamale, July 9, 2012). This explanation from Mr. Edward

Agyekum suggests that TaMA is served 24 hours with water. There was however, no immediate data on the number of households and communities supplied with water by the company. Some of the water infrastructural facilities are shown in figures 3.14 and 3.15.

Figure 3.14: Water Treatment Plant at Dalum, Northern Region



This is a treatment pond at the treatment source (Dalum) after which the water is distributed to booster stations (Bugun and Bagabaga) for further redistribution into individual housing units. As shown in figure 3.14, Dalum Water Treatment Plant was constructed in 1972 and had a capacity of 20,000 m³ serving 371,351 people in the Metropolis. The capacity of the plant after additional works is now producing maximum capacity of 45,000 m³ a day.

Source: Field work, 2012

The second group is those households that get their water supply from a shared standing pipe. Such households are not connected directly but share facilities with other households. This is very common with old urban communities in the region where old pipe lines have broken down and these households have no financial strength to reconnect to new pipe lines.

There is also the small town supply system where most urban communities are now connected with a small reservoir and managed by community members. The water is pumped from a booster station into a small reservoir which is opened at particular times for community members to pay as they get the supply. Figure 3.15 below shows how the water is stored in overhead tanks and re-distributed to households through a standing pipe system.

Figure 3.15: Water Systems in Northern Region



Source: Field work, 2012

Apart from this, there is also a current trend of “Tank service” where tanker cars get water supply from booster stations and supply households at a fee. The question with this service is whether the water supplied is improved. The Rural Water Supply III project suggested that after testing water at the household level, the quality was no more as it was at the source, point. “We qualify this by mentioning that in many cases, evidence suggests that microbiological water quality at the point of use is not impeccable, due to inappropriate transport and storage” (KfW, 2012). This confirms that “water tank services” may not be improved to be used especially for domestic activities (drinking and cooking).

3.9.4 Urban Water Services

As GWC provides water supply to consumers, the consumers are expected to pay for water usage. The company does this on a number of services. Before one is connected to a water facility, one indicates the type of service to be provided. According to Mr. Agyekum, the company provides domestic, commercial and industrial facilities to the public. The discussions here are mostly domestic. Under domestic, one can be given a flat rate service indicating that water supply, usage and payment is constant at all times. Most of the households have no meter readings and as such charges are based on discretion. This service type accords others to use water more and pays less and vice versa.

With these arrangements in water service delivery from the company, I observed after 10 years working experience in the region that most households do not pay the actual amount for consumption of water. This is because there are no meters connected to pipe lines to ensure that households pay according to the readings of the meter. This has made some households to pay more while consuming less and for others to pay less while consuming more. There are also frequent breakages of pipe lines resulting in the over flow of water from the storage and distribution channels. These were one of the measures Aqua Vittem Rand was contracted to solve. However, this is still persistent in the region.

Another observation is that, there is normally one payment center where water bill payments are made. This has probably resulted in none-payment by most households because of the inconvenience of travelling to one destination to pay bills and most times with long queues. These points are made based on my own encounter with the system and informal stories from colleague and friends. A more decentralized system would perhaps ensure prompt payment of bills that individuals owe to the company.

3.9.5 Urban Sanitation Infrastructure

Unlike the water supply system, the sanitation provision is lagging because of the neglect of the system by city planners. All the same, the region has the following sanitation infrastructure. Most newly constructed households have access to private connected Water Closet (WC) into their buildings. This is however, very low. The use of water closet is as low as 2.4% in the region (PHCR, 2013). These facilities are emptied into concrete septic tanks either outside one's apartment or within the courtyards of the compound. This system uses water and most citizens are always skeptical of owning because during water crisis, it is difficult to manage this system.

The second set is the use of KVIPs latrines. These facilities are constructed mostly by the Assemblies at public places such as market centers, transportation stations, in a community and other public places. This system does not use water. There are also household KVIP latrine facilities constructed and used by individual households. These types of facilities are highly patronized because they are convenient to use without water and easy to maintain. TaMA in one of their donor funded projects supported the construction of over 2000 household KVIP latrines. The support was in the form of consultancy and technical services with counterpart support from the households.

Another type is the use of bucket latrines. This system uses a bucket where paid labourers collect and empty the waste into dumping sites and/or nearby open waste channels. This system attracted public criticisms and its use is gradually reducing in urban communities in the region.

3.10 Policy Transformation in WaS Delivery in Ghana

Ideologically, the discussions of WaS in Ghana are centered on the transformations over the years in the sector. Some claim that WaS ideological shift have just witnessed major changes in recent times but such critics may be mistaken because WaS supply and delivery has

witnessed ideological changes from 1870s to present day. The observation is that these ideological shifts aimed to address the challenges and improve the system from one stage to the other. While the shifts were to address Water and Sanitation, observations suggest that the changes were basically in water supply and management to the neglect of sanitation. This is because of illustrations from (Agyenim 2011: 225). Agyenim (2011) posits that water services were subject to a complex regime of tariffs, subsidies; and water was sometimes provided free of cost. However, (Agyenim, 2011) presentations were basically on water as the attention was into water other than sanitation.

Based on (Agyenim, 2011) views of ideological and shifts in transformation, I have modified these changes and incorporated the sanitation component. Following (Agyenim, 2011) the changes witnessed the period of government to governance, water as a free gift of nature to water as an economic good also highlighted in (Bacho, 2001), centralization planning and management to decentralization, and from sectoral to integrated (with private sector involvement) in water and sanitation supply and management.

Water can however, not be detached from sanitation because: the two terms are intertwined, inter-linked however; water is always at the receiving end than sanitation. Table 3.2 presents the changes in WaS sector with the attention on water to the disregard of sanitation, a situation that is probably accounting for the inability of the entire country to meet the MDG target on sanitation.

Table 3.2: Basic Changes in Water and Sanitation Policy in Ghana

Period of change	Elements of change			
	Government to Governance	Free gift to economic good	Centralized to decentralized planning	Sectoral to integrated
Customary practices (the 1870s)	A period of un-codified customary laws, cultural practices with more of traditional rule and authority <i>This period was silent on sanitation</i>	Water was a free gift of nature, no limited usage. <i>Sanitation not an issues at all because there was no limited land availability, little or probably no waste generation</i>	Decentralized management of water resources at the traditional authority level. Little centralized control	Water and sanitation management was based on cultural systems and practices at the time
Colonial period (1874-1957)	Guided introduction of codified and written laws. <i>Little attention on sanitation</i>	This was a centralized system with laws emanating at the headquarters of central government	Free but control good in the case of water. <i>Sanitation still silent</i>	Sector management of water with little or <i>no attention on sanitation.</i>
Post colonial (1957-1990)	Government control of water supply and management in the form of more formal rules and regulations. <i>Little was done in the sanitation sector</i>	An introduction of tariffs system and that of subsidies to water. <i>The attention on sanitation is still very low especially on building codes. Low enforcement of laws to ensure the in-cooperation of sanitation facilities into buildings</i>	Centralized planning and implementation of water and sanitation projects.	An introduction of integrated approaches with inter ministerial, departmental and agencies collaborations and coordination
Current Trends	Purely Government regulated with a	Purely tariffs approach and an economic good	A mixture of centralization and	Integrated approach in the

(1994 to date) Urban	bigger company responsibility	<i>No coordinated sanitation systems. Private sector into sanitation</i>	decentralization. <i>Sanitation emphasis is on public facilities to privately owned facilities</i>	provision, distribution and management of water and sanitation systems
Rural	Governance rather than government. Participation of all stakeholders, with rural communities playing the role of ensuring equity distribution and accountability of the system	Tariffs paid only when there is the need. <i>Sanitation being a priority. Ensuring CLTS and educational sensitization on hygienic practices</i>	Purely decentralized approach. Demand driven and community operating and management of facilities	Integrated approach of government, CS and development partners.

Source: Adapted and modified from (Agyenim, 2011: 225)

From table 3.4, four changes are outlined. These are the period 1870s (customary practices), the periods 1874-1957 (colonial period), the periods 1957-1990 (post colonial) and 1994 to date termed current trends in WaS supply and delivery. As shown in table 3.2, these periods have basic elements of government to governance, free gift to economic good, centralized to decentralized planning and sectoral to integrated management. Apart from the current trend where major and drastic transformations have occurred in the sector, the other periods were mostly on water. For instead, under the 1870s (customary practices), the major elements were government to governance. This period was associated with un-codified customary laws, cultural practices and mostly traditional rule. This period was also silent on sanitation. Aside, the provision of water was treated as a free gift of nature, no limited and payment for its usage. Furthermore, water management was decentralized at the traditional authority's level and based on cultural and traditional systems. The same elements were applicable to subsequent periods.

Nonetheless, the current trends have the urban areas separate from the rural areas in terms of water supply and delivery. The urban areas have their water supply from Ghana Water Company, while the rural areas get water supply from Community Water and Sanitation Agency, donors and CBOs. GWC monitors and manages tariffs of water usage in urban communities while the rural communities manage their own facilities. The system, whether urban or rural is more or less decentralized as compared to the other periods. Although these are ideological changes in the sector, there are major policies regulating these changes.

3.11 Policies Discourse in WaS in Ghana

Policies under this part are categorized into broad period of; policies before independence, policies after independence, policies during SAPs, policies under the 4th Republic and water management up to date. From this grouping, it can be observed that there was a break from policies after independence and SAPs. This is because this break period was characterised by frequent military interventions in the political history of the country with scanty data from the sector. Aside, the discussion is centered on the entire country because the region has no separate policy regarding the WaS sector. The region depended on the National Water and Sanitation Policy during all the periods discussed under the policy transformations.

National Water and Sanitation Policy (NWSP) Overview

In devising policy for infrastructural development in WaS sector in Ghana, that policy probably took into consideration the importance of distinguishing between the problems the sector is confronted with, and their fundamental causes. With water, the problem has to do with; how to identify the main sources for water to be stored (intake source); how to treat this source to make it improved for human consumption; then how to transport the water from its treated source to a distribution point (booster stations or reservoirs) and how to finally distribute it to the consumer. Some even move the discussion further to how to manage the system to ensure that it is sustained over time with minimal leakages to enhance future expansions.

On the part of sanitation, the policy would consider the need for; site identification which is important if for instance the infrastructure is to serve a community; how to dislodge the waste when the infrastructure is full, where to dislodge this waste; and how to also manage the system among other considerations with regards to community facilities. But at the household level, other factors such as frequent flow of water for liquid waste have to be considered. These have a huge financial component especially with regards to water supply infrastructure. These were some of the policies in the sector.

NWSP before Independence

Tracing NWSP in Ghana is a challenging task because of scattered data on these policies. During this period, one may not necessarily have to state that it was a policy because a policy encompasses principles or rules that guide decisions for the achievement of rational outcome(s). This is also difficult because the country was not in a single unit like we have today. For instance, the first public water supply system in Ghana, then Gold Coast, was established in Accra just before World War I. Extensions were made exclusively to other urban areas among them the colonial capital, Cape Coast, Winneba and Kumasi in the 1920s. The Hydraulic Division of Public Works Department controlled water management. With time, the responsibilities of the Hydraulic Division were widened to include the planning and development of water supply systems in other parts of the country. This was still before independence and gradually in 1948, the Department of Rural Water Development (DRWD) established to engage in the development and management of rural water supply through drilling of bore holes and construction of wells for rural communities.

Though, many communities were not covered in this arrangement, it is suspected that communities relied on the use of water from unimproved sources such as rivers, dams, springs and wells at the time. Data on the rest of the country are very scanty and unavailable in institutions in the sector.

NWSP after Independence

Ghana during the period of independence is a memorable period. This is a period that the country may probably not be able to experience again from generations to come. This is because of the remarkable and rapid infrastructural expansion and growth recorded in history.

The Akosombo dam project is one such infrastructural project implemented during this period. Diaw and Schmith-Kallert (1990) highlighted that this project alongside with all related infrastructure was also the biggest and most ambitious single development project ever implemented in the country since Ghana attained her independence in 1957. Many critics are however fast to add that; this growth was characterized by the huge financial resources that were left behind for the country by her colonial masters. Further criticisms are that because of our zeal to have self government; the then President wanted to demonstrate to the international community that Ghanaians were capable of managing their own resources. This was the period that saw the development of rapid infrastructure nationwide. Indeed, the

then President did not only want to portray to the world that we were capable of managing our own resources, but wanted all citizen to have a decent living.

This was done through a policy of Basic Human Needs provision. This included the provision of a vibrant water supply sector. It was clear that the operational and implementable water policies combined with an effective allocation of resources were crucial in ensuring that the population had access to potable water supply. The objective of the water policy during this period was to have water supply schemes in major locations to serve the population nationwide (Oclo, 2011). These schemes were to utilize running (surface) water from river basins and treated for distribution. With this, the Tamale water scheme was established to serve the northern sector of the country. Others included the Kumasi scheme serving the Ashanti and environs, Sekondi-Takoradi serving the western corridor, Cape Coast, Tema and Accra dotted around the country.

However, communities that could not be served from these schemes were served with the provision of boreholes and protected dugout wells. These schemes had a social ideology of providing for the people improved water. Furthermore, the schemes were expected to charge a subsidized fee on the utility to cater for the recurrent costs while government absorbs other charges. With the expectation of population growth coupled with urbanization, major water expansion schemes were again established in Akosombo and Kpong water sites in the eastern corridor of the country.

With new schemes and new infrastructure, the people at the time might have enjoyed water distribution and supply. Nonetheless, the strategies adopted at the time were not clear on maintenance, constant supply of water and expansion in the near future especially as population grows. This is because in an interview with Mr. Edward Agyekum, it was revealed that the idea was on provision of the infrastructure and service. Maintenance was the sole responsibility of government and not the schemes at the time (Edward Agyekum, GWC Tamale, July 9, 2012).

A further gap was also created in the sanitation aspect. The policy captioned “Water and Sanitation” while the sanitation component was also missing or silent. From the discussions with Mr. Edward Agyekum, explanations were not given for the silence on sanitation.

Q: Now, I am very much interested in the sanitation aspect which is now the responsibility of the Assemblies. But before then, Ghana Water and Sewage Cooperation were in-charge of water and sewage. Why is it that, the sanitation component was very silent? You never saw projects really coming up in sanitation.

A: You see, what happened was that in Accra, if you go to 'Lavender Hill' there is a sewer plant there. Tema too, I have seen the Tema one, and I think there is one in Kumasi 'Dumpreso' or so. The sewer plants are not many. They also operate just like the water. Again, KNUST there is a treatment plant there too. So far these are the places I know.

Q: So, were these plants managed by the Cooperation?

A: For example, KNUST one is being managed by the University and they have their waste management unit.

Q: What was it suppose to do? Was it constructed to connect to households' sewer?

A: The KNUST one?

Q: Any of them!

A: The KNUST one, what they did was, it is a system for the whole campus. A central one where, all the sewer goes to a central point for treatment.

Q: Was GWSC supposed to be in charge of that?

A: Like KNUST one, I do not have much information about it, but, I know once it is a school they have their own people who manage it for them and I know they also teach sanitation and all these. So, I know they have the people who do it for them but as for the Accra West sewer, I know the DA, Accra Metropolitan Assembly they have the people who are managing it.

Q: But you see, households' facilities are really very poor.....(Edward Agyekum, GWC Tamale, July 9, 2012)

From the above discussions with Mr. Edward Agyekum, it is obvious that during this period there were few sewer plants in the country but this officer could not explain how the Cooperation at the time were managing them. Follow ups were made in Accra, the headquarters to digest the sanitation policies during this period but the officer in-charge was not readily available for questioning.

The silence of strategies also came with a darker part of the country that witnessed four (4) successive military governments, some with different political ideology coupled with accumulated international debts accruing as a result of borrowing to fund projects on social ideology. In effect, much was not done in WaS after the over throw of the first President and his social ideology especially on BHNs provision.

NWSP under Economic Recovery and Structural Adjustment Programmes (SAPs)

This is a period worthy discussing because this era witnessed another stable political environment in the history of the country but perhaps not in terms of economic. This was a political era that was poised to do a lot but was challenged because of weak economic environment inherited perhaps as a result of frequent military interventions in the political landscape of the country. What existed at the time was the country over reliance on agricultural exports the principal source of foreign exchange (necessary to buy intermediate inputs and capital goods for domestic industries). These combinations of policies typically led to decline in GDP and a balance of payments crisis.

There was also an expansion on the public sector while imposing wide-ranging controls on private activity that experienced the paradox of poor public services despite relatively high public expenditure. Again, the country increasingly made use of loans from International Monetary Fund and World Bank as a solution to the balance of payments crises, and therefore were increasingly led to implement the set of policy measures advocated by these institutions. During this period, Ghana adopted Economic Recovery and SAPs designed by the Bretton Woods (BW) institutions for implementation. This was the only way out of the country's economic oblivion.

These policies are conditions for getting new loans from the International Monetary Fund and/or World Bank, or for obtaining lower interest rates on existing loans from these institutions. These conditionalities are implemented to ensure that the money lent will be spent according to the terms of the loan. SAPs were created with the goal of reducing the country's borrowing fiscal imbalances. SAPs were supposed to allow the economies of developing countries to become more market oriented. This then forces them to concentrate more on trade and production to boost the local economy.

Through conditionalities, SAP generally implemented "free market" programs and policy. These programs included internal changes (notably privatization and deregulation) as well as external ones, especially the reduction of trade barriers. These were policies that were perceived to cut government spending and reduce waste in government budgets through policy of devaluation, privatization and withdrawal of subsidies in areas that government was spending on. These policies adopted from the IMF and World Bank affected the NWSP. The era of SAPs was to restructure the NWSP country wide to meet demands. This period was to ensure stability of the state ran cooperation at the time in water delivery nationwide.

During this period, loans and grants were sought from the World Bank and other donors for rehabilitation and expansion programmes, to train personnel and to buy transport and maintenance equipment for GWSC. In addition, user fees for water supply were increased and subsidies on water tariffs were gradually removed for GWSC to achieve self-financing. This was the period when water privatization issues were raised. According to (Akande, 2002), water privatization is a big issue in many African countries. Investors say it brings efficiency. Opponents say it hurts the poor. Whatever one believes, the poor have no say in the matter. But in Ghana, the debate is still on-going with a strong intension of privatizing water. This was seen in the withdrawal of subsidies in operational and many development programmes.

Although subvention for both operational and developmental programmes was withdrawn in 1986, government funding for development programmes continued. The government at the time also approved a formula for annual tariff adjustments to enable the corporation generate sufficient funds to cover all annual recurrent costs as well as attain some capacity to undertake development projects (Edward Agyekum, GWC Tamale, July 9, 2012).

In 1987, a "Five-Year Rehabilitation and Development Plan (DP)" for the sector was prepared which resulted in the launching of the Water Sector Restructuring Project (WSRP). This Development Plan solicited funds from multilateral and bilateral donors amounted to \$140 million to support the implementation of WSRP. The main reason for the reforms were aimed at reduce unaccounted for water, introduce rationalization through reduction of the workforce, hire and train professional staff. A strong focus in WSRP was also on improved management and increased efficiency through organizational change of the water sector. The end of this period witnessed the strong determination of the major water company relinquishing most of its powers and controls to other institutions in the country. This period did not just end with a full realization of WaS supply target but major problems still existed in the sector with sanitation bearing the worst records of neglect.

Water and Sanitation Policy during the 4th Republic to date

This period continued from discussions under SAPs. President Rawlings implemented the SAPs and continued two successive democratic terms in the 4th Republic. This period could be described as the period of institutional revolution in WaS sector. This is because of the number of institutions that were set up during the period with various responsibilities in the sector. For instance, with the full implementation of the decentralization policy in the country, the water sector also set aside responsibilities for sanitation and Small Towns (ST) water supply from GWSC to decentralized DAs in 1993. Subsequently, the Environmental

Protection Agency (EPA) was established in 1994 to ensure that water operations did not cause any harm to the environment.

Another commission known as the Water Resources Commission (WRC) was also established in 1996 and is in charge of overall regulation and management of water resources utilization. Then in 1997, the Public Utilities Regulatory Commission (PURC) came into being with the purpose of setting tariffs and quality standards for the operation of public utilities including water. These institutions, therefore, served as checks on the system for effective delivery and management of water supply in the country. With these institutions, the sanitation component was still silent as clear policies were not drawn on how sanitation would be managed. For example, DAs were responsible for sanitation delivery and Small Town water supply, but, DAs have urban and rural communities. In most cases, the urban communities are given priority attention than the rural communities.

Again, looking at the lapses in rural WaS, an Act; Act 564 of 1998 established the CWSA with the responsibility for the management of rural water supply systems, hygiene education and provision of sanitary facilities. Similarly, Act 461 of 1993 as amended by LI 1648, in 1999, gave pursuant to the Statutory Corporations (Conversion to Companies) where GWSC was converted into a 100% state owned limited liability. With this status, GWCL has the sole responsibility for urban water supply. This is the picture of WaS in the country and these structures have regional representation.

From the data, it became clear that the policies in this sector were primarily centered on water with little or no attention in the sanitation component. Apart from 1998 that CWSA was created, the period before had little policy direction on sanitation. The other observation was equally on Small Towns, rural and Small Community facilities. Before 1998, GWSC still had the over side responsibility for WaS facilities provision for rural and urban communities. GWSC had only regional offices with few zonal offices to work in. It was not ascertained whether the structural arrangement of GWSC at the time hindered poor sanitation delivery or other factors. Table 3.3 presents a summary of the various policies before independence to date.

Table 3.3: WaS Policy before Independence to Date

Period	Year	WaS policy	Key Component
Before independence	1920s	Public water supply system in Ghana	Public water supply system, Extensions to other urban areas Cape Coast, Winneba and Kumasi
	1948	Department of Rural Water Development established	To engage in the development and management of rural water supply.
After independence	1958 onwards	Established water supply schemes	Schemes would utilize running (surface) water from river basins and treated for distribution. Subsidized fee for water Policy silent on sanitation Provision of boreholes and protected dugout wells for not served communities
During SAPs	From 1986	Rehabilitation and expansion of water schemes and programmes	Capacity programmes for personnel, transport and maintenance equipment for GWSC procured. User fees for water supply increased, subsidies on water tariffs removed. GWSC to achieve self-financing
	1987	A Five-Year Rehabilitation and	The aim is to reduce unaccounted for water, introducing rationalization through reduction

		Development Plan prepared Launching of the Water Sector Restructuring Project	of the workforce, hiring of professionals and training of the remaining staff. Improved management and increased efficiency through organizational change of the water sector introduced.
	1993	Sanitation and Small Towns (ST) water supply responsibilities redirected from GWSC to decentralized DA	Provision of public toilets Application of CLTS in rural communities
4th Republic	1994	Environmental Protection Agency established	Ensure water operations are harmless to the environment
	1996	Water Resources Commission (WRC) founded	Overall regulation and management of water resources utilization.
	1997	The Public Utilities Regulatory Commission (PURC) created	Tariffs and quality standards for the operation of public utilities including water
	1998	the Community Water and Sanitation Agency established	Responsible for management of STs, and rural water supply systems, hygiene education and provision of sanitary facilities.
	1999	In pursuant to the Statutory Corporations (Conversion to Companies)	GWSC converted into a 100% state owned limited liability Ghana Water Company Limited, with the responsibility for urban water supply only.
	1999	National Environmental Sanitation Policy	Sanitation covering food hygiene and solid waste and excreta disposal
	2007	Water management	

Source: Researcher's construct based on data from various WaS institutions, Ghana

As shown in table 3.3, the policies in WaS sector are mostly institutional. This is more starting from 1993 when sanitation and Small Towns and communities water supply was transferred from GWSC to the DAs. This goes to support (AMCOW Country Status Overview, 2009/10: 2) that appropriate institutional, legal, and regulatory structures are now largely in place, particularly for the urban and rural water supply subsectors in Ghana.

Aside, from 1994 to 1999 different agencies and institutions were created individually to either deal with supply or tariffs control. Notable among these are the PURC and EPA. PURC is responsible for tariffs and quality standards control but it is regrettable that PURC hardly talks on issues of quality standards in the sector. Nonetheless, the policies over the periods have projected some of these elements.

3.11.1 Elements across Policies

From table 3.3, it is obvious that NWSP has witness some of these elements from independence to date. These are:

Decentralization

After the centralized system, when water supply and management was centralized, today, there is decentralization in water supply and management of facilities. This is characterized by the separation and creation of many more institutions to deal with specific issues in the sector. The major planning authority is the DAs with collaborative responsibilities from CWSA for rural and STs and communities. GWC is also decentralized though there are still some elements of centralization in the company. Decentralization comes with community management of the facilities. This to an extent ensures sustainability unlike the centralized system where communities were detached from the facilities in terms of management.

Stakeholders' Involvement

Another observation from the policies is the level of stakeholders' involvement. Aside their involvement is the coordination of all stakeholders in the sector. By Act 564, all stakeholders seek approval of their programmes and projects from the DAs and CWSA. While it used to be stakeholders doing their own thing from that of government, the policies are now coordinated.

We partner with all stakeholders. For example, we have the big and local NGOs. With the big NGOs they bring in their own monies. We partner with them to follow the 'National Strategy'. Our role is to ensure that whatever they are doing, if World Vision brings money, we assist them to follow the 'National Strategy' where the facilities would be community managed, being demand-driven and all those things. So, that is the way we partner with them. We do not control their funds but we assist them to channel the money through the way we want it to be done (Offori MacCharty, CWSA Tamale, July 10, 2012).

This is evident from the explanation of the Director CWSA, Tamale that the policies over the period have components of stakeholder involvement but stakeholders are guided to compile with the 'National Policy' on WaS delivery.

Separation of Rural Urban Water Management

Another element is that WaS delivery and management is now separated for urban and rural communities. The urban communities' management of water is still under GWC discussed earlier but the management prior to its company status was monitored by a private company to ensure value for money investment.

Water Management in 2007

The discussions here are management of urban facilities. In 2007, the Government of Ghana (GoG) again went into a partnership agreement with Acqua Vitens Rand Limited (AVRL) a private business company to assist in what is termed water management. The two entities that own AVRL are Vitens from Holland and Rand Water from South Africa. AVRL was contracted for a 5 year term contract and the main element of this contract was a Private Sector Participation (PSP) Management Contract. This contract only mandated AVRL to manage the urban water system to restore financial stability of the water sector and to assist GWCL to increase connectivity of piped water to several urban communities that still had problem with accessibility to water (<https://www.vitens.nl/>)

Another component of this contract was to reduce wastage in water supply as a result of leaking pipelines from the source to consumers. The main aim was therefore to facilitate the management, sustainability and improvement of urban water supply. As part of ensuring

sustainability AVRIL was expected to also transfer knowledge and skills to their Ghanaian counterparts.

The major critic on this arrangement was that expatriate staff drew their emoluments and other benefits for the five-year period from some US\$11 million taken from a US\$103 million World Bank grant to support the Urban Water Development Programme (UWDP) in the country. It was expected that under this contract, water management would receive the needed attention. However, AVRIL could not do much as there were still leakages in the system (<https://www.vitens.nl/english/international/.../VEI%20Ghana-factsheet.pdf>) Retrieved on July 3, 2013. AVRIL has since handed over the Management and operations of the country's urban water back to GWCL due to what is described as poor management of the urban water sector by AVRIL. This was stated by the sector minister in 2011.

3.11.2 Community Water and Sanitation Agency (CWSA)

One would wonder why another agency would be carved out of a company when one entity can conveniently run the system effectively and efficiently. However, CWSA was carved out of the Rural Water Department (RWD) of GWSC when, it was realized that not much attention was paid to rural water and sanitation supply. This is so because of the low level of water coverage to STs and rural communities of 52% in 2006 as compared to urban coverage of 61% within the same time period (GSS, 2006).

CWSA was therefore created to focus on WaS needs of Small Towns, Small Communities and rural population. This explains the reason why most of the districts in Northern Region are cut out of the activities of the GWC. The remaining 17 and more districts are under the operations of CWSA. CWSA was established in 1998 and operates in all the districts in the region.

The main goal of this agency as stipulated by Act 564 is to facilitate the provision of safe drinking water and related sanitation services to rural communities and Small Towns in Ghana. Some of the functions outlined in the agency's brochure are to:

Provide technical support to DAs to:

- 1) Promote the sustainability of safe water supply and related sanitation services in rural communities and small towns
- 2) Enable the assemblies encourage the active involvement of communities especially women, in the design, planning, construction and community management of water and sanitation projects
- 3) Formulate strategies for the effective mobilization of resources for the execution of safe water development and related sanitation programmes
- 4) Encourage private sector participation in the provision of safe drinking water supply and related sanitation service
- 5) Provide DA with technical assistance in the execution of water development and sanitation in the districts
- 6) Plan and execute water development and sanitation in the districts
- 7) Assist and coordinate NGOs engaged in the development of water, sanitation and hygiene education in rural communities and small towns
- 8) Initiate and pursue in collaboration with the Ministries of Local Government, Health, Education and Non-Formal Education Programmes (NFEP) for public awareness in rural communities and small towns of water related hazards
- 9) Prescribe standards and guidelines for safe water supply and provision of related sanitation services in rural communities and small towns and support the DA to ensure compliance by the suppliers of these services
- 10) Charge reasonable fees for service provided

- 11) Collaborate with such international agencies as the Agency considers necessary in the execution of its mandate
- 12) Perform any other functions assigned to it by Act 564.

Based on these functions, the agency has a programme rolled out by the Act; the National Community Water and Sanitation Programme (NCWSP). The main objectives of this programme are to:

- a) Provide access to WaS service for rural communities and small towns in Ghana.
- b) Ensure the sustainability of WaS facilities provided.
- c) Maximize health benefits by integrating water, sanitation and hygiene promotion.

With these objectives, the agency is expected to run series of projects that are mostly demand driven through its national and regional offices. However, DAs plays a key role in the implementation of the overall programme with support of District Water and Sanitation Teams (DWSTs).

3.11.3 Major Institutional Changes in Rural Water and Sanitation Delivery

The major institutional change in rural water delivery is the Act setting up CWSA which used to be a division under GWCL. CWSA handles the provision of potable WaS facilities and services to Small Towns and rural areas. The aim is to ensure an increase in the provision of these facilities and services in these communities. The division also offers the two institutions (GWCL) on one hand, and (CWSA) on the other hand to handle issues differently within rural and urban communities (Offori MacCharty, CWSA Tamale, July 9, 2012). These changes are not merely on the names and Acts stipulating their existence but the combined approaches and strategies that they use to ensure effective management of facilities and services.

Human Resources (HRs) Arrangements

In terms of Human Resources to implement rural water supply, CWSA indicated that the agency is using its teaming experts who have worked throughout the years under various WaS companies and projects.

“Oh, human resources are available like I told you. We outsource everything and we have the capacity to supervise all that and fortunately for us, a lot of the people who are in the system are former water people. So, as for Human Resource capacity it is there; it is the financial resource that is lacking” (Offori MacCharty, CWSA Tamale, July 10, 2012).

This answer was given when I asked a question to ascertain whether the agency has Human Resources to carry out its activities. From the response of Mr. MacCharty it was

palpable that human resource for CWSA is not a problem but rather financial. This revelation was rather astonishing because many of the governmental agencies and institutions especially the DAs lack the requisite Human Resources to implement policies.

Approaches

CWSA has adopted a number of strategies. Key among them is community management approach. Systems and facilities that the agency constructs are managed by the community or the town. The community management approach is very different from GWC approach that treats, stores, distributes water and manages tariff collection (Edward Agyekum, GWC Tamale, July, 9.2012). CWSA leaves tariff collection and management to the communities themselves. Another tenet is the facilities are provided to communities purely on a demand-driven approach. The agency only responds to demands from the communities. This implies

that the communities demand for the facilities through their local leaders at the DAs and the agency responds to the request by providing the facilities. This is how NCWSP works.

Implementation of the NCWSP

The descriptions here are based on literature on NCWSP and interviews with the Regional Director of CWSA, Tamale. The implementation of NCWSP is referred to as demand-driven or demand responsive approach to water supply in rural areas. It is demand-driven because it is the communities that initiate the process. When a community is in need of water and/or sanitation facility, that community will first of all express their interest through its local representatives such as the Assembly man or woman of the area to the District Assembly (Offori MacCharty, CWSA Tamale, July 10, 2012).

The community expresses their interest to have a facility by indicating their ability and commitment to operate and maintain the facility after construction. In the past, the community used to show evidence of 5% of facility cost but this has been canceled since the past 3 years, the Programme Coordinator of CLIP disclosed this in an interview. However, when the cost sharing component used to be in place, this was how the cost sharing was:

- i. External Support Agency(ies) (ESA) pay 90% of the cost
- ii. DA (GoG) pays 5% of the cost of the facility and
- iii. Beneficiary communities pay 5% of the cost as well.

In line with the preliminary preparations, other influential personalities such as regional and district political heads, opinion leaders, donor agencies, and other stakeholders together with staff of CWSA embark on series of negotiations and meetings. When all processes are duly followed and arrangements for the intended facilities for a community are ready, the programme is launched in the district of the community responsibly for the operation and maintenance of the facility. This process is to create awareness of the process in the district and the beneficiary communities.

After the programme is launched, the interested community meets to discuss their interest and responsibilities in the programme. The beneficiary community then applies to the District Assembly for a facility of their choice. Other components are the community's ability to form WATSAN and Water and Sanitation Development Board members. These are the committees that mobilize local resources, operate, maintain and manage the facility.

Lists of communities within the District Assemblies are compiled based on their willingness and commitment to manage the facilities. The final selection of communities is then taken at a general assembly's meeting where Assembly members make suggestions to the list.

Consequently, the communities are mobilized and sensitized by Partner Organizations (POs) or Consulting Firms leading to preparation of sub-project proposals, Facility Management Plans (FMPs) and Feasibility Reports on fund mobilization to support and maintain the facility. WSDBs and WATSAN Committees are trained on how to operate and manage a facility.

Some Activities of the Agency in Northern Region

Analyzing the operations of this program since it's launched in 1994; NCWSP has covered all the old districts in the region. From the inception of the programme until 2012, about 1,458,748 rural population have benefited from water projects. This was disclosed by Madam Patricia Gyamfi, CWSA. In her submission, activities of the agency kept expanding especially with the figures from 2006 to 2012 available at the office. Table 3.4 presents the activities of CWSA in 2012 in the region.

From table 3.4, it is clear that most of these projects are boreholes and dugout wells installed under CWSA guidelines. The projects that have so far been covered are water projects representing 62% of the total projects implemented.

Table 3.4: Regional Coverage Statistics: Potable Water (Community Based Water Systems)

NR												
DAs	Communities	Population	Facilities			Group served (Population)					Coverage	
			Boreholes	H-D Wells	Pipe system	Below 75	75- 300	301- 2000	2001- 5000	Over 5000	Population served	Coverage
Bole	159	84,495	192	3	1	286	4,152	36,170	8,800	12,678	62,086	73%
Bunkpurugu-Yunyoo	207	143,037	263	2	0	81	7,153	57,721	8,000	8,000	80,955	56%
Central Gonja	192	103,592	68	22	3	35	580	18,133	6,267	17,761	42,776	41%
Chereponi	182	72,036	165	35	1	220	7,510	27,533	0	8,795	44,058	61%
East Gonja	253	133,343	118	13	0	96	2,789	29,412	4,400	4,200	40,897	30%
East Mamprusi	136	134,731	161	48	2	66	4,110	35,032	10,580	29,391	79,179	58%
Gushiegu	314	119,531	329	47	1	870	22,403	42,720	1,200	24,197	91,390	76%
Karaga	141	81,220	175	31	0	400	6,375	30,350	8,146	5,400	50,671	62%
Kpandai	232	121,902	174	3	4	85	4,629	22,717	14,823	10,871	53,125	43%
Nanumba North	187	133,805	272	13	1	84	7,309	53,717	10,299	32,417	103,826	77%
Nanumba South	120	84,390	155	3	1	11	2,247	35,987	5,200	14,533	57,978	68%
Saboba	262	80,273	174	38	1	357	10,726	27,831	3,400	5,196	47,510	59%
Savelugu-Nanton	139	128,090	254	27	3	276	5,973	46,105	12,126	51,727	116,207	90%
Sawla-Tuna Kalba	254	132,859	287	4	1	153	9,664	62,469	2,400	12,571	87,257	65%
Tamale Rural	65	39,215	6	5	0	0	1,031	17,396	0	0	18,427	46%
Tolon Kumbungu	254	200,984	155	80	0	95	4,778	40,259	20,188	4,200	69,520	34%
West Gonja	108	101,826	197	15	4	52	3,432	34,091	17,266	19,680	74,521	73%
West Mamprusi	135	168,264	299	167	5	10	4,853	53,110	40,770	14,887	113,630	67%
Yendi	330	135,034	426	35	1	652	19,712	65,833	17,306	7,320	110,823	82%
Zabzugu Tatale	289	139,970	434	6	1	261	17,051	68,913	7,806	19,881	113,912	81%

Source: CWSA Tamale, 2014

The sanitation projects were however, not available because the agency does not implement physical sanitation facilities for the communities. From table 3.4, the least districts with water coverage are CGD 41%, East Gonja 30%, Kpandai 43% and Tolon Kumbungu 34%. Savelugu Nanton has the highest with 90% followed by Yendi (82%) and Zabzugu Tatale (81%). This corroborated with PHCR (2013) figures on water coverage.

What is still Missing? The Gaps in Sanitation

There is still a ministerial and management gap especially with sanitation. While the water component is very clear with GWC having the over sight responsibility of urban water supply and management; and CWSA for rural water supply and management; there is mixed up with the sanitation component. For instance, the National Environmental Sanitation Policy (NESP) was prepared by MLGRD in consultation with other stakeholders. The policy was however, silent on the activities of CWSA that was stipulated by an act of Parliament (Act 564). By Act 564, CWSA is responsible for WaS provision for rural areas. This water policy was silent on the operations of CWSA. This is a gap that needs a second consideration.

Another gap is in WaS policy framework that National Water Policy (NWP) developed. NWP was developed by a separate ministry (Ministry of Water Resources Works and Housing) and the main focus of this policy was on water supply with some sanitation issues. But the issues are not in line with Act 564 under CWSA. For instance, under CWSA, sanitation should take the form of re-orientation of the communities through what is termed CLTS. The communities are expected to understand their own sanitation problems and then come out with measures to address these problems. CWSA is not expected to provide facilities for households. However, the NWP attention is on public facilities. The Environmental Health Unit (EHU) oversees environmental and sanitation related issues at the various DAs. This unit is part of the MoH and GHS and not MWRWH.

It is a problem of first, with the policy itself, the agency with the over-sight control to deal with the problem, and above all, (CWSA, Assemblies, EHU, and other private entities) all working to solve one problem in different ways with different resources. It is prudent if one governmental ministry or agency is assigned to be responsibility for sanitation issues different from the mixed up of the two (water and sanitation).

3.12 Conclusion

Water is the world's most critical strategic resource whereas sanitation is a crucial issue because it involves human dignity, environmental pollution, and aesthetic matters. This part of the chapter has discussed Northern Region in relationship to general infrastructure development with concentration on WaS.

On the issue of infrastructural development, the region has a challenge in almost every sector. Consequently, some infrastructure are inter linked in that the existence of one directly facilitate the ability of others to be implemented and developed. For instance the availability of good roads would facilitate the connection of small towns and rural areas to access to water facilities. In the WaS sector, a detailed discussion of policies were reviewed. GWCL is responsible for water provision in the urban areas, whereas CWSA is in charge of the provision of WaS infrastructure in rural areas. The DAs are responsible for the sanitation component in their various communities.

The policies over the period demonstrated elements of decentralized planning and management of facilities, stakeholder involvement and coordination and separation of rural and urban WaS functions. These are expected to bring sanity to the sector but there are still a mixed up of institutional overlaps of responsibility in the sector. These would need institutional restructuring to deal with sanitation separately from water.

Chapter 4: CBOs in Rural Poverty Reduction through WaS Services Provision: A Conceptual Framework

Community-based driven development (CDD) has become an integral part of planning and implementation especially in sub-Saharan African countries. According to (WB, 2002: 303) these (CDD) treats poor people as assets and partners in the development process, building on their institutions and resources. There is practical evidence that suggest that such initiatives create effective and sustainable community infrastructure that addresses the core needs of their immediate beneficiaries (Konteh, 2000). A re-examination of their conceptual foundations and evidence on their effectiveness shows that projects based on the foundations of community participation have been particularly effective at targeting the poor (WB, 2002). The issue of their time bound planning and implementation as well as sustainability suggests that CDD projects are best undertaken in a context-specific manner, with a long time horizon and with careful and well-designed monitoring and evaluation systems (Riddell and Robinson, 2001).

From a discussion of the conceptual issues in chapter 2, I discuss further and in detailed, concepts to re-echo the major issues in order to set the platform for presenting the conceptual framework. In detailed discussion are development theories and strategies that are focused on Community Development (CD), Basic Human Needs (BHNs) and Regional Rural Development (RRD).

4.1 The Community Concept

There is no state without communities. Communities are found everywhere and in every country. Terms such as grassroots, the local area, the neighborhood all refer to the term community. Meanwhile from the literature, the term community is normally attached to some other terms. For instance, community based organizations, community belongingness, community foundation, community health assessments and many more countless terms. The term is therefore not easy to define since the attached terms to the concept always swallow the original term “community”.

Notwithstanding this challenge, communities are found under a broad term of fellowship or organized society. From the point of MacQueen et al. (2001), the term is mostly used in the “Health Services” because in the field of public health, policies are often defined at the regional and national levels but the community is literally where prevention and interventions take place (p. 1929). In the view of health service, a common definition of a community emerges as a group of people with diverse characteristics who are linked by social ties, share common perspectives, and engage in joint action in geographical locations or settings MacQueen et al. (2001). MacQueen et al. (2001) suggested that the distinction in this definition of a community seeks to place stronger emphasis on people that are linked with social ties and carryout joint actions within their localities. It is probably these ties and joint action that places the community as an important determinant of health outcomes.

In the contributions of (Riger and Lavrakas, 1981) on the “*sense of community*” as reflected in neighborhood attachment, found two empirically distinct but correlated factors they called social bonding and behavioral rootedness with regards to communities. The social bonding factor contained items concerning the ability to identify neighbors, feeling as part of the neighborhood, and number of neighborhood children that know their neighbors. Behavioral rootedness according to (Riger and Lavrakas, 1981) refers to years of community residency, whether one's home is owned or rented, and expected length of residency (McMillan and George, 1986.) These factors are in commonality with rural communities in most African countries like Ghana. There is strong social bonding in rural communities and homes in such areas are mostly owned and not rented.

Developing on this definition by (Riger and Lavrakas, 1981) McMillan and George (1986) came up with a proposed definition that has four elements regarding a community. These elements are membership, emotional safety, personal investment, common symbol system and influence. From the extracts of (McMillan and George, 1986) membership connotes the feeling of belonging or of sharing; a sense of personal relatedness. Influence seeks to give a sense of mattering, of making a difference to a group and also of the group mattering to its members while the third element; integration and fulfillment of needs emphasize on the feeling that members' needs will be met by the resources received through their membership in the group. The last element is shared emotional connection and this element talks about the commitment and belief that members have shared and will share their history, common places, time together, and similar more experiences.

This definition on the sense of the community present a practical picture especially on the feeling one sees in rural folks as they share common experiences in relationship to crop yields, household concerns and the general community life. In recent times, this sense of the community is even expressed in political discussions as members of the community gather to deliberate on common socio-economic and political issues affecting them. In brief, the sense of community is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together (McMillan, 1976).

Others such as (Uphoff, 1986) discussed the community as a group of people with a common land or territory. What (Uphoff, 1986) meant in this definition is that; a community can probably not exist without people. There has to be a group of people within a common land that comes together to form a community. However, (Uphoff, 1986) definition merely mentioned people without indicating the bond between these people. A group of people could live together but when that bond does not exist as in the definition of (McMillan and George, 1986) and the stress on the four elements, a sense of community may not be felt.

In a similar instance, (Kunfaa, 1996) also shares the same views with (Uphoff, 1986) but (Kunfa, 1996: 10) stressed on the additional ties that the people in the community share. Kunfaa (1996) emphasized more that a community is a social group inhabiting a common territory and having one or more additional ties. These ties are very important in the definition of a community that (MacQueen et al. 2001; Riger and Lavrakas, 1981 and McMillan and George, 1986) all highlighted.

In this study, I see the community to consist of persons (with unique language traits) in social interaction within a geographical area endowed with natural resources that sets the stage for (potentials, opportunities, challenges, and constraints) analysis and having one or more additional common ties such as cultural norms and values, religious bondage, institutions, and networks. This bondage is what is very distinct in the Ghanaian community concept with that of other societies. A person in bondage mostly in rural communities is always assumed to be present at all times, at all occasions, and sharing in functional activities of the community.

Such persons may be residing in other parts of the world but such persons would always be remembered in all activities. A person from a community is one who cannot be replaced with any other thing. While other places see the community just as the geographical demarcation of land; the Ghanaian community places emphasis on the persons that make up that geographical area or unit. Others may be living in the same geographical area, but the fact that they are not born into that community; mere existence in one's community may not be felt as those born into the community. They are regarded as the rightful owners of the community and they can perform certain functions that no other person can perform. These persons may either be from the same lineage/clan or from different clans.

Notwithstanding the features of the community, modernization and technological advancements have made the concept of community to have less geographical limitation as in the definition of (Uphoff, 1986 and Kunfaa, 1996) as people can now gather virtually in an online community and share common interests regardless of their physical location. Before the use of internet services, virtual communities (like social or academic organizations) were far more limited by the constraints of available communication and transportation technologies.

Based on the study definition, communities could further be categorized into:

Geographical: where geographical communities range from the local neighbourhood, suburb, village, town or city, region, nation or even the planet as a whole. This category could be referred to as communities of *location*.

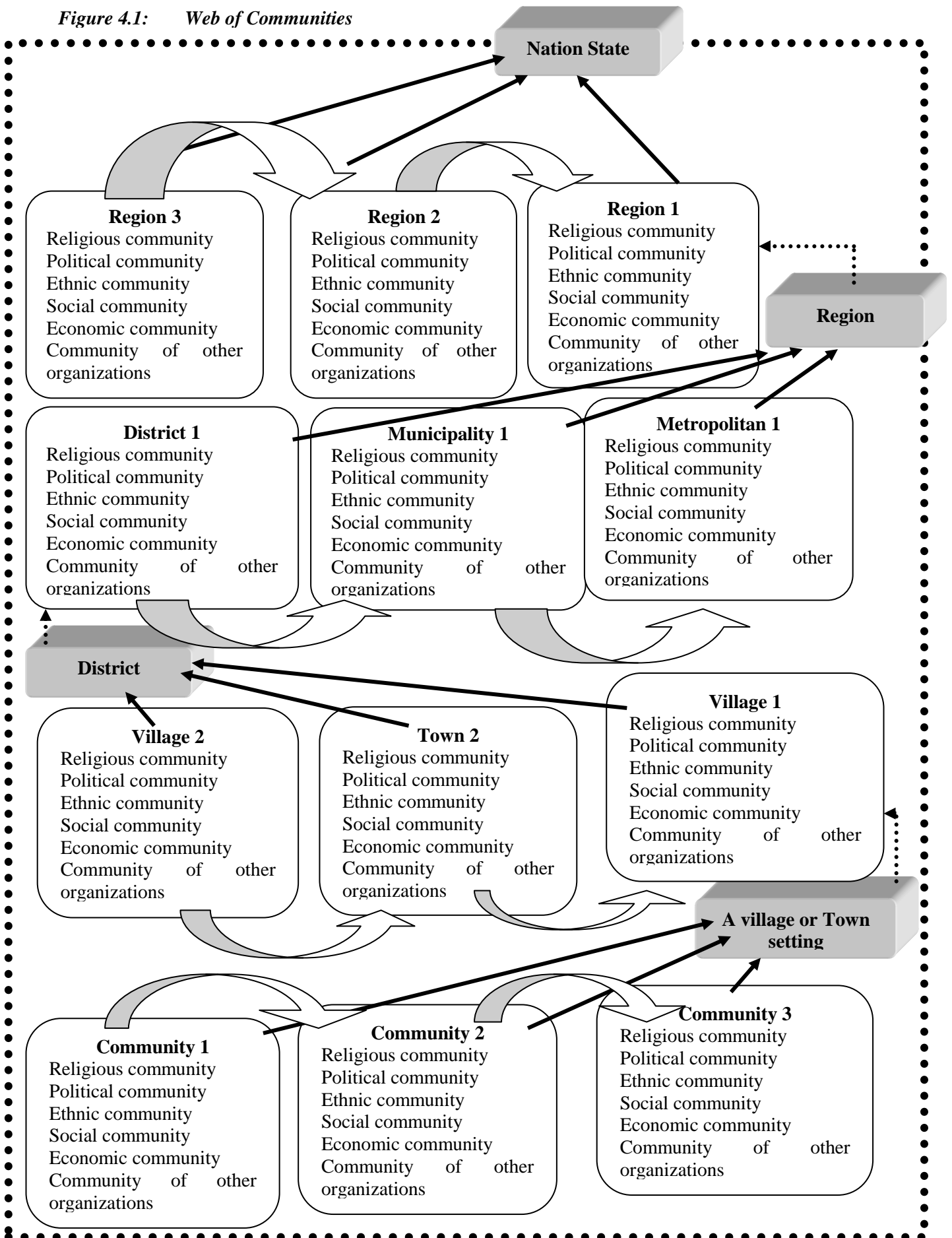
Persons: communities are made up of people. Most times these people may trace their ancestry to one common root or may come from different backgrounds. In the Ghanaian rural community concept, people are the central focus of the community. These people see themselves as a large family and play family roles.

Cultural: The communities of culture are grouped from the local clique, sub-cultural, ethnic group, religious, multicultural or pluralistic civilization, or the global community cultures of today. They may be included as communities of need or identity, such as disabled persons, or frail aged people.

Organizations: These are the informal family or kinship networks, to more formal incorporated associations, political decision making structures, economic enterprises, or professional associations at a small, national or international scale.

These communities categorized above are a web; where one community can contain another. For example, a geographical community could contain a number of ethnic communities, religious communities, political decision-making structures and others. This web is presented in figure 4.1.

Figure 4.1: Web of Communities



Source: Researcher's construct

Figure 4.1 overleaf depicts the community web in the Ghanaian setting. From figure 4.1, it can be seen that the basic unit is the community. A number of communities normally smaller in size and rural in nature form what is termed a village or town. Within the rural community setting, it can also be observed that there are other categories of communities such as the religious community, economic community, political community and the like within one geographical area. The villages and towns together form what is administratively known as a district, municipality or a metropolitan assembly in the Ghana. Communities do not also exist in isolation. They depend on each other. For instance, in a water supply system, one community could probably not be able to source underground water whereas community 2 is able to. Community one would then depend on community two for her water supply. From this level, a number of these assemblies form a region and the regions together form what is term a nation state (Ghana).

From this web or nest, a community can therefore be said to have features of:

- a) People (with diverse backgrounds)
- b) Territorial geographical location (Land)
- c) Other resources for community utilization (water bodies, tree vegetation)
- d) Traditional and cultural traits (language, religion, customs, norms, rules, regulations etc.)
- e) Institutions (political, religious, social, economic)

These are some of the major features that can be utilized by the entire community to achieve other community needs. The above features may however, vary in urban and rural areas. For the purpose of this study, the rural community is of interest.

4.2 Defining the Rural Community

Reading through the “Rural and Small Town Canada Analysis Bulletin” (2001) two main concerns emerged with regards to defining rural communities. These concerns raised two questions. Which place is rural? Is it necessary to know the definition of rural? This bulletin drew attention to the fact that:

Rural definition implications

The choice of rural definition matters because:

- ❖ different definitions generate a different number of “rural” people;
- ❖ even if the number of “rural” people is the same, different people will be classified as “rural” within each definition; and
- ❖ the characteristics of “rural” people are different for each definition of “rural.”

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Additionally, this study revolves round rural communities, and discussions of theories and other related concepts are centred on rural communities. It is worthy delving into a concise definition of rural communities.

Ironically, Valerie du Plessis et al. (2001) identified rural areas or communities as places with their population living in towns and municipalities outside the commuting zone of larger urban centers in Canada (i.e. outside the commuting zone of centers with population of 10,000 or more). By this definition, different other definitions of rural areas emerged such as census rural, rural and small towns among others. This definition however, underscores geographic and demographic criteria such as population size, population density, labour market or settlement context.

The definition by Valerie du Plessis et al. (2001) probably set the platform for the longstanding debate as to whether “rural” is a geographical concept, a location with boundaries on a map, or whether it is a social representation, a community of interest, a culture and/or a way of life (Halfacree, 1993). Should the definition of a rural community be tied to geographical units of: the number of people residing in that unit, or should other factors influence its definition?

Halfacree (1993) therefore suggested that the two conventional approaches to defining rural, which is the use of descriptive and socio-cultural terms where socio-spatial characteristics, concentrating on variables which are observable and measurable, for example land-use, employment and population merely articulate specific aspects of the rural rather than as ways of defining the rural”. According to (Halfacree, 1993) these types of definitions are “better seen as research tools.

However, (McDonagh, 1998: 44) then settled that rurality should place emphasis on the assumption of varying socio-cultural characteristics in relation to the types of environment people live in. That is, differences between behaviour and attitudes of people who live in small population settlements, as for example in rural areas, and those in large settlements like urban areas. In (McDonagh, 1998) definition, a new face is added to the mere geographical definitions that center only on the number of people residing in that unit. This additions places further descriptions on social characteristics other than just the geographical unit.

Nonetheless, the geographical characteristics cannot be completely ruled out because rural areas have sparse settlement patterns. Ghana Statistical Service also defines rural in relationship to the number of people residing in such communities. Localities with populations less than 5,000 persons were classified as rural in the 2010 Population and Housing Census. Communities with less populations and sparsely distributed settlements inhibit infrastructural planning and development. Naturally, some if not all are also less endowed with natural resources. Those with resources probably lack the human resources (people) with the technological know- how to utilize these resources to the communities’ advantage. The settlement types in these communities therefore make the provision of infrastructure relatively expensive considering the fact that there is high financial cost attached to the provision of such infrastructure.

The rural areas of most developing countries are usually described as the home of impoverished people engaged in agriculture and other primary activities Daves et al. (2002). There are however a number of people in these areas that are engaged in a range of manufacturing, processing, trading and other services and activities. These numbers are perhaps minimal and fall under the informal sector. There is overreliance of the people in such communities on the land for agricultural activities as a result of the inability of farmers in such areas to use fertilizers, modern technologies and other chemicals. As soil fertility reduces, farmers migrate to virgin lands and the subsequent creation of new communities. These communities are also characterised by the persistent seasonal migrations to other regions in search of jobs.

For the purpose of this study a rural community is regarded as an area with population less than 5,000 persons as stipulated by the Ghana Statistical Service where the people uphold to the sense of community belongingness with majority of the peoples’ livelihood based on agricultural activities.

4.3 Community Development (CD)

The concept “Community Development (CD)” could probably be regarded as a new approach to development. This is however not the case because this approach existed before colonial times when traditional rulers in most communities organized their members in voluntary

activities for the common interest of the entire community. Bonye et al. (2013: 81) citing (Abloh and Ameyaw, 1997) said that traditional local leaders contributed to this process through their often superior knowledge and skills in the area of village development.

The Community Development concept in Ghana's history is dated back to the aftermath of the World War (WW II) when the then Gold Coast established the Department of Social Welfare and Community Development (Abloh and Ameyaw, 1997). This department was to improve the general standard of living of the people of the country by means that are immediately practicable and with an emphasis on voluntary effort (Du Sautoy, 1958: 56). Successive governments did not discard the concept but also worked through policies to promote Community Development especially in rural communities. For instance, the first independent government used this concept to promote literacy education nationwide. In the assertions of (Du Sautoy, 1958) Nkrumah's plan stressed literacy education and self-help among the population. This plan signaled government's readiness at the time to collaborate with those who sought to help combat illiteracy in the country.

Further to this, was how the then Ministry of Labour and Social Welfare was also caved out from Community Development operation under the same regime. After this regime, other regimes continued and also implemented policies that promoted self-reliance and established programs such as "Operation Feed Your Self" and "Operation Feed the Industries"⁷ (Donkor and Lea, 1980). Though, the Community Development department was separated from Social Welfare and placed under the Ministry of Local Government under the PNDC regime, the aim was still to promote local development so that the local people and their communities could have more inputs into decision-making and benefit directly.

In recent times, development thinkers and practitioners have used Community Development in different context to also mean empowerment, local and active participation, alternative development, self help, regional planning, and rural development (Konteh, 2000: 10). In the views of (Konteh, 2000: 10), there is a shift from a largely economic perspective of development that dominated development thinking in the 1960s and 1970s to emphasize more on the social and spatial dimensions of development. "People" in the new paradigm are now the center of attention in the new development thinking. When the people are placed at the center, then, it implies that all efforts should be stressed towards their active involvement at all stages of the development process.

Further to this definition, Community Development also connotes any development of a community either rural or urban. It refers to any development activity that leads to the improvement of the standard of living and infrastructure development of these communities in general. Such developments must originate from within communities, be community-based and must reflect the expressed needs, interests and aspirations of the targeted population (Konteh 2000: 10).

In the lens of organizations that are into capacity building activities, Community Development is a way to empower individuals and groups of people by providing them with the skills they need to effect change in their own communities (World Bank, 2002). These skills often assist in building political power through the formation of large social groups working for a common agenda. This does not mean that the development process is solely a community business without governmental and external support. The community is a smaller part of a bigger entity (the state) and the state has a responsibility to ensure the development

⁷ Operation Feed Yourself was a government initiative under the National Redemption Council (NRC) led by Colonel I. K. Acheampon from 13 January 1972 to 9 October 1975. The aim of this agricultural campaign was to ensure national self-sufficiency in food supplies.

of this smaller entity. The state assists Community Development with financial and other human resources while the community takes the great part of its own development.

In another instance, Community Development involves the shared contribution of its members in addressing their own developmental needs with or without external support. This could be done with community resources (human and natural). Most communities at some point are not always in the position to organize effectively and efficiently and may have to depend solely on external support. Community Development involves the active contributions of stakeholders comprising community members, community groupings and organizations, political structures and personnel, and traditional authorities who organize and channel resources towards the development of the community.

The (UN, 1963) expressed that through community development, efforts of the people are united with those of government authorities to improve the economic, social and cultural conditions of communities, so as to integrate them into the life of the nation and to enable their people to contribute fully to national progress. Along similar lines, (Fakoya, 1984) argued that Community Development provides an avenue for people to organize themselves for planned actions, define their common and individual needs and problems, make group and individual plans to meet their needs and solve their problems. By these, they are able to execute these plans with a maximum reliance on community resources and supplement these resources when necessary with services and materials from government and non-governmental agencies outside their communities. This definition according to (Fakoya, 1984) recognizes that the people in the community are the center of development. Although the community relies on support from external sources, the community's own contribution is very paramount.

Alternative definitions from (Bamidele, 1994) saw it as a process whereby both urban and rural communities are assisted to provide for themselves, with deliberate and conscious speed, those services and amenities they need but which neither the state government nor local government can provide. In the views of (Bamidele, 1994), the activity of Community Development is a process. A process involves two or more interrelated schedules and tasks normally initiated with an intention to achieve an objective or goal (www.its.syr.edu/eps/service). This process is what unifies the community as the members work together to achieve their goals. Since the process is unending the community is always working to attain their goals.

Significant in all these definitions is that; Community Development is first the joint effort of the people who are normally the direct beneficiaries to take up the challenge of the development process by looking for relevant development stakeholders to partner with in such development initiatives. This they do before government and non-governmental organizations that could be termed initiators and supporters are involved and absorbed. This thinking has led to a new crop and emerging proliferation of informal networks and organizations that are now involved in various aspects of Community Development initiatives especially in rural communities in Ghana.

In the perspective of (Du Sautoy, 1958), Community Development is a movement designed to promote better living for the whole community with the active participation on the initiatives of the community. The whole idea is that the community is the center of the process as writers such as (Bamidele, 1994) envisage the concept and others are sourced to assist in the process.

4.4 Community Based Organizations (CBOs)

As a means to strengthen Community Development and enhance community participation in this process, CBOs and other NGOs are seen as the panacea to this policy trajectory in Ghana. The recent evolution of CBOs, especially in developing countries, has strengthened

the view that these "bottom-up" organizations are more effective in addressing local needs than larger charitable organizations (Riddell and Robinson, 1995). Aside enhancing community participation and addressing local needs, there is also the realization that poor performance of central government in meeting the socioeconomic needs of citizens especially in rural areas have been identified as one of the reasons behind the proliferation of NGOs and CBOs in the new millennium (Abegunde, 2009: 236). Large amounts of multilateral and bilateral aid are now channeled through NGOs as part of what has been termed the "New Policy Agenda" (NPA) (Willis, 2010: 99).

To start with, these organizations are civil society and non-profit making entities that operate within a single local community. Defining what these organizations are, (Konteh, 2000: 57) referred them to "any grassroots organization whose operations are confined or restricted within the geographical and political boundaries of a defined Chiefdom in Sierra Leone". A further elaboration is that some are international in nature and operate at the community level. Those that operate internationally through to national and community levels are generally known as NGOs. In the view of (Konteh, 2000), CBOs are essentially a subset of the wider group of non-profit making organizations (NGOs). Like other non-profit organizations, CBOs are often run on a voluntary basis and are self funded. Within the community organizations, there are many variations in terms of size and organizational structure. Some are formally incorporated, with a written constitution with board of directors (also known as a committee), while others are much smaller and are more informal (Konteh, 2000).

In another instance, CBOs are set up by collective efforts of indigenous people of homogeneous or heterogeneous attributes but live and/or work within the same environment. Their coming together creates conditions which broaden the base of self governance and diffusion of power through a wider circle of the population (Abegunde, 2009) citing (Adeyemo, 2002; Adejumo, 1991). They are seen as voluntary, non-profit, non-governmental and highly localized or are neighborhood based institutions whose membership is placed on equal level and whose main goal is the improvement of the social and economic well being of every member of the community (Abegunde, 2004). This definition places these organizations with a localized character since, most of them are termed as local-NGOs in Ghana.

These are localized institutions and their spheres of influence hardly extend beyond their immediate communities or neighborhood. This is because most of them if not all are financially challenged. In instances where they operate in more than two communities; they probably do so with support from other localized NGOs or assistance from government. Other writers stressed that they are non-profit and non-governmental because all members contribute economically towards the fulfillment of their responsibilities to the immediate environment and do not depend on government before fulfilling these (Claudia, 2003). They are concerned with the development problems, development programmes and projects in their various areas (Esman and Upholt, 1984; Bralton, 1990). They respond to community felt needs rather than market demand or pressures. In this sense, they are not pushed into work based on demand and supply theories but rather work to uplift the lives of the many that probably would not get support if they are to depend on central government alone.

What is unique in their operations is that; they embrace local participation of the beneficiaries of any given development programme. According to (Willis, 2010: 103), the participation of the local people refers to as the involvement of local people in development activities, are often NGO based. It is this participation that (Cary, 1973) explained as open, popular and broad involvement of the people of the community in decisions that affect their lives. To participate, therefore, means to share in decisions about goals and objectives, about what should be done, how it should be done and by whom. Participatory development is

essential for sustainable development programme. This participation is a way of empowering the people. It is a process which seeks to change the community through education, helps the community to tap their own resources and skills. This process again provides communities with relevant and requisite tools to advance Community Development. In this principle, the community is involved right from the beginning of the inception of an intervention and community members are also made aware of what the intervention expect from them (community members).

CBOs unlike other NGOs therefore open ways for community participation explained above at grassroots level. It involves the local and indigenous people in the identification of their local needs, conception formulation and implementation of any project in order to develop the necessary self-reliance and self-confidence in their immediate environment (Mbithi, 1974). To summarize, CBOs could be said to be engines for the vehicle of grassroots participation in indigenous programmes and projects which seeks to persuade local needs to drive on.

Though some communities emphasized that what matters most is the development of their communities whether through governmental interventions or external actors or both, it is important to acknowledge the activities of CBOs that attach community mobilization of efforts and resources. This act or process seemingly promotes local potentials. Such efforts by CBOs are harmonized towards citizenship empowerment, provision of infrastructure, furnishing communities with necessary information through advocacy, use of local materials and opportunities towards the general upliftment of the community's image.

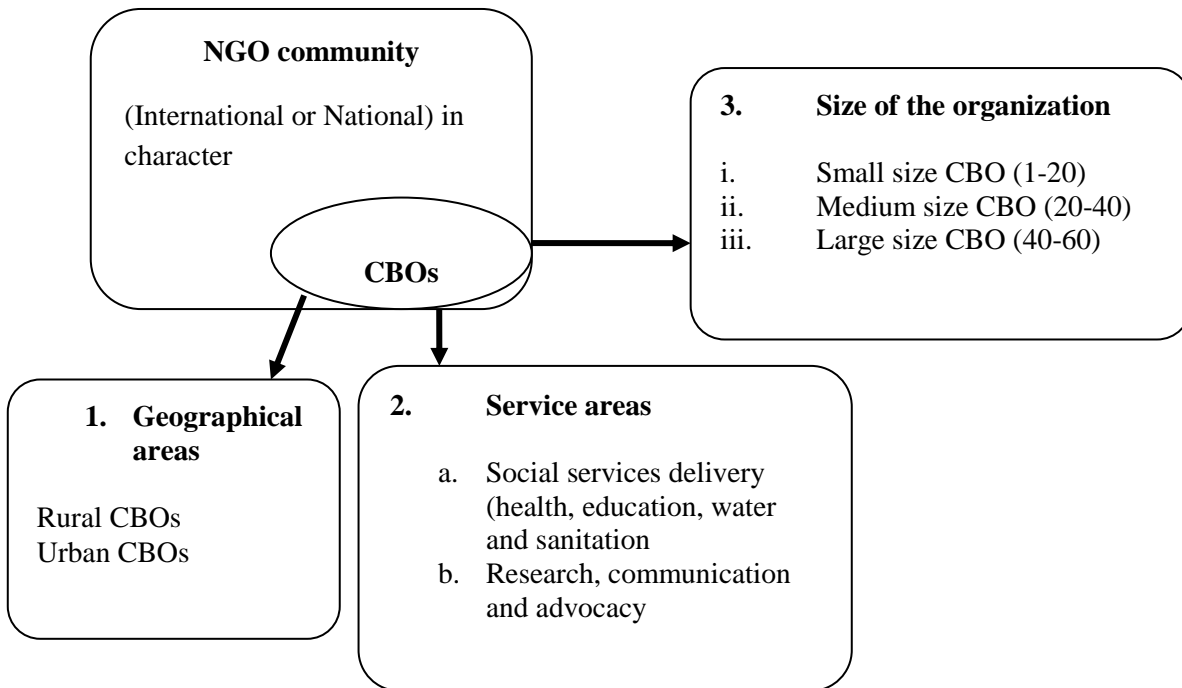
4.4.1 Categorization of CBOs

CBOs are a general term embracing organizations founded under similar guidelines and regulations. These organizations operate under different themes. Their categorization embraces a wide range of issues. According to (Riddell and Robinson, 1995), typical CBOs fall into the following categories: community-services and actions, health, educational, personal growth and improvement, social welfare and self-help for the disadvantaged. This categorization is however, based on their operational areas and also on a broader distinction that falls under NGOs. In similar literature, there is a strong link within the NGO/CBO community.

These vital linkages between CBOs and NGOs stems from the following: NGOs characteristically assist with the formation, development and capacity building of CBOs. In many cases they do this by opening up channels of financing for CBOs initiatives. They also compile the experiences of CBOs and disseminate them to policy makers (UN-HABITAT, 2006: 55).

Further to this, CBOs could also be characterized by their concern with local issues and the developmental themes of their constituents. They are often supported by NGOs and donor agencies, which see them as direct representatives of community groups that provide an organizational basis for community participation and management of common interests (UN-HABITAT, 2006). CBOs and their networks are a major resource for the poor, but often only as coping mechanisms that substitute for, rather than complement, the role and efforts of governments. A simplified categorization is presented in figure 4.2.

Figure 4.2: Categorization of CBOs



Source: Researcher’s construct developed from (Riddell and Robinson, 1995)

From figure 4.2, one can classify CBOs as a subset of umbrella organizations (NGOs). NGOs by their nature could also be grouped as international or national in character. International NGOs could further be categorized as North and South NGOs (Riddell and Robinson, 2001). Within the CBO environment their categorization could be from the service areas. The services they provide could categorize CBOs under social services providers, research, communication and advocacy among others. Under the broad social services, CBOs could further be categorized into CBOs in education enhancement, health, WaS and the list is endless.

The second categorization according to figure 4.2 could also be from the geographical area these organizations operate. For instance, their activities could be rural or urban in scope. In terms of Ghana, these organizations could further be categorized as national or regional based CBOs depending on where they operate. The last categorization could also be in terms of the size of membership or staff in the organization.

4.5 Theoretical Discourse of Community Development, Rural Infrastructure Provision and Rural Development

Theoretical analysis in this section aims to discuss theories propounded in relationship to CD, infrastructural provision especially in rural areas and poverty reduction in these communities in general. The discussion commenced with an introduction to regional rural development theories.

4.6 Region Defined

Valuable contributions have been made in literature on what a region is. One of such contributions is Christaller (1933) and Losch (1954) definitions of a region. In Christaller and Losch’s central place theory, regions are defined as hierarchical systems of central places or cities. Each region has a small number of large higher order cities and a large number of smaller lower order cities (Dawkins, 2003:133). The order of a city is determined by the

diversity of goods offered in the city, which in turn is determined by the relative size of market areas for different goods. Cities are assumed to import goods from higher order cities, export goods to lower order cities, and not interact with other cities of the same order (Dawkins, 2003). One of the limitations of this definition according to (Dawkins, 2003) is that it is only useful as a way to determine the spatial structure of regions that house market-oriented (as opposed to labor- or input-oriented) firms. This definition in terms of the Ghanaian situation does not also present other variables within the region such as historical, cultural and traditional background of the people and how such backgrounds could affect export and import dynamics.

Apart from Christaller and Losch's definition is also that of (Hoover and Giarratani, 1985). According to (Hoover and Giarratani, 1985), nodal regions have two characteristics of functionally integrated internally to the extent that labor, capital, or commodity flows are more common within the region than with another region. The second illustration is that within the region, activities are oriented toward a single point, or node, where there is the presumption of dominance or order of the node over the surrounding peripheral area. This definition to some extent presents a clear picture of the regional situation in Ghana where the node (regional capital) seeks to attract all the economic activities to the disadvantage of the surrounding peripheral areas especially rural communities. Besides, this definition is also centered on economic rather than other factors (social, religious, administrative).

Fox and Kumar (1994) also presented a different definition of variation to the nodal approach that is based on the view that the dominance of a central node over the surrounding periphery is attributable to the spatial dependence of workers on adjacent employment centers. Fox and Kumar (1994) approach provides a conceptual basis for the delineation of economic areas. Dawkins (2003) again illustrated that functional economic area concept and the related concept of a nodal economic region is that; local political boundaries rarely correspond to functional economic areas or other nodal definitions. This to a large extent is true in the sense that Ghana's regional concept does not correspond to functional economic areas or nodal centers but on various factors that has to do with migration, wars, local and traditional political boundaries.

Since Ghana's idea was centered on "planning regions" (Richardson, 1979) concept of a region probably fits into the country's ideology. Accordingly, (Richardson, 1979) "planning regions" correspond to units of political or administrative control. The advantage of this approach is that political and administrative boundaries directly correspond to the boundaries over which planners and politicians design and implement policies. This is very practical in the case of Ghana. Currently, the regional system in Ghana is a planning unit where the region coordinates all planning and the implementation of programmes and projects. This was discussed in chapter 3. The disadvantage however, with this definition is that, economic and/or environmental regions rarely conform to political boundaries. The issues of economic and the environment cut across regions and are of a concern not only to one particular region.

From all these definitions, regions may also be defined in terms of historical, and/or migration antecedents of a group of people, the availability of existing natural resources, ecosystem, or other geographical boundaries. For example, Ghana has different regions based on how one uses them for. In terms of geographical regions, one can say that there are the coastal regions, forest regions, and savannah regions. In terms of migration and historical literature, people of a common descent are found within the same region. That is why we have the Mamprusi, Dagomba, and Akan, regions in Ghana and the list is endless. A few authors suggest an interesting approach to defining regions in terms of the interdependencies between natural resource systems and human populations (Dawkins, 2003). This is presented in (Markusen, 1987) definition.

In the elaborations of (Markusen, 1987: 16-17) a region is “historically evolved, contiguous territorial society that possesses a physical environment, a socioeconomic, political, and cultural milieu, and a spatial structure distinct from other regions and from the other major territorial units, city and nation”. As discussed earlier, this definition recognizes that regions are historically determined entities that emerge largely due to the interaction between humans and local natural resources. Further to this is that; the interaction is not limited to humans and local natural resources in the case of (Markusen, 1987) but goes to cover an interaction with humans (economic, social, religious, historical, traditional), local natural resources (land, water bodies, sun, vegetation), territorial boundaries (common boundary that is unique) to the two variables (humans and natural resources).

For the purposes of this study, a region will be considered and defined as a legally geographical (spatial) unit with adjoining population (of human beings) who are bounded through traditional and/or historical or both and who work cordially to utilize the natural resources accorded it in this geographical location to satisfy their needs and enjoy good standard of life.

Moving now to theories of regional development, most regional development theorists are interested in understanding the processes of regional growth and decline. Since this is not a purely economic study with a focus on economic growth and decline dynamics though these have an effect of rural development with trickling-down effect and a general goal of poverty reduction, I will focus on rural development and regional rural development.

4.6.1 Rural Development (RD): Overview

The concept of Rural Development (RD) especially in sub-Saharan Africa has grown out of substantial interest to the Bretton Wood institutions with numerous programmes designed and implemented in several countries. The aim of these programmes is to bring a considerable high standard of living to the rural poor.

Today, Rural Development is still finding ways to design relevant projects and programmes that would be accomplished despite the challenge of limited resources, particularly financial, and personnel. Notwithstanding these challenges, Rural Development has received a great deal of attention in development literature, in national development plans, in donor funded programmes and as well as political strategic documents and platforms.

Rural Development concept is far distinct from the previous concept. This strategy has an explicit interest to promote participation of the lowest income groups through rural development programmes and projects. Development has a broader scope of improving welfare, an overall local economic development, where modern agricultural technologies would be introduced to the rural farmers. These are vital in this strategy. Consequently, Rural Development is keen in identifying ways of establishing priorities between and among both productive and social service activities that would enhance a strong rural economy.

Rural Development takes keen interest to delegate planning and implementation responsibility to the lower levels of administration as a means to reduce the planning and implementation gap(s) and thus improve the effectiveness of rural administration (Lele, 1975: 16).

Lele (1975) further elaborated that Rural Development seeks to improve living standards of the mass of the low-income population residing in rural areas and make the process of their development self-sustaining. The debate of the concept according to (Lele, 1975) is that: improving the living standards of the subsistence population involves mobilization and allocation of resources so as to reach a desirable balance over time between the welfare and productive services available to the subsistence rural sector.

Mass participation requires that resources be allocated to low-income regions and classes and that those productive and social services actually reach them. The emphasis is to make the process self-sustaining. By doing this requires development of appropriate skills. Again, it stresses on enhancement of capacities and the presence of institutions at the local, regional, and national levels. These would ensure the effective use of existing resources that would foster the mobilization of additional financial and human resources for continued development of the subsistence sector. Subsistence thus for (Lele, 1975) means involving, as distinct from simply reaching, the population through development programmes.

To achieve these set of identifiable indicators involves an interaction of a variety of specific issues which have profound impact on the design and performance level of the individual programmes. The ingredients that make this effective include national policies that include issues of land tenure systems, service delivery, and other economic policies. A decentralized administrative system in which there is the degree of devolving authority to the local people would also be required. This background led to others such as RRD strategy.

4.6.2 Regional Rural Development Strategy

The current concern for regional rural development strategy has sprung from the inequities of some of the past development theories and strategies focusing on economic development and growth. The "Concept for Rural Development" as advocated by the German Federal Ministry for Economic Cooperation and Development (BMZ) provides principles and a framework for poverty-oriented rural development interventions ranging all the way from local to global initiatives. The focus of the German development cooperation is the "regional concentration within the context of integrated rural or urban development" (Rauch, Bartels, and Engel 2001). This is where GIZ is concentrating on the development of the people who are beneficiaries to take up development and poverty reduction measures all by themselves.

Abazaami (2013) explained that rural development calls for a regional approach. According to (Abazaami, 2013) assertions, interventions on the regional level are what enable most people in rural areas- and especially the rural poor –to seize opportunities and cope with challenges. Rurality is characterized with inequalities (social, economic, and political). These inequities have posed development problems in a number of ways: politically, as a dangerous gap between aspirations and achievement; economically as a failure to increase productivity and create a rural market; morally as an unjust social distribution of the cakes of economic growth. How to ensure a "trickle-down" of these cakes to the rural poor has become a principal issue. The process by which previously isolated agrarian communities become part of a wider society underlies much of what is now termed rural development.

This process has both temporal and spatial dimensions. The temporal dimension is commonly referred to in terms such as modernization, movement from a backward to an advanced state, and even catching up. The spatial dimension is spoken of as integration, linkage or incorporation. An important aspect of this transformation is the way in which it has affected access to and control over resources. While rural development is often posited as a means for residents of small communities to participate in the control over resources of the wider society, access to village institutions and resources afforded to the state, capital and their local representatives is of concern (Hirsch, 1990: 10).

In the context of rural development, these processes involve penetration of the village by the state and capital, effecting a reorientation of power structures and a change in agrarian production relations. In agriculture, this means a move away from subsistence-oriented production towards commercial crops, an increased role for capital through mechanization and use of inputs such as fertilizer and pesticides, supported by increase rural credit in pursuit of higher yields.

Rural development is therefore a strategy designed to improve the economic and social life of a group of people-the rural poor. This strategy involves extending the benefits of development to the poorest among those seeking a livelihood in the rural areas. This group includes small-scale farmers, tenants and the landless. Development strategies of the 1950s and 1960s were all centered on growth maximization. The poor were expected to gain or rip from the trickle down of the benefits resulting from overall rapid growth. This was the period most central governments applied top-down planning and implementing processes to development. Development programmes and projects were designed from the central level (national level) and implemented without community's involvement.

Towards the late 1960s and 1970s there was the realization that these benefits of a rapid growth were however, taking too long to reach the poor, but would never reach most of them (Dixon, 1990: 58). Other rural development strategies including Basic Human Needs approach where redistribution of resources to the poor to uplift them and enable them enjoy a level of quality standard of life emerged.

4.6.3 The Emergency of Basic Human Needs

Features of rural areas imply that theories centered on industrialization and the role of the market would not necessary lead to a trickledown effect in the rural communities. This is because some of these areas have unproductive resources that would set the pace for industrial development.

From the theories that focused on trickling down effect syndrome, the International Labour Organization and the World Bank propounded the concept of basic needs. This approach hub on the reality that; development policies should focus directly at the poorest people in society, rather than at macro-level policies that would indirectly help the poor (Willis, 2010: 93).

These Basic Human Needs are the essentials for physical survival, but also access to services, employment and decision-making provide a real basis for participation. ILO catalogued these needs in the following box.

- ILO categorization of Basic Human Needs**
- Basics of personal consumption- food, shelter, clothing;
 - Access to essential services- clean water, sanitation, education, transport, healthcare;
 - Access to paid employment;
 - Qualitative needs- healthy and safe environment, ability to participate in decision-making

Source: Adapted from (Willis, 2010 cited in Hunt, 1989: 265-6)

This theory calls for public service provision to be expanded and developed to meet the needs of the poor. In doing this, greater attention should be paid to small-scale projects and activities that are directly linked to the poorer sectors of society but not ignoring investments in large-scale infrastructure. It is argued that the provision of these needs bridge the needs gap of these people and reduce their poverty levels. The debate is also on a sustainable improvement of these groups to have access to health, education and skill development that has potentials in economic growth and the general development of their communities.

This theoretical strategy is to provide these needs regardless of the market determinant factors that call for profit making and trickling down effect of economic growth. What it means is that planning and implementation should make a deliberate attempt to ensure that these needs are provided in an attempt to relieve the poor from the poverty gap.

4.6.4 Decentralization

Decentralization is seen as a way of reducing state control, albeit in some cases just moving policy-making from central government to regional or local government (Willis, 2010: 96). This approach opens an avenue to empower individuals, communities, and organizations as well as ensuring the individual participation in their own development activities.

4.6.5 The Rural Environment and the Adaptation of these Strategies

These strategies outlined are not implemented in a vacuum. For these strategies to work; there is the need for a rural environment. One major challenge in these communities in sub-Saharan is civil unrest in the forms of civil and ethnic wars. Northern Region, Ghana is one such area that civil unrest has retarded the efforts of development actors to provide the needed development initiatives to the people. Armed conflicts erupted in Northern Region more than four times since the 1970s. There is meaning in: war retards development, but conversely, development retards war. This double causation gives rise to virtuous and vicious circles. This is because when development succeeds, countries become progressively safer from violent acts and conflicts, making subsequent development easier. Where development fails, countries are at higher risk of been caught up in conflicts in which war wrecks the economy and increases the risk of further war (www.homepage.mac.com).

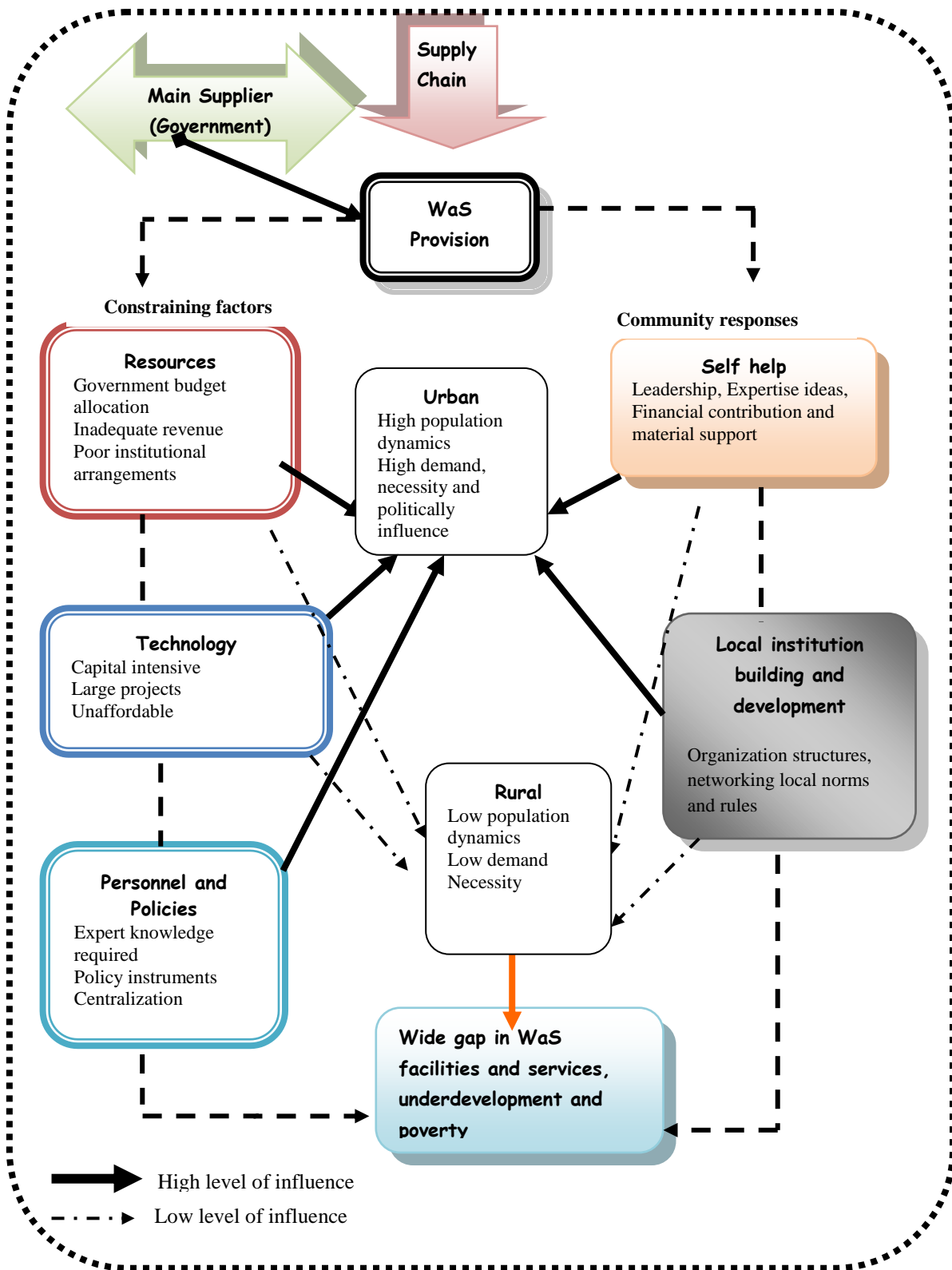
For development to be realized; there is the need for a peaceful and conducive environment which would not deter the major actors from their activities. Many governments also tend to the economic costs, such as high military expenditure and capital flight, resettlement of refugees among others. The cost of post conflict reconstruction is very huge for almost all central governments to manage.

4.7 Community Based Organizations in WaS Infrastructure Provision: The Conceptual Framework

The conceptual framework plays a pivotal role as it sets the building blocks for which I am able to construct sound knowledge. The conceptual frame serves to define the boundaries of investigation and to guide the researcher against a wild-goose chase (Bacho, 2001) cited (Miles and Huberman, 1984 and Brannen, 1992). In this study, the conceptual framework is placed at the center of the research questions raised, and the type of data that would be collected.

The early chapters of the study highlighted a great deal of the research problem emanating from low attention on local stakeholders' involvement in the sector, the disregard of sanitation and few analytical digestion of the sanitation situation, coupled with government concentration on policy formation and reforms. It was observed further that central government concentrates WaS facilities implementation in urban communities to meet the high growing population demands to satisfy political and campaign promises. If rural poverty is to be reduced and sustained, WaS provision is very vital and essential. Regardless of these, infrastructure development especially in WaS provision is also viewed as a sole responsibility of central government. Due to central government numerous programmes and projects saddled with scarce financial resources, most of these facilities and services are provided at least in the urban areas which have other flourishing factors outlined in figure 4.3.

Figure 4.3: Conventional WaS Supply and Provision Dynamics



Source: Researcher's construct

Figure 4.3 overleaf shows a conventional WaS supply and provision dynamics in the country. As can be seen in figure 4.3, the main supplier of WaS facilities is central government. I also

observed that the provision of these infrastructure in WaS are mostly through two factors. These are constraining factors and community responses. As showed in figure 4.3, the constraining factors are further grouped into resources, technology, personnel and polices. These factors push government to provide the needed infrastructure within a given geographical location. For instance, adequate internal revenue returns gives government the needed financial resources for more infrastructural developments. Due to low internal revenue generation, it is always not possible to meet all the infrastructural needs of the people. Another constraining factor is that these infrastructural facilities require the application of modern technologies which are also capital intensive and at times unaffordable and/or unavailable. WaS infrastructure are large projects with huge monetary components which are normally not able to be funded from central government budgets. Coupled with these are also poor institutional arrangements that further constraint supply of these infrastructural facilities especially in Ghana. The problem is not with non availability of institutional arrangements per se but how to ensure that these institutions work effectively to make economic gains. This may be lacking.

There is no doubt that the provision of infrastructure whether from the side of government or from other stakeholders will need beneficiaries support. Community response to infrastructural provision is very vital since, this ensures facility maintenance and sustainability. The community does this through self help and local institutions mainly by organized group with varying abilities and initiatives. In terms of self help, some communities may have good leadership and expert ideas and are able to support financially in project implementation. Some communities may also have the local organizational structures including networking groups who may work to their advantage.

Putting the areas in need of infrastructure into urban and rural; the urban areas pull strong community responses than the rural areas. The urban communities are normally made up of all the classes of individuals' namely high, middle and low income people. The various categories of people in urban centres complement each other. For instance, the high income group may have the leadership and expert ideas to contribute during the phases of project implementation. The high and middle group may be able to contribute financially (taxes) to project implementation whereas the low income may offer labour support as well.

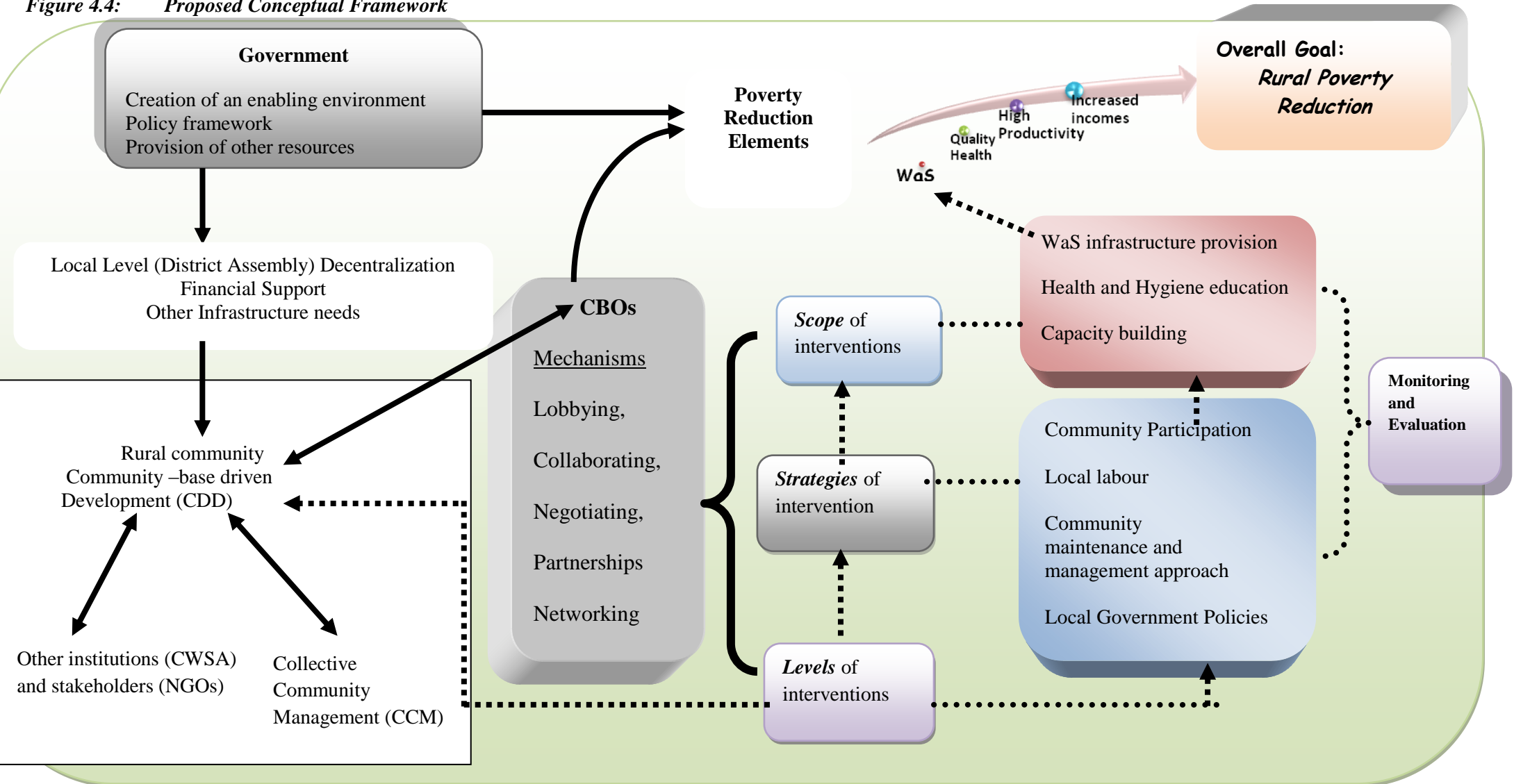
In the rural areas, these factors elaborated are either lacking or minimal. The rural areas could probably be able to support labour which would only be at the last stage of project implementation. Analyzing these two areas, and taking into consideration the population factor which to a large extent influence infrastructure supply and delivery, the urban areas have an upper hand in pulling government's attention than the rural areas. Rural infrastructural development should be on necessity driven theory rather than theories based on demand and supply where population plays a central role.

In instances where democratic governments have also made political promises to the people; the urban areas are mostly the focus of attention because of the numbers in population. Attention on urban areas to the neglect of the rural areas has widen the gap in WaS provision and persistent poverty in these areas. The arrows therefore shows the level of influence in the urban and rural areas where the deep arrows show a strong influence than the broken arrows.

A different approach in the provision of WaS infrastructure should therefore be adopted by stakeholders especially groups, institutions and organizations who are directly living with the problem in rural communities. From a conventional approach described in figure 4.3, the new proposed conceptualized approach in figure 4.4 should be considered.

The proposed conceptual framework is presented in figure 4.4 overleaf

Figure 4.4: Proposed Conceptual Framework



The proposed conceptual framework presented in figure 4.4 utilizes a community based approach into WaS infrastructural facilities and services provision. The framework depicts that, for a sustainable reduction in poverty levels, there is the need to expand the provision of social infrastructure such as WaS to poor communities. The provision of these facilities in these communities should not be based on demand and supply driven approaches and theories. In a way, this is expanding their means of survival for high agriculture and local economic production through a reduction in health hazards caused by water borne related diseases and poor sanitation.

The framework takes into consideration that; central government is needed to create an enabling environment, facilitate the policy framework and provide other resources through the District Assemblies' structures to these areas. The communities also have an organized system with collective interest, collective management roles and the ability for other institutions and stakeholders to operate. With this collective interest, CBOs are formed to utilize a wide range of interventions to provide these infrastructural facilities and services. The relationships that are crucial to this study are as follows:

CBOs are formed at a given geographical environment based on this defined collective interest. These organizations have a constitutional mandated power to lobby, negotiate, collaborate, partner, and network with other organizations or governmental bodies both at the local, national and international levels for support in the provision of these infrastructural facilities and services at the local level. The argument here is that, because they are also formed from within the community, they have a firsthand knowledge of what the problems are; and probably have a set of solutions for the problems and a foundational support from the beneficiaries.

The next step is that these organizations apply a wider range of interventions such as community participation in the activities towards the provision of the infrastructure. Community participation approaches are employed in the selection of sites for a particular facility to be constructed. Community labour in the form of providing stones, sand, gravel and other local material within the community is conveniently provided by the beneficiaries thereby reducing the cost of providing the facility. These organizations collectively ensure that basic education on hygiene related issues are also given before the construction of facilities.

There is also the issue of constant monitoring and supervision of activities during and post implementation stages by CBOs. Another issue is their keen interest in the community leadership and management structures. These structures enhance the effective provision of these facilities. All these go to ensure an effective management of the facilities in a sustainable manner.

The conceptual framework proposed therefore incorporates some significant components of that developed by (Bacho, 2001). The frame elaborates that as CBOs uses strategies such as community participation, local labour, community maintenance, and management approaches, inter alia local government policies, these organizations are able to implement WaS infrastructure facilities and services on small scale in these communities. The provision of these facilities in WaS sector would then lead to quality health. When quality health is attained, all things being equal, this would further lead to high production which would lead further to an increase in household incomes. It is hoped that these indicators would gradually lead to a reduction of poverty in these communities as depicted in figure 4.4.

This conceptual framework differs, however, by focusing little on local economic growth reforms and other parameters such as job creation, employment, wages and salaries

for the people and a rise in the income levels. By so doing, a case-study methodology designed to capture more completely the micro-level factors that influence the directions and strengths of this relationship would be considered.

The proposed conceptual framework designed in figure 4.4 takes into consideration the prevailing conditions especially within the study region and the theories of basic needs and that of regional rural development. The overall goal is to ensure a reduction if not a complete eradication of poverty in the rural communities. Government and other development organizations have identified that strategic poverty reduction elements include WaS. It is opined that an area with quality and improved WaS will reduce health hazards thereby ensuring quality health of the population (Banerjee and Morella, 2011; Saravanan and Gondhalekar, 2013; Salman, 2012). The rural communities are predominantly agrarian and depend on manual labour agricultural production techniques which are directly linked to health. An unhealthy population would be unable to perform productively. All things being equal, high quality of health ensures high productivity. A measure of poverty based on income would be high if production is high within high productive areas.

Moving away from the conventional WaS supply and provision dynamics which is government focus, community focus should be adopted. This frame does not suggest that government should be sidelined. The existence of government is vital in that, government creates an enabling environment including all policy frameworks for other stakeholders to operate. Government remains the largest holder of financial resources. Central government has been brought closer to the beneficiaries of these communities through decentralization. DAs are in position to support communities with other needs other than financial.

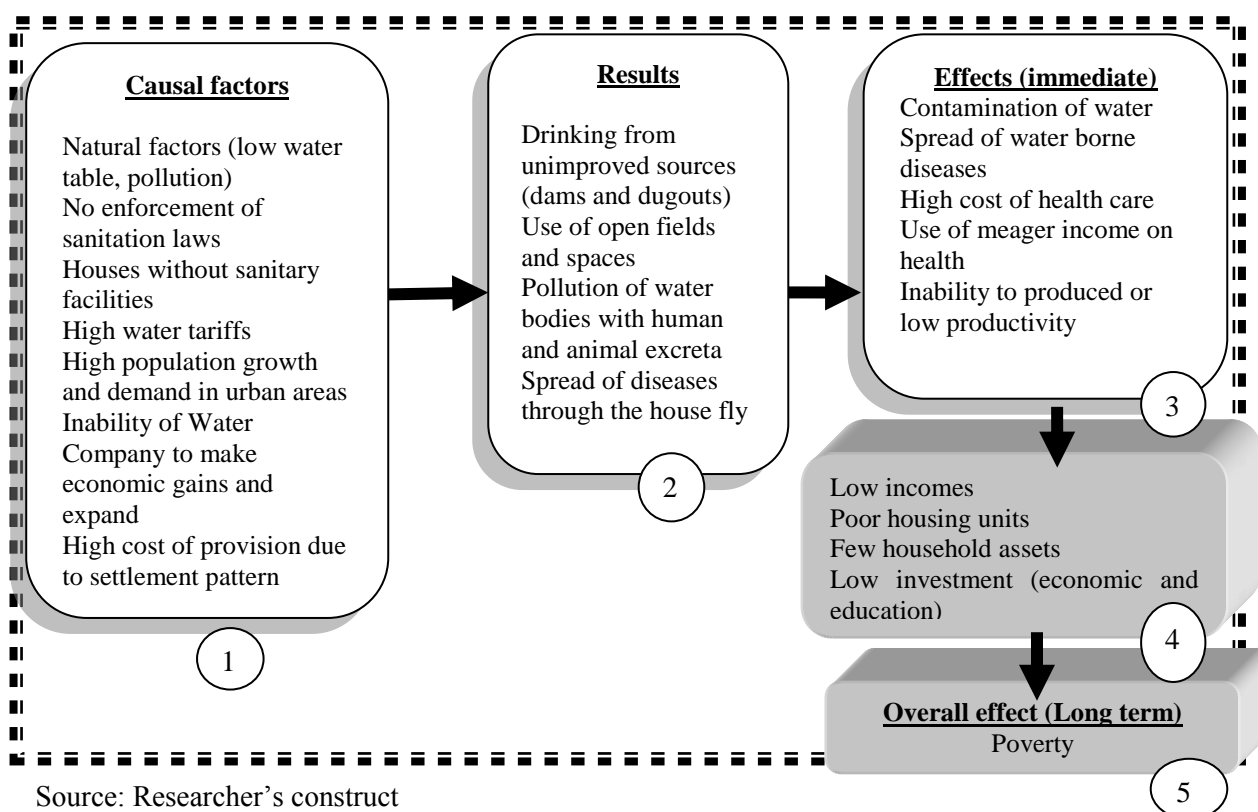
What is therefore needed is a community which is built on community defined collective interest normally through organized organizations (CBOs). This community is also not confined to its physical, political and socio-economic environment alone but works in a cyclical form with other institutions and stakeholders, which has among other things to ensure collective management of projects defined by their collective interest. Since, the community is broad encompassing all members with different backgrounds and levels, organized organizations have qualified and legal structures to act on behalf of the community. These organizations engage in lobbying, collaborations, negotiations, coordination, partnering, and networking with other development partners and governmental institutions in the provision of WaS infrastructure and services which the conventional figure (4.3) portrayed low influence due to weak community response factors.

As CBOs embark on these roles, they use interventions which seeks to ensure the objective of WaS infrastructure provision at the rural community level with the overall goal of reducing rural poverty. Another area is M &E roles played during all stages of project implementation which might have been over looked by governmental projects.

4.8 An Analytical Framework Linking WaS and Poverty

The relationship between WaS and poverty status can be conceptualized at a fairly general level, depicted in figure 4.4.

Figure 4.5: Analytical Framework Linking WaS and Poverty



As depicted in figure 4.5 a five stage relationship based on causal factors through to an overall effect has been highlighted. The first box elaborates the causal factors in WaS development. The prevalence of these factors has a result in box 2. The results in box 2 have an immediate effect in box 3 and 4 in figure 4.5. However, there is an overall effect normally in the long term also presented in box 5. What figure 4.5 seeks to highlight is that; the causal factors impact on a series of intermediate indicators, which in turn determine the final outcome in terms of changes in WaS status. It is recognized that an identical policy change in the two different contexts, whether within the community at two discrete points in time, or across a set of districts, can result in quite different outcomes, because of modifying factors.

An attempt to assess the impact of WaS on poverty must therefore take into account the existing policy and institutional frameworks, the policy on Rural WaS, and the level of physical and human resources which will all influence the extent to which WaS will cause a change in the intermediate indicators. In addition, even if changes are reflective in other areas such as education, high economic growth, employment, and an improved health services; it does not necessarily follow that the level of poverty will reduce, especially if the distribution of the benefits associated with such increases is not directly linked to the rural communities. In other words, the “effective route” will be context specific.

In order to conceptualize the context specificity of the implications of WaS on poverty, a framework is proposed in which the impact on poverty is described as a two stage process, the strength and extent of which is determined by a set of parameters. It is these parameters that account for the diversity within the community and that of the household-level responses to social infrastructure such as WaS.

4.9 Assessing the Role of CBOs on Rural WaS Provision

For one to understand and for a moment reflect on the provision of WaS facilities for a community, the definite answer to: who is responsible? would be: central government and other decentralized governmental bodies. This is however, not the case as (Agyemin, 2011: 165) posits that some DAs (Garu-Tempane, Bawku Municipal, Bolgatanga Municipal, Bawku West, Bongo, Builsa, Kasena-Nankana and Telensi-Nabdan) had diverted amounts from the Irrigation Development Authority (IDA) and World Bank for water to other purposes they considered as of greater importance. This is evident that many communities get these infrastructural facilities and services through the contributions of voluntary organizations. The questions related to this arrangement would be:

1. How do these organizations manage the huge financial budgets of these infrastructural facilities and services?
2. Who benefits from what and who does not?
3. How do they manage the sustainability of these infrastructure facilities and services to ensure that the overall goal for which these organizations are set to do is achieved?

These issues are interrelated in that there is the need for a constant flow of resources during all stages of planning to implementation. The infrastructure if provided has a targeted population and so; who is to ensure that this targeted population gets their share? The last issue has to do with sustainability of the infrastructure in the form of maintenance and whose responsibility is it to maintain these infrastructure?

In view of the community collective ownership and management discussed by (Bacho, 2001: 45), the basis of a group of individuals who identify a common reason why they should come together to undertake a collective action, is distinct in that, they are formed under the same ideological background but have different operational parameters based on guidelines of national and regional policies. Their framework is based on the operations of existing policies and that of lobbying, negotiations, partnerships, networking, and collaborations to undertake joint ventures among themselves or with other internal or external organizations and that of the state.

4.9.1 Lobbying

Lobbying has become an integral part of the development process worldwide. It is also a central and legitimate part of the democratic process within all liberal democratic systems. This process has become relevant because human needs are unlimited whereas the means to our needs are limited and even scarce. It is necessary for others to play a role by advancing for a share of these limited resources. By lobbying, one refers to the act of individuals or groups, each with varying and specific interests, attempting to influence decisions taken at the political or decision-making level in order to make a gain ([www.viron.ie](http://www.environ.ie)), retrieved on March, 16. 2012. The two key aspects of lobbying activity in democratic societies are access to decision makers, whether public representatives or civil servants, and the expectation these lobbyists have as a result of that access.

CBOs play a very important role in lobbying for resources that one individual could not have done. This group may seek to influence political decisions through many ways including direct communications with government and/or non-governmental officials, reports, publications, conference presentations, and telephone conversations, to name but some few mechanisms (www.viron.ie), retrieved on March, 16. 2012.

4.9.2 Negotiations

Negotiation is a form of communication between actors. This is a dialogue process between two or more parties which is intended to reach an agreement or understanding of an issue. In this process, the parties intend to resolve difference, or gain an advantage in outcomes from the dialogue. By this process, one is expected to produce an agreement upon courses of action, to bargain for individuals or collective advantage, to craft outcomes to satisfy various interests of two people or parties involved in the negotiation process. Unlike lobbying, which seeks to make a gain at one side, in the negotiation process, each party involved in this process tries to gain an advantage from the other by the end of the process. The key component of negotiation is intended at compromise. CBOs have the ability to negotiate on level fields with other partners on financial commitments or/and on developmental related issues.

4.9.3 Partnerships

Partnerships are very common in the business environment where two or more partners would develop long standing agreements to gain mutual advantages. This term is gradually gaining literature in the development field where two or more organizations work in constant agreements to undertake joint programmes and projects in order to achieve a common goal. The term implies the development of successful, long term, strategic relationships between two or more parties, based on achieving best practice and sustainable competitive advantage (Lendrum, 1997).

In the words of (Gage, 2004: 3), partnership is a seductive buzzword in the business world today which in business has been two or more people joining together, pooling their money and talents and taking a risk. On this basis (Gage, 2004), narrowed partnerships in business terms, but development work would use this to advance the course of facilities and services provision where partners pool resources together and champion development outcomes. This allows people to exploit opportunities more quickly and derive benefits together.

4.9.4 Networking

It is very common to hear organizations both public and private advocating for effective networking with the aim of solving common problems. Networking is a socio-economic activity by which groups of like-minded people recognize, create, or act upon every ideal opportunity. (www.environment.ie), retrieved on March, 16, 2012.

To the business environment, it is a type of social processes whose reason for existing is solely a business activity. There are several prominent business networking organizations that create models of networking activity that, when followed, allow the business person to build new business relationships and generate business opportunities at the same time. Consequently, non-profit making organizations also use this model to create new social relationships, draw other organizations closer, and make use of opportunities in their environment.

Cross et al. (2007: 2) in their work "*The role of networks in organizational change*" stated that companies that invest time and energy to understand their networks and collaborative relationships greatly improve their chances of making successful organizational changes. The relationships that are built among these organizations accord them the opportunity to share knowledge and other resources which, is an added advantage to their existence.

However, in the Danish: Det Danske Ledelsesbarometer (DDL) project, (Waldstrøm, 2001) saw networks as a make up by the following two major compounds: the nodes

(sometimes called actors, egos, unit), and the relations between them (sometimes called links) (p. 10). These are the social relationships which development organizations draw from each other.

4.9.5 Collaborations

Organizations do not work in isolation. Organizations work with each other especially in project planning and implementation. According to (Woodolleck and Yaffee, 2000: xiii) citing (Gray, 1989) explained that collaboration is the pooling of appreciations, and/or tangible resources example information, money, labour, etc by two or more stakeholders; to solve a set of problems which neither can solve individually. From the definition of (Gray, 1989), this suggests that this mechanism ensures that resources are drawn collectively and effectively used for a common objective. Collaboration is working together to achieve a goal. It is a recursive process where two or more people or organizations work together to realize shared goals. This is more than the connection of common goals and profit making seen in co-operative ventures.

Collaborations deepen and in a more collective way drive stakeholders towards a determination to reach an identical objective in an organised area of operation. This endeavor could be that which is creative in nature by sharing knowledge, learning and building consensus on issues. Most collaboration requires leadership, although the form of leadership can be social within a decentralized and egalitarian group.

In particular, teams that work collaboratively can obtain greater resources, recognition and reward when facing competition for finite resources (www.environ.ie), retrieved on March, 16. 2012.

The collaborative roles that CBOs play enable them to be able to implement their intended projects and programmes with external assistance. The mechanisms are summarized in table 4.1.

Table 4.1: Roles Played by CBOs in Infrastructure Provision

CBOs			
No.	Functions	Organizations	Definition
1	Lobby	National and International organizations, Government	Mostly with policy makers and financial agencies for material support for the provision of infrastructure
2	Negotiate	Government, other sister organizations and community members	This is done at all levels. With the community for the sites for infrastructure development. With other sister organizations and government for financial and other material support
3	Partner	other local organizations, international NGOs, Government	Partner with other organizations in the same sector for the share of resources for project implementation.
4	Network	Sister organizations	Work with other sister organizations for common and important opportunities
5	Collaborate	Government and other sister organizations	Work hand in hand with institutions mandated by law in the provision of infrastructure

Source: Researcher's construct

In the conceptual framework described in figure 4.4, greater emphasis is placed on the diverse interventions with respect to CBOs and Rural WaS. This emphasis is to enable the identification of the various levels of interventions and what each intervention seeks to achieve in both the short and long term. It also allows for participation of not only

community members but also other domestic, external stakeholders, and the policy environment in order to identify viable alternative responses that would modified the impact on CBOs.

4.9.6 Monitoring and Evaluation

As the projects are being implemented monitoring is carried out to ensure good performance. These depend on the organization's strategy on monitoring. Evaluations are also carried out after project implementation to determine the impact and probably re-start the planning process.

4.10 The Main Research Issues

In the ongoing discussions, central government is still the major stakeholder in the provision of infrastructure for the people. But in instances where the state has to do this she takes cognizance of viable indicators of population growth, cohorts and catchment theories in relationship to cost advantage analysis. In a debate with these dynamics, rural areas are lost because of low population figures and sparse population distributions.

At the theoretical level, Basic Human Needs provision based on redistribution of basic needs and services to the people regardless of where these people live is advocated. Nonetheless, this theory is challenged because of inadequate or unavailability of financial resources. Notwithstanding, other theories based on joint collective groups actions and activities is advocated in relationship to grassroots development as a conceptual foundation underpinning rural development and poverty reduction in these areas. The strong argument here is that; collective group actions achieve higher results and make impact because of their working arrangements with the beneficiaries (Willis, 2010). This policy direction has assisted to build responsible citizenship through a culture of maintenance and sustainability of public infrastructure.

The issue now is whether CBOs in the provision of these infrastructural facilities provides a theoretical basis for the reduction of poverty in a rural community. What is the working environment of these organizations and that of government structures that are responsible and accountable to the people? Does the accessibility or availability of these infrastructures provide a key solution to the problem of persistent poverty in these communities? Can one conjecture that other solutions may provide a more solid and dynamic way of solving these problems? Are the individuals in these communities feeling the impacts that these organizations have made in bring these facilities closer to them and wanting to contribute their quota in sustaining them? If the community would even like to contribute to this sustainability how is it done? Is it done through paying of cash sums of money in the midst of poverty or through voluntary works? These are really few of the curious theoretical questions that deserve to be investigated.

This study is being undertaken in a vast geographical region (Northern Region). At a general level, I will find out whether Non-Governmental Organizations (NGOs) offer a more vibrant alternatives or solutions to the provision of WaS to poor rural communities. To the context specific questions, which (Bacho, 2001: 69) cited (Marshall and Ross, 1995) as questions that are asked at linking theory, evidence from literature and the realities on the ground, I will like to find out at 5 levels:

Level 1: CBOs Environment

What guided their formation at the community level? How was the situation before their formation? How is the situation now? What were their initial approaches to the problems they

encountered? What informed their support in WaS rather than other sectors of the community? What role(s) do/does government and other external stakeholders play with CBOs to provide these basic needs and services? How is the provision of these infrastructural facilities and services done? Do they have other working relationship with the private sector or they work mainly with smaller organizations? Can their efforts be replicated in other communities in the country? What lessons can be drawn for general application of these specific experiences? These and many would equally be asked at the health, agric, household and District Assembly levels. However, there are 3 broad research questions asked.

4.11 Research Questions

On the basis of the questions asked at the five levels for which I would advance answers, the following research questions are asked.

- 1. What prompted the formation, the evolution of CBOs and structured their operational scope and networking relationships?**
 - 1.1 What guided the formation of CBOs and facilitated their operations?
 - 1.2 What necessitated their operations in Water and Sanitation infrastructure delivery in rural communities?
 - 1.3 What is/are the working relationship(s) between these organizations and other civil society organizations and also with that of governmental organization in infrastructure service delivery?
- 2. How do organizations contribute to infrastructure development and the provision of basic human needs in rural communities?**
 - 2.1 What type of WaS infrastructure facilities and services are provided by these organizations in these communities?
 - 2.2 What processes are followed before these infrastructure projects are implemented?
 - 2.3 How do these facilities aided in access of households to facilities?
 - 2.4 How do organizations worked towards the sustainability of their projects and programmes?
- 3. How has infrastructural facilities and services contributed to address poverty?**
 - 3.1 How different are communities with access to improved WaS facilities from communities without access to improve WaS facilities in terms of access to the facilities?
 - 3.2 How different are communities with access to improved WaS facilities from communities without access to improved WaS facilities in terms of poverty?
 - 3.3 What lessons are there to be learnt from their existence?

4.11.1 Hypothesis to be Investigated

The key hypothesis of the study is:

Ho: A community with access to improved water and basic sanitation will have no change in the status of poverty of its members. This hypothesis will be tested against the alternative hypothesis.

I am however, uncertain about the form of relationship in the population, therefore, the alternative hypothesis is in a non-directional form and reads as:

H_A: A community with access to improved water and basic sanitation will lead to a significant change in the status of poverty of its members.

4.12 Conclusion

This chapter set the platform and presented the conceptual framework which serves to define the boundaries of investigation and seeks to guide me against a wild-goose chase. Before the presentation of the conceptual framework, the chapter reviewed some concepts that were directly linked to the conceptualization of indicators of the framework. Some of the concepts were the community concept and definitions of rurality and regionality, community development and the general understanding of CBOs.

These concepts also introduced the theoretical discussions especially theories that were propounded to address regional and rural disparities. The proposed conceptual framework took into considerations some of these grassroots strategies that are proposed based on their brawny in addressing the needs of the vulnerable and the poor in society as against economic development theories that placed premium on market demand and supply dynamics.

The conceptual framework is proposed based on CBOs formations and the readiness of the community to contribute to infrastructure development provision with collective community management approaches as against market demand theories.

The chapter ended by asking 3 specific research questions and 10 operational questions to be addressed from data drawn from 5 levels of: households and the community, health and agricultural sector, CBOs and other non-governmental organizations, DAs and agencies in WaS in the region.

Chapter 5: The Research Design

Scientific research requires a layout of what a researcher is expected to do to arrive at proven generalizations linking the conceptualized problem, research questions and data gathered and analyzed. These processes consist of methods, including systematic observations and investigations, classifications and interpretation of data. The systematic observations and investigations are to find answers to the research problem and questions posed.

Meanwhile, social science researchers are normally confronted with numerous problems regarding the choice of an appropriate research method; design and approach to investigate peculiar problems which deal with extremely different human cultures and conditions within a given locality. This is because, social research and its methods do not take place in a vacuum but several factors form part of the context within which social research and its methods operate (Bryman, 2008: 5). Accordingly, these factors employed by social scientists help in understanding the social world and have influence on what is researched and how the findings are interpreted.

There is also the weird problem in social research, where the issue of naturalism is frequently debated. By naturalism (Bryman, 2008: 49) defines it as, viewing all objects of the study (whether natural or social ones) as belonging to the same realm and a consequent commitment to the principles of natural scientific method. Notwithstanding this challenge, social science researchers have adapted various strategies and methods to investigate circumstantial problems among varying human conditions in different environments, since there is no single pathway to good research (Denscombe, 2011: 3).

In this chapter, I illustrate the scientific methods and procedures applied in the study. Specific illustrations are highlighted from the world view of social science research and how this has influenced the research design adopted. The rationale for using such methods among other scientific issues has also been elaborated. As primary data forms an integral part of the study, an attempt is made to demonstrate how such data were collected and analyzed, to enable me draw conclusions in the final chapters of the study. The chapter is structured into the research type and design, first field activities, second phase activities, second field activities and conclusion.

5.1 The Nature of Social Science Research (SSR)

Social research basically explores issues in relationship to human social life. This exploration has both logical and empirical support where; it must make sense, and it must not contradict actual observation (Babbie, 2005: 6). From another perspective, (Bhattacharjee, 2012: 1) puts it as the science of people or collections of people, such as groups, firms, societies, or economies, and their individual or collective behaviors. This form (social science) is different from the natural sciences that are very precise, accurate, deterministic, and independent of the person making the scientific observations. Accordingly, there is a high degree of measurement error in the social sciences than the natural sciences, because there is considerable uncertainty and little agreement on social science investigations. What this means is that, one is likely not to find many disagreements among natural scientists but this cannot be said of the social sciences. For instance, the speed of light or the speed of movement of the earth around the sun will be observed and/or measured and arrived at the same value by different researchers, but one is likely to find numerous disagreements among social scientists on how to solve a social problem such as reduce global terrorism or rescue an

economy from recession. In a similar view, different social science researchers are likely to find different reasons for poor households in the same geographical area, with the same natural conditions.

This feature of social science implies that researchers on social issues should be cognizant of and comfortable with handling higher levels of ambiguity, uncertainty, and errors that come with such sciences, which merely reflects the high variability of social objects (Bhattacharjee, 2012). There is thus, the need to also understand the essential pillars of science and the scientific research processes.

Since the purpose of scientific research is to create knowledge, and for which the goal is to discover laws and postulate theories that can explain natural or social phenomena, or build scientific knowledge; it is imperative to also understand that theories and observations are the two essential pillars of science, and scientific research process. Therefore, depending on a researcher's background and interest, the scientific inquiry may take one of these two possible forms of inductive or deductive. With inductive research, the goal of a researcher is to infer theoretical concepts and patterns from observed data while in deductive research, the goal is to test concepts and patterns known from theory using new empirical data.

Though both forms are critical for the advancement of science, inductive (theory-building) research is more valuable when there are few prior theories or explanations (Bhattacharjee, 2012; Descombe, 2011; Bryman, 2012). On the other hand, deductive (theory-testing) research is more productive when there are many competing theories of the same phenomenon and researchers are interested in knowing which theory works best and under what circumstances.

From another perspective, theory building and theory testing are particularly difficult in the social sciences, given the imprecise nature of the theoretical concepts, inadequate tools to measure them, and the presence of many unaccounted for factors that can also influence the phenomenon.

Conducting scientific research in the social sciences like this study, therefore, requires two sets of issues; theoretical and methodological. Thus, (Bhattacharjee, 2012) puts it to confidently arrive at generalizations beyond disputable outcomes around scientific knowledge. There are also factors such as; which research strategy will best find answers to the research questions and the problem highlighted. It is against this conclusive background that I adopted the mixed method research (MMR) methodology.

5.2 Researcher's Methodology Standpoint

One of the philosophies of Mixed Method Research is pragmatism. Pragmatism provides a set of assumptions about knowledge and enquiry. According to (Denscombe, 2010: 148), Mixed Method Research is distinguished from purely quantitative approaches that are based on a philosophy of positivism and purely qualitative approaches based on interpretivism.

From my experience as a social scientist that leans towards Mixed Method Research, I have a firm conviction that knowledge is based on practical outcomes and 'what works' (Denscombe, 2010). Research should therefore, test what works through empirical enquiry since, no single best 'scientific' method can lead the way to indisputable knowledge. From a pragmatism background of using methods that are desirable to provide answers that work, findings that work sufficiently to address the research problem and questions other than just quantitative or qualitative research, the Mixed Method Research was convincing to bring out knowledge based on practical outcomes.

5.3 Research Design

Apart from the sets of skills highlighted by (Bhattacharjee, 2012) regarding social science research, other considerations include suitability, feasibility and ethical issues. These considerations are also referred to as strategy; where, the strategy is a plan of action designed to achieve a specific goal (Descombe, 2011). Furthermore, (Bryman, 2008: 19) described these strategies based on epistemological and ontological issues; where epistemology is regarded as appropriate knowledge about the social world and ontology as something external to social actors.

(Creswell, 2009: 3) defines research design as plans and procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis. Also, (Kumar, 1996: 74) citing (Kerlinger, 1986: 279) describes the research design as a plan, structure and strategy of investigation so conceived as to how to obtain answers to the research questions or problems. From the views of (Kerlinger, 1986), the plan is the complete scheme or programme of the research. This plan includes an outline of what the investigator will do from writing the hypotheses and their operational implications, to the final analysis of data. This is normally the procedural and systematic blueprint or detailed plan of action that a researcher adopts to answer the research questions validly, accurately, economically, and objectively. Analyzing all these, and with the view point of the paradigms of social science research, this study applied the Mixed Method Research (MMR) strategy.

As the name implies, MMR is the type where two or more strategies are applied in a single research project. Researchers use MMR when the processes of data collection, analyses, presentation of findings, to the generalization of findings are not narrowed to the use of only one research design and/or strategies. MMR enables a researcher to combine two or more designs in a single research process. According to (Creswell, 2009: 3), the mixed research resides in the middle of this continuum because it incorporates elements of both qualitative and quantitative research. Likewise, (Descombe, 2011: 137) explains mixed methods to apply to a research that combines alternative approaches within a single research project. It refers to a research strategy that crosses the boundaries of conventional paradigms of research by deliberately combining methods drawn from different traditions with different underlying assumptions. In this study, qualitative and quantitative methods were used. The qualitative phase involved a case study (CS) strategy while the quantitative component was a survey strategy.

5.3.1 Justification for Mixed Methods Research (MMR)

These were the reason(s) behind the choice of the Mixed Method Research strategy for this study. The first consideration had to do with the optimism that, there is an insight to gain from the combination of both qualitative (Case Study) and quantitative research (Survey) other than from one form. Most literature unmistakably, brings to light this insight from the combined methods (Bryman, 2008: 628; Descombe, 2011: 141; Kumar, 1996).

Secondly, I saw that, this method accords me the opportunity to utilize the strengths of both qualitative and quantitative research. The weakness of one would be compensated for, by the strengths of the other. Although (Bryman, 2008) highly expressed that writers such as (Smith, 1983: 12-13) argues that each of the two research strategies sponsors different procedures and has different epistemological implications and therefore, counsels researchers not to accept the unfounded assumption that the methods are complementary: in this study, I still saw that insight would enrich in triangulation.

Another reason was that data collected and analyzed seeks to draw conclusion on the research questions and prepositions outlined in chapter 4. The research questions had

elements that required the use of both methods to collect and analyze data. The use of only one method, basically qualitative research was, therefore, not sufficient to be used to collect data, analyze and draw conclusions that this study seeks to achieve.

Furthermore, one component of the study took a descriptive form; with an attempt to find answers to questions like; to what extent, what type of facilities, what processes are followed and what the rate of contribution, among others. These are social issues that (Yin, 2003) proposes the use of case study methodology. This according to (Yin, 2003) is useful when a researcher has little or no control of such contemporary issues. Aside these, there was another objective that sought to discover or to establish the existence of relationship or interdependence between two or more variables. I sought to find out whether there is a correlation between access to improved WaS facilities and that of health and poverty. These various dimensions edged me to settle on the Mixed Method Research strategy. The Mixed Method Research enables researchers to combine alternative approaches (quantitative and qualitative) within a single research project (Descombe, 2011: 137).

5.3.2 Components of Mixed Method Research

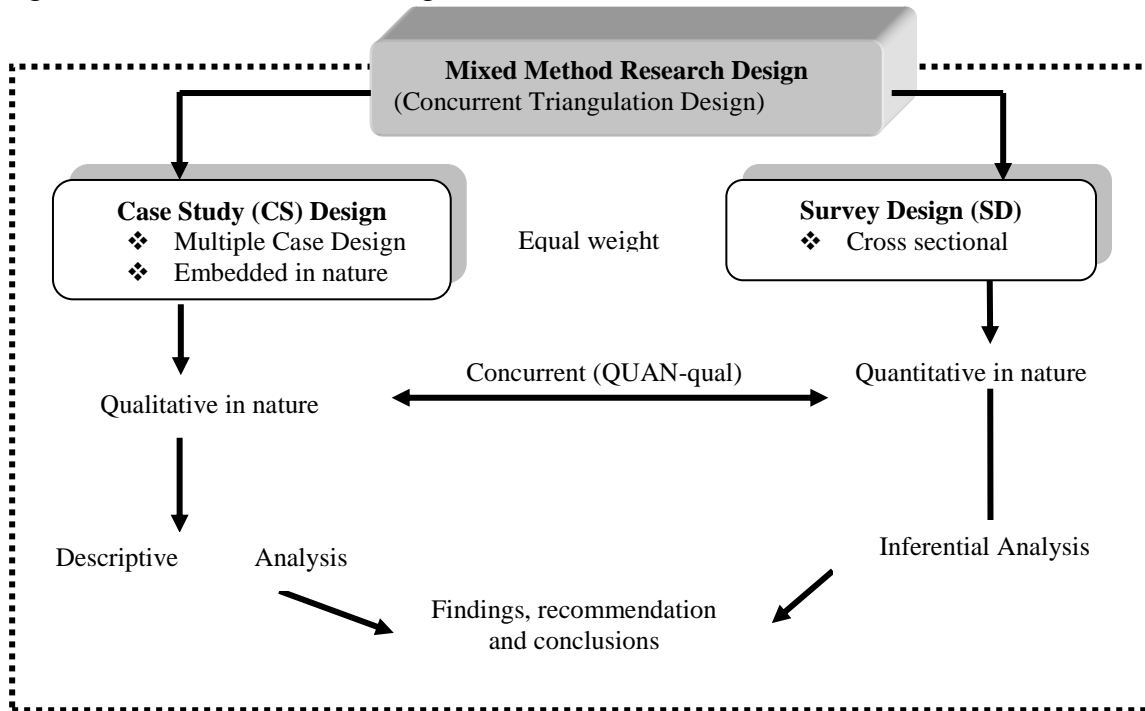
Working with Mixed Method Research, I identified the following as key components of this strategy. One of the components had to do with timing for data collection. For this phase, I used a concurrent triangulation approach, where both qualitative and quantitative data were collected at the same period and analyzed concurrently, after data were collected.

Another component was weighting or putting priority to quantitative and qualitative methods and tools, especially during data collection and analysis. Equal weights were placed on both methods because both methods were important, starting from data collection to the analysis phase.

In the area of mixing where a researcher may be asked “when does a researcher mix in a mixed methods study”? And how does mixing occur? This study utilized mixed methods during the research designed stage, where mixed research tools were designed using both tools from data collection to analysis. The concurrent triangulation approach was used where qualitative and quantitative data was collected concurrently and the two data sets used to determine if there was convergence, differences or some form of combination.

Through the Mixed Method Research design, I was able to conceptualize an operational plan to undertake the various procedures and tasks required, to complete the study on time and in an effective and efficient manner. This was to ensure that the procedures were adequate to obtain valid, objective and accurate answers to the research questions. The processes involved in the study are summarized in figure 5.1.

Figure 5.1: The Research Design



Source: Researcher's construct

From figure 5.1, the study was entirely a mixed methods research design (MMRD) where concurrent triangulation was employed. By concurrent triangulation approach, I collected both quantitative and qualitative data concurrently and then compared the two databases to determine if there was convergence, differences or some combination (Creswell, 2009: 212). Again, (Descombe, 2011: 138) stated explicitly that the mixed method approach has three features, where two of these features are the use of qualitative and quantitative approaches within a single research project with the focus on the link between the approaches (triangulation). In this study, qualitative methods were used in multiple case studies, and a survey with quantitative design.

From figure 5.1, the Case Study design was an embedded design of two cases. Data collection under the Case Study was primary through qualitative methods and tools. The analysis produced qualitative results by way of descriptive analysis. On one hand, the Survey Design was employed to unearth how facilities are contributing to reduce poverty at the grassroots or community level. This design was basically quantitative and produced an inferential analysis through chi-square test results. Equal weights were placed on the two methods (QUAN-qual).

5.4 The Case Study Strategy and its Tenets

In an attempt to present a clearer picture of the research design, the discussion is grouped into Case Study and Survey Design strategies. I discussed the methodology from this point under Case Study and the methods and tools that were used and the same way with the Survey Design.

Multiple Case Study Design

Case study strategy is very common in the social sciences. From the perspective of (Gerring, 2007: 20), a case study may be understood as intensive study of a single case where the purpose of that study is at least in part-to shed light on a larger class of cases.

Case studies are a strategy of inquiry in which researchers explore in-depth a program, events, activity, process on one or more individuals. Cases are bounded by time and activity and researchers collect detailed information using a variety of data collection procedures over a sustained period of time (Stake, 1995; cited in Creswell, 2009).

(Yin, 2003: 18) defines case study as an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident.

Based on this overwhelming definitions and clarifications of the Case Study methodology, I used this approach to investigate the collaborative efforts of CBOs in WaS sector in the Northern Region, Ghana. The study was an embedded design with multiple cases. Two cases (“NewEnergy” and “CLIP”) were selected under criterion sampling procedure discussed later in the chapter. This allowed me to investigate the (WaS) component that the study intended, other than a holistic design.

Justification for a Multiple Case Studies

Research approaches are not uniformly exclusive or compartmentalized. A research project can make use of one research approach or a combination of approaches at different points in the research process.

This approach was adopted because it allowed me to concentrate on specific instances or situations to identify, or attempt to identify, the various interactive processes at work (Bell, 1999). In addition, this approach enables researchers to establish a sequence of events; examine relationships between variables; and understand which explanation best fits a hypothesis or theory (McGivern, 2006).

Researchers such as (Creswell, 1999, 2009; Bell, 1999; Stake, 1995; McGivern, 2006 and Yin, 1993, 1994) have identified the case study approach as a preferred method/strategy when:

- ❖ “How” and/or “why” questions are being asked;
- ❖ When investigator(s) has/have little control over the events;
- ❖ When the focus is on contemporary phenomena within some real-life context;
- ❖ When investigators want to understand complex social phenomena while retaining the holistic and meaningful characteristics of real-life events; in order to explore a question, programme, population, issue or concern, to determine appropriate research questions to facilitate future research; and to explore those situations in which the intervention being evaluated has no clear set of outcomes.

Case studies emphasize the detailed contextual analysis of a limited number of events or conditions and their relationships. The case study methodology can also be based on a mix of qualitative and quantitative evidence. While this is so, the multiple case designs adopted in this study, serve to strengthen results by replicating pattern matching, thus, increasing the level of confidence in the robustness of theory. Yin (2009) affirms that the evidence from multiple cases is often considered more compelling, and the overall study is therefore, regarded as being more robust (p. 53).

In the view of (Kumar, 1996: 99), the case study approach provides an opportunity for intensive analysis of many specific details often overlooked by other methods. This approach rests on the assumption that the case being studied is typical of cases of a certain type so that,

through intensive analysis; generalizations may be made, that will be applicable to other cases of the same type.

I therefore, settled on this method because of the reasons that:

- ❖ The research questions had “How” in them
- ❖ I was investigating contemporary issues within real-life context which I had less control over these issues
- ❖ The cases that were being studied were typical cases that could lead to generalizations
- ❖ Besides, the evidence from the multiple case methodologies makes the study more concrete and solid.

One last point was the case study approach has unique strengths of using variety of evidence from primary, secondary and tertiary sources which goes to enrich the study. This study utilized all these data sources and I had firm confidence that this aided triangulation and enriched the entire study.

Qualitative Methods

As depicted in figure 5.1, the study exhibited both qualitative and quantitative features. Qualitative features exist when the purpose of the study is primarily to describe a situation, an activity, phenomenon, problem or an event without quantifying the descriptive process. It deals with words. According to (Kumar, 1996: 9), information for this purpose is gathered through the use of variables measured on nominal or ordinal scales; and if analysis is done to establish the variation, this is done without quantifying it. This study forms part of an observed process where processes discussed were observed and an account of the different opinions of people about an issue were clearly and explicitly described.

Furthermore, “qualitative research comprised different traditions and stances over the years” (Bryman, 2008: 381). These traditions are therefore, not easy to elaborate within one research project but some of its traditions are vital in the scientific process. For instance, qualitative research subsumes several diverse methods that differ from each other considerably. For this study, qualitative processes and methods that were used include; an outline of two research questions that were qualitative in nature; selection (sampling) of cases under the case study strategy; collection of data; and interpretation of the data using qualitative tools.

5.5 The Scope of the Study

The immediate theme is to discuss the scope and justification for the scope in this study. This would be followed by sampling and data collection methods implored under qualitative procedures. The scope of the study has become imperative because of the issues I worked on. I discussed issues under the scope in two broad categories of: contextual and geographical scope.

5.5.1 Conceptual and Contextual Scope

The contextual issues had to do basically with water, sanitation, and CBOs. These concepts have different meanings in various contexts. A clear explanation of these concepts draws attention to; what I worked on.

Water is a broad term that comprises water for agricultural, commercial, industrial as well as domestic purposes. In this study, I referred to water for domestic purposes. Water captured the potable nature which households use for drinking, cooking, bathing, washing and other domestic purposes.

Sanitation on the other hand, had to do with hygiene or cleanliness within the household level; that of the community and institutions within the community. Sanitation has gained wider coverage in literature, especially as the world is likely to miss the target in achieving sanitation under the Millennium Development Goals. There was the need to delve into issues of particular interest on sanitation (fecal waste disposal) at the household level.

On the part of CBOs, I referred to organizations that are established at the grassroots level, under formalized arrangements discussed in chapter 6. They are also known as local NGOs. They are local NGOs because they are formed outside governmental procedures. However, they are used in this study as CBOs because they operate at the community level. They implement their programmes and projects at community level. They are community based but work with other smaller and international organizations to implement their programmes.

5.5.2 Geographical Scope

Geographically, the study was limited to Northern Region, one of the ten political and administrative regions of Ghana. Like all other regions in Ghana, the region is further subdivided into 24 Metropolitan, municipals and district assemblies. Details on the region are discussed in chapter 3. Notwithstanding, Northern Region was purposively selected because of the following reasons.

The region has peculiar problems with rural water provision which is mostly supplied through underground water sources. The background to the study in chapter 1, revealed how the low water table makes it unfeasible to obtain water from underground channels. Stakeholders rely on local technologies to make water accessible to beneficiaries.

Again, I worked in the region and have ample experience in the sector. This, I anticipate would aid the research process and provide evidence to enrich the work.

5.6 Population

When the word population is mentioned, many refer this “population” to the summation of humans living within a geographic location. This is usually common with population censuses that seek to determine the total number of people living within a geographical area for planning and other related purposes. In scientific research, population denotes more than just humans and goes beyond to include all elements under investigation. In scientific terms, population is used to denote the universe of units or elements from which a sample is selected for enquiry (Bryman, 2012). It does not only refer to the number of people living in a geographically defined area, but also includes both animate and inanimate objects that are being studied. For example, in a study of WaS, the research population includes water and sanitation facilities, sources (inanimate) and beneficiaries (animate) within a community. This is different from looking at only the beneficiaries who are human.

In this study, the research population stretches from animate to inanimate objects because of the nature of the issues investigated. Northern Region formed the population, from which, different elements were selected. Northern Region is large and as such could not be studied in totality. However, the following elements were strictly studied. Two cases (organizations operating in the WaS sector) were sampled to uncover their operational dynamics. These cases comprises work force (human beings, norms, procedures, laws and regulations and networks) among others. The cases do not work in isolation. Therefore, in order to get a deeper understanding of the phenomenon of WaS infrastructural facilities and service provision by these cases (which involves and affect a broad continuum of actors), the study included other non-government and government organizations and agencies who are

either directly or indirectly involved in the sector. Such organizations include: Community Water and Sanitation Agency, District Assemblies, Ghana Water Company at government level. Aside the government agencies, there were NGOs whose work complemented the operations of the sampled cases. These categories include national and international NGOs.

In the area of beneficiaries of WaS facilities, all individuals that use WaS facilities were sampled. The lists include heads of households who are either males or females. Female children are normally affected by water related issues and an attempt was made to involve female children in the sample at the household level.

With regards to facilities, WaS facilities were sampled. These actors or stakeholders alongside facilities constituted the research population from which a sample was selected for this study.

5.6.1 Sampling Procedure under the Qualitative Design

A sample is used in scientific terms when researchers use a portion of a research population who are actually selected to participate in a study. In the words of (Bryman, 2012), it is a segment or a subset of the research population that is selected to participate in a research. The use of samples is for obvious reasons. It is often not feasible, possible and to a large extent, not obligatory to involve all elements of the population in a research study. Samples are normally used in research studies to obtain information from the research population and at the same time, be reflective or representative of the entire population.

The sampling procedures used in this study were done systematically in selecting cases, districts, communities, and households.

Case selection

In an attempt to have a broader picture of CBOs in water, sanitation and hygiene projects in the region, a comprehensive list of all registered CBOs in Northern Region was obtained from the Ministry of Water Resources Works and Housing (MWRWH). Details are presented in appendix 7.

As a background check, the list was further compared with the list at the Department of Social Welfare (DSW) office in Tamale (the regional capital) and also with the Coalition of NGOs into WaS in the region. An examination was carried out on the policy direction of each of the registered CBOs operating in the region.

Since there were more CBOs operating in the area and posing a problem as to which CBO to select for the study, as presented in appendix 7, some criteria were further developed and a metrics used to select the two cases. Criterion sampling was applied using a number of predetermined criteria on six CBOs in the region. For a CBO to have qualified as a case, it met all the following requirements:

1. *CBO operating in a rural community*: The study adopted the CWSA definition of a rural setting as: a geographical area with a population of between 75 to 2000 inhabitants. A case was selected if it operates in rural communities.
2. *A CBO that is local in character*: A CBO that is established under the guidelines of Act 179.
3. *Use of organizational mechanisms (partnership, collaboration and networking within its operations)*: CBOs that demonstrated partnerships, collaborations, and networking with other government, national and international NGOs and donors. This was done during the earlier stages of first field activities with the questionnaire in appendix 8b.
4. *Time frame dimension*: CBOs must have worked for the past five to ten years in any district assembly in the region.

5. *Intensity of WaS components in programmes and projects:* CBOs that demonstrate (by way of their programmes and projects) a strong WaS component implemented in the past and others that are on-going.

Based on the above criteria, two CBOs were sampled. These were “NewEnergy” and Community Livelihood Improvement Programme (CLIP).

Selection of Study Districts and Communities

Northern Region has twenty-four (24) metropolitan, municipals and districts assemblies but at the time of the first field activities, I worked with the 20 previously created assemblies. These assemblies all have unique socio-economic as well as cultural and religious characteristics discussed in chapter 3. The selection of the study districts was one of the biggest challenges to me because all these districts were confronted with WaS issues. The 20 assemblies were first put into 3 strata and a set of criteria used to select 1 assembly each from each strata. (Refer to appendix 8c for details). The three assemblies selected had high degree of WaS borne diseases when I crossed checked with the Regional Health Directorate (RHD) in Tamale. Other criteria were: time of creation, poverty, incidence of water and sanitation related diseases, availability of CBO activities, and rural population.

Created before 2006

Districts in Ghana are not uniformly created. Some districts are carved out of other districts. Time of creation was very vital because some relevant data of the district at the time of creation could be available in another district. A district that qualified to be selected for the study in the region was created before the year 2006. This gave me relevant and accurate data on the other four criteria indicators (see appendix 8a).

High rate of poverty through the poverty mapping in the region

Another criterion was the use of the poverty mapping in the region where districts are ranked according to poverty prevalence. This criterion has assisted in the implementation of government poverty intervention programmes such as Livelihood Empowerment against Poverty (LEAP), Micro Finance and Small Loans Center (MASLOC) and Youth in Agriculture, among others. This criterion assisted me to identify districts that were relatively poorer.

High Incidence of Water, Sanitation and Hygiene Related Diseases

The key issue under the study was WaS. The 24 districts have different levels of incidence of WaS related diseases. Districts with high prevalence of WaS related diseases were sampled.

Availability of CBOs Activities

Another criterion was that, a district was sampled based on the availability of CBOs activities in the district.

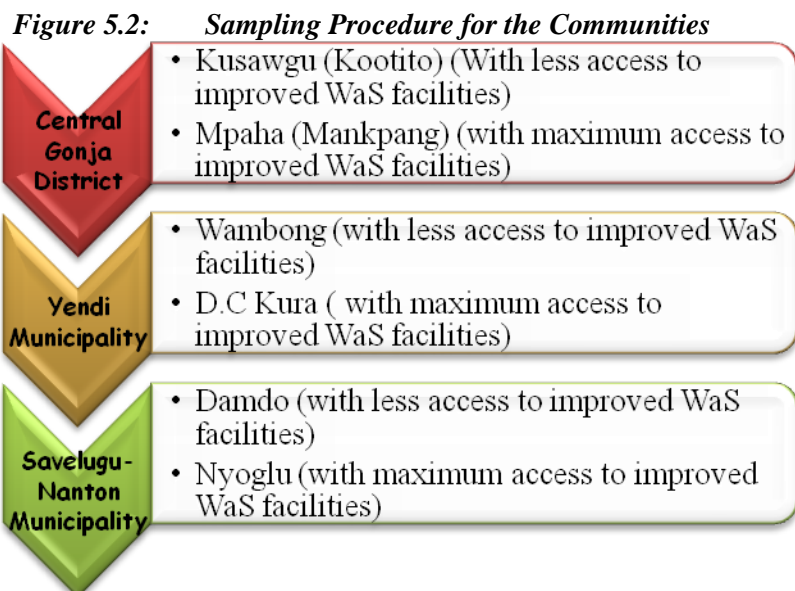
A District with about 80% Rural Population

The last criterion was a district with high rural population. Literature indicates that poverty manifest itself in rural communities.

Using these criteria on a matrix like the first under the sampling procedure for CBOs, three districts were selected namely Central Gonja District, Yendi and Savelugu Nanton Municipalities. From these assemblies, two communities were purposively sampled. One community had maximum or fair access to improve WaS facilities as against another

community with less or no access to improved WaS facilities. This was done with the support of the Environmental Health Officers (EHOs) and Water and Sanitation Team Leaders (WSTLs) of the 3 assemblies. For example, in Savelugu Nanton Municipality (SNM), Mr Salam Samuel Laar assisted with the list of communities with and without facilities. Mr. Sani Mahama, WSTL in Yendi Municipal Assembly (YMA) aided in the selection of the communities based on data from the office and his personal experience in the area. The same was done in CGD.

It was against this background that, 3 communities were sampled in the three districts to have maximum or fair access to improved WaS facilities and 3 other communities with less or no access to improved WaS facilities (See figure 5.2). Based on this, a quantitative sampling procedure was used to select households for the survey design discussed later under quantitative methods.



In figure 5.2, 3 communities sampled had less access to improved WaS facilities. These were Kusawgu (Kootito)⁸, Wambong and Damdo. On the other hand, Mankpang, D.C Kura and Nyoglu were sampled to have maximum access to improved WaS facilities in the 3 assemblies in the region.

Source: Researcher's construct

First Field Activities

5.7 Qualitative Data Sources and Methods of Data Collection

Data forms an integral part of the scientific research process. This information enabled me to analyze phenomena in its original state. The following discusses data sources based on the data collected during the first field activities in the region from June 2012 to January 2013.

5.7.1 Primary Data

Primary data was obtained to address the information needs in relationship to specific problems and/or issues this research seeks to investigate. Usually, when the term primary data is mentioned, it has to do with data in its raw state. However, (Blaikie, 2010: 18) disputes this and presents three (3) categories of data, namely; primary, secondary, and tertiary.

⁸ Kusawgu Kootito is the central part of the community. Kootito was sampled for the household survey. Kootito is a Gonja word that means "corruption of court"

Accordingly, primary data implies what are generated by the researcher who is responsible for the design of the study and the collection, analysis and reporting on the data. In the words of (Blaikie, 2010: 18), these new data are used to answer specific research questions. Furthermore, secondary data are also in their raw state but the difference is that; secondary data have already been collected by someone else, either for some general information purpose, such as government census.

Primary data in this research was data that were generated by me and collected as a result of direct contact between the respondents and me. These types of data provided me with firsthand information on the issues under investigation. It was data that had not been processed and analysis. It was the direct information that was collected from the respondents that were subsequently analyzed and findings arrived at. I was the first person to have gotten information from my respondents. The primary data used combined qualitative and quantitative methods and tools. (For details, see appendices 2, 3, 5a, b, c, and 6 for details).

5.7.2 Methods of Qualitative Data Collection

Various qualitative methods of data collection were used in collecting data from the field. Some of these were the following.

Interviews

An interview is a verbal communication between two or more people. This method involves a person-to-person interaction with a specific purpose in mind. Some researchers like (Marshall and Rossman, 1999: 108) describe structured and in-depth interviews as a conversation with a purpose. In an interview section, the interviewer asks the questions and perhaps explains in detail and the respondent(s) replies. This process may create the room for recording (electronic or note taking) of responses from respondents.

During the data collection stage, the following types of interviews presented on table 5.1 were applied. Details of respondents and dates of interviews are present in appendix 1.

Table 5.1: Details of Interviews Conducted in the Field

Interview type	Number	Respondent Group
Group	5	Beneficiaries of Water and Sanitation facilities, staff of RPCU, Water System Operation team, and a community discussion in Kusawgu (Kootito)
Key informant in-depth	27	Directors and 2 officers of CWSA, Case organizations, workers of Water and Sanitation teams at the DAs, Planning officers among others
Expert	8	Professionals at the various Water and Sanitation units of organizations (government and non-governmental)
Community Fora and Discussions	10	Issues that emerged were discussed with community members and opinion leaders
Focus Group Discussion (FGD)	1	Representatives of stakeholders identified in the study
Total	52	

Source: Researcher's construct based on field work, 2012

As shown on table 5.1, a total of 5 group interviews were conducted between July to December, 2012. They comprised group interview with beneficiaries of WaS facilities at Damdo in the Savelugu Nanton Municipality. Others were group interviews with staff of Regional Planning Coordinating Unit at the Regional Coordinating Council (RCC). There

was a group interview with the water system operation team in Savelugu Nanton Municipality. The last group interview was at Kusawgu (Kootito) in Central Gonja District with community members on issues of WaS facilities and poverty. Details of this interview are presented in appendix 11. These were conducted because I wanted to gather data from groups affected by the phenomenon. For instance, there were mixed reactions on the issues of water from the beneficiaries in Damdo. The same was observed with the other group interviews.

Aside the group interviews, there were also key informant in-depth interviews. These were mostly semi-structured with an attempt to explore issues with professionals who work with these issues on daily basis. There were a total of 27 such interviews conducted (See appendix 1). Most of these interviews were conducted with coordinators and senior officials within the organizations.

Expert interviews were also conducted to find out how the situation of WaS in the communities was and now. These interviews were also semi-structured with detailed explanations of concepts and terminologies. These interviews also opened up the discussion on programmes being implemented, the issues that are still missing, concrete recommendations and suggestions for policy consideration in the sector. These were done with the aid of interview guides (see appendices 5a, b and c) and mainly in English. Apart from UNICEF that recording was not permitted, all the interviews were tape recorded.

Community discussions also emerged. For instance, in Kusawgu (Kootito), during the group interview on WaS and poverty nexus, electricity surfaced as one strong determinant to poverty reduction. There were small scale business operators in the centre, using electricity. Discussions emerged to find out how electricity was impacting on their economic activities and incomes in general. These were mostly in the local language (Gonja) and translated into English for analysis.

Lastly, one Focused Group Discussion was organized for selected number of stakeholders in WaS in the region. In FGD, a researcher interacts with a targeted group of respondents who are affected by a phenomenon. The interviewer in this method creates a supportive environment, asking focused questions, to encourage discussion and expression of differing opinions and point of views (Marshall and Rossman, 1999: 114). The purpose of this discussion was to gain more knowledge from the group. The FGD was held in the regional capital, Tamale. This interview brought together professionals in policy planning, implementation, monitoring and evaluation to deliberate on issues on the topic. This method was conducted at the last phase of the first field activities after a number of issues were raised at individual levels of interaction. This activity accorded me the opportunity to ask questions which were overlooked at the individual level. One such was the “Mole Conference”, its aim and impact in the sector.

Aside, this activity offered me the opportunity to seek responses to issues discussed with households and other respondents during the household survey. For example, one household in D. C. Kura lamented that “Yes! My sister, they are asking us to construct these ‘things’ but we in this community do not have the knowledge on how to do it” (Abdul Mohammed, resident, D C Kura, November 12, 2012). Questions were asked on how organizations are working to address concerns like Abdul Mohammed in D C Kura who had no technical skills to construct durable pit latrines.

Mailed Questionnaires

In order to determine the working mechanisms between the various institutions in the sector, a mailed questionnaire was developed and distributed to 9 national and international organizations operating in the WaS sector in the region. These organizations were identified earlier through interviews with officials at NewEnergy, CLIP and the DAs.

The questionnaire were sent to the offices of the organizations where, WaS specialists or officers received them and were given time for their completion. After the completion of the questionnaire, I went again and retrieved them from the respondents. During the time of retrieval, questions that needed clarifications were asked and the responses recorded. The main objective of this questionnaire was to collate responses on the networking mechanisms that exist between CBOs and that of other non-governmental institutions (see appendix 6 for details of this questionnaire).

Observations

The data collected did not only resort to interviews and questionnaires but observations were made with the aid of an observation guide. It involved two main categories (qualitative and quantitative). The quantitative observation would be discussed later but the qualitative observations were conducted at facility sites. These were done with a semi-structured observation guide. Field notes and memos were written basically on the type of materials used in constructing facilities, the distance of the facilities from households, how sanitation was managed within water facility sites and so on. The field notes and memos from these observations were later used in triangulation during analysis.

Guided Walks

The communities where household data was collected were new to me. I visited these communities for the first time to gain prior knowledge and acquaint myself with these communities. The guided walks also facilitated in mapping water and sanitation facilities in the various communities; their state of functionality, and the level of sanitation in and around these facilities among other issues. These walks were mainly done with the assistance of Assembly members, Water and Sanitation Team Leaders and other opinion leaders in the various communities. For instance, in the Yendi Municipality, the Water and Sanitation Team Leader led a guided walk in Wambong and D.C Kura. In the other municipal and district, the walks were also led by WSTL and the Chairman of the Water Board (WB) in Central Gonja District. It was during the guided walks in the communities, that I took the opportunity to number and took records (number) of households that were available for which data of such communities were not readily available at the statistical service unit in the region and at the various District/Municipal Planning Coordinating Units. This then supported the sampling procedure for the household survey.

5.8 Survey Research

Many are familiar with survey in geographical terms when the exercise is to obtain data, mostly for mapping and other related issues. In explaining a survey research, (Descombe, 2011: 11-12) considers it to involve wide and inclusive coverage, at a specific point in time and empirical in nature. By these considerations, survey research takes a panoramic view and 'take it all in'. Surveys provide a snapshot of how things are at a point in time and empirical, which means, 'to look'.

This research did not end with looking at cases, but went further to look out and take snapshots of how things exist in rural communities. The survey design was settled on, as data

on rural people and their socio-economic characteristics were investigated. The survey was a cross-sectional design where I met with my respondents once and took household data. In cases where I had to revisit households, it was to find out more details with regards to outliers that were discovered during the data editing phases. Another feature of this design involved face-to-face sessions where my research assistants and I had face-to-face interactions with the respondents.

This type of research has traditions that are also synonymous with cross-sectional design (Bryman, 2012). The elements that are associated with this type of research are that; more than one case is being examined for reasons of ensuring variation. In cross-sectional designs, data on variables of interest are collected more or less simultaneously; and in order to establish variation between cases and examine associations between variables, it is necessary to have a systematic and standardized method for gauging this variation. This type of design is also possible to examine relationships between variables (Bryman, 2012: 59). Following these assertions, I used the following quantitative processes.

5.8.1 Quantitative Methods

Numerical data was gathered on the variables and analyzed to ascertain the magnitude of the variation. In quantitative research, the use of statistics forms an integral part of the process “to act as a test to confirm or contradict the conclusions that are drawn on the basis of understanding analyzed data” (Kumar, 1996: 10).

The combinations of these classifications have their strengths and weaknesses. Therefore, I was optimistic that the strengths of one compensate the weaknesses of the other and vice versa.

5.8.2 Sampling Procedures under Quantitative Methods

Determining the Sample Size

This part follows the ending part of the sampling process discussed under the qualitative methods where; explanation was made as to how the communities were selected under the various Assemblies in the region. This part followed the procedure for selecting households in the communities.

Before determining the sample size, I consulted a team of researchers at the Navrongo Research Center (NRC) who carry out various researches, especially in rural communities on various socio-economic indicators and variables. These researchers made tremendous inputs into determining the sample size for the household survey. For instance, similar studies carried out in small communities with relatively 15 households, apparently used all the households in the study.

On the basis of this, I settled on the pragmatic approach outlined by (Denscombe, 2010: 10), where a researcher estimates a sample size on practical experience instead of statistical approach. The sample size was determined through consultations with field researchers and also in relationship to the population of each community. I therefore, decided to have a sample size of 20 households in each community, considering the relative small population sizes in these communities.

However, confidence levels of between 95%-99% and an accuracy of 0.5 of the data were considered. One area that also helped to determine the sample size was the pilot exercise carried out in “Sinyasa” in the ‘Bulsala district’ of the Upper East Region in November, 2012. Details of the sample size for each community are presented on table 5.2.

Table 5.2: Communities and their Households Statistics in the 3 Assemblies

No	District/Municipality	Total No. of households	Name of Community	No. of CSV households	Sample Size
1.	Central Gonja	11,413	Kusawgu (Kootito)	53	20
2.			Mankpang	32	15
3.	Yendi Municipality	21,563	Wambong	43	25
4.			D.C Kura	36	23
5.	Savelugu-Nanton	14,669	Damdo	33	16
6.	Municipality		Nyoglu	66	23
	Total	47,645	Total	263	122

Source: Field activities, 2012

As can be seen in table 5.2, the total number of households in each community is presented in the fourth column of the table. These figures were obtained from the Community Surveillance Volunteers (CSV) because the figures for the 2010 PHC were not readily available. These figures assisted me in arriving at the sample size for each of the communities.

Selection of Households

In the individual communities, a systematic sampling procedure was used to select the households in each community. During the guided walk elaborated under the qualitative procedures, I identified the households with codes. However, in Kusawgu, the former Assembly man (Mr. Frances Modukpe Tailor) was interviewed on general issues of the community. From this point, his household was the starting point of the survey, from which every 3rd household was sampled in this community.

This process was repeated in Kusawgu and Mankpang in the next community in Central Gonja District. At Mankpang, the first household was identified as the youth opinion leader. I had a short discussion lasting 8 minutes with Alhaji Dari. Again, his household was the first to be sampled and every 3rd household was selected.

Furthermore, in Wambong, the Assembly man, Mr. Chendow Stephen's household was the first to be sampled after an interview with him (see figure 5.3).

Figure 5.3: Interview with the Assemblyman of Wambong



Source: Field data, 2012

As can be seen in figure 5.3, that was the researcher, Mr. Sani Mahama (Water and Sanitation Team Leader, Yendi Municipality to the immediate left, and the Assembly man (Mr. Stephen Chendow). From here, every 3rd household was sampled. The same procedure was used in D. C. Kura, starting from the chief's house and then, every 2nd household.

However, in Damdo and Nyoglu, the sampling was different because of the housing pattern. In Damdo, the chief's house was first sampled alongside other households like the

first household in Nyoglu. This was because as I was engaged in interviews, the research assistants were sampling. Nonetheless, every 3rd household, from the starting points were selected in both communities; Damdo and Nyoglu. In all the 6 communities, a total of 122 households were sampled and interviewed with the aid of a detailed questionnaire. Table 5.3 presents the statistics on the households' information.

Table 5.3: Selecting the Households in Communities

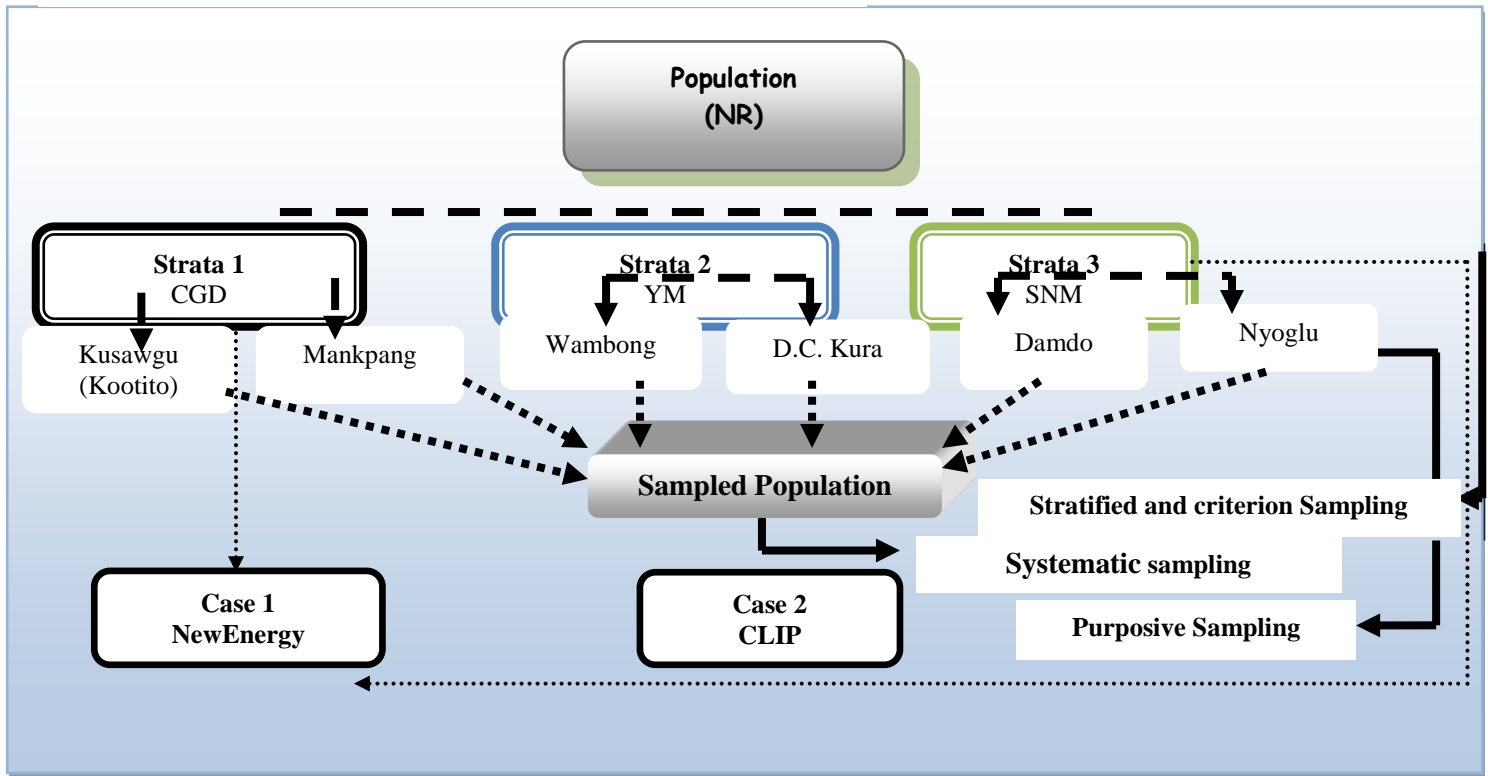
No.	Communities	No of CVS households	Sample	Systematic sampling, starting (every)
1.	Kusawgu (Kootito)	53	20	3 rd household from the former Assembly man (Frances Modukpe Tailor)
2.	Mankpang	32	15	3 rd household from youth leader (Alhaji Dari)
3.	Wambong	43	25	3 rd household from Assembly man's household (Mr. Chendow Stephen)
4.	D.C Kura	36	23	2 nd household after Chief's household (Naa Mbakidi Jegma)
5.	Damdo	33	16	3 rd household starting from entrance from Chalam
6.	Nyoglu	66	23	3 rd household starting from entrance from Nyashegu
Total		263	122	

Source: Research's field work

5.8.3 Summary of the Sampling Plan

An attempt has been made to summarize the sampling plan for both qualitative and quantitative procedures in this study. The objective is to give a clearer picture of the entire sample and sampling procedure in one snap short. This is presented in figure 5.4.

Figure 5.4: Summary of Sampling Plan



Source: Researcher's construct

As shown in figure 5.4, the population consist of all 24 metropolitan, municipal and district assemblies in the Northern Region. These districts were stratified and a criterion sampling technique used to sample 2 municipalities and 1 district. At the community level, I employed purposive sampling to select one community with maximum or fair access to improved WaS services as against another community with less access to improved WaS services.

A total of 3 communities were sampled to have maximum access to improved WaS facilities as against 3 with less access to improved WaS facilities and services. From this point, the individual households were sampled through systematic sampling technique (described in table 5.3) while specific cases were selected through a criterion sampling technique. As indicated in figure 5.4, NewEnergy operates in Central Gonja District and Savelugu Nanton Municipality while CLIP works in Yendi Municipality.

5.8.2 Quantitative Data Collection Processes

These were the processes that were carried out during the quantitative phase of the study. While administrating the qualitative tools, a survey questionnaire was developed. The questionnaire was developed based on the issues on the ground as well as data gathered from experts and professionals in the sector. The questionnaire had four major parts. The first part was designed to collect basic household data. Questions under this section were basically on general household data, namely; the sex of respondents, number of household members, livelihood or occupation of household heads and others members. The second and third parts dealt with WaS issues while the last part was designed to collect data on the households' perceptions on activities of CBOs in their communities. Questions under WaS delved into how a household or the community acquired facilities. How the household or community

manages or maintains these facilities, the awareness of unimproved water usage and contraction of illnesses. Details of the survey questionnaire are presented in appendix 3.

After the questionnaire was developed, I used the tool to gather data in 10 households in 'Sinyasa' (a community in the Builsa District of UER). This community had similar characteristics with the communities sampled in Northern Region. The sampling of households in Sinyasa also followed the same sampling procedure discussed above. After the data was collected, edited and cleaned, additional revisions were made to the questionnaire. The cleaning involved regrouping of responses. For instance, the pilot questionnaire had 5 options for educational attainment. After this exercise, the responses were regrouped to read, basic to JHS education, SHS and tertiary education, and no education. The final revision of the questionnaire, then structured the tool for administering in the 6 sampled communities.

Training of Research Assistants

The nature of the data collected at the household level, required assistant researchers. Therefore, officers and students at the community level were recruited who had prior experience in data collection for organizations like UNICEF and had worked during the 2010 Population and Housing Census. These researchers were however, trained on how to administer and record responses from respondents. This training took a full day in each district and all issues in the questionnaire addressed. At the community level, there were demonstration exercises for the assistants to see before the final exercise.

Administering of the Questionnaire

The questionnaire was administered in 6 communities. Two communities in each district were sampled making a total of 122 households in the 6 communities.

5.8.3 Other Data Sources

Secondary data (Desk and Archival Research)

There is no scientific research without the use of secondary data. Information that I used which had already been processed, analysed, and probably been quantified is referred to as secondary data. However, (Blaikie, 2010) refers to this type of data as tertiary. The secondary data sources provide second-hand data to the study. This data assisted me to build on the problem as well as understand explicitly what exist or is existing in this field of study.

It added more information and knowledge to the primary or firsthand information collected from the field. I used secondary data in the initial stages of the study when literature was reviewed. The main sources of secondary data that were applied in the study include the following.

Documents

A wide range of institutional documents were obtained and used to compliment primary data collected from the field. Some of these documents were from organizations directly dealing with Rural WaS issues. Specifically, brochures from CWSA, NewEnergy, CLIP and UNICEF were obtained. The data from these sources were used to triangulate primary data.

Health Records

Health records highlight the health situation on the ground. Out Patient Department (OPD) records give information on the prevalence of diseases in an area. These figures were collected from the Regional Health Directorate and used to support the criteria sampling procedure of the assemblies.

Agriculture Records

The topic under discussion has linkages to agricultural productivity since; this is the underlying principle of incomes for the rural population. Agriculture records were also obtained from the regional office of the Ministry of Food and Agriculture as well as the directorates of agriculture in the sampled districts.

Census Figures

Ghana conducted her recent population and housing census in 2010. This was a nationwide statistical information indicating features in a population within a given period of time. Data from this census were used to determine the population and other features in the region. This was also used alongside data from Community Surveillance Volunteers in Nyoglu and Damdo that had such community volunteer services. The secondary data were also used in triangulation.

5.9 Data Reliability and Validity

The simple explanation to data reliability is one stated by (Punch, 2003: 42), that “reliability means stability of response”. Others define reliability as the degree of consistency with which instances are assigned to the same category by different observers or by the same observer on different occasions (Silverman, 1993; cited in Hammersley, 1992a: 67). In a simpler term, data reliability seeks to draw the attention of researchers to; how the data can achieve the same results either by administering this data by the self or others over different periods of time.

Literature presents a whole lot of factors that can affect the reliability of the data. Some of these include the data collection strategies that a researcher employs. To be able to ensure this, the data collection tools elaborated earlier have their strengths and weaknesses. I used a combination of them in order for each to compensate for the weakness of the other. I also designed instruments that were deemed fit to collect data that would meet the demands of the research questions. A summary of the Research Questions and the various tools used are present in table 5.4.

However, to effectively deal with issues of data reliability and validity, all the tools were first designed on campus (Dortmund University) and copies given to my supervisor for suggestions and additional contributions. For instance, in the first draft of the interview guides, the questions were asked haphazardly. These, my supervisor advised to be grouped under themes. Additional revisions were made. For example, all interview guides were re-grouped under themes. These themes later assisted in coding of the transcribed interviews as well as used for thematic analysis. The next exercise was to present my tools to the PhD student group in a colloquium in what is termed “World Café”.

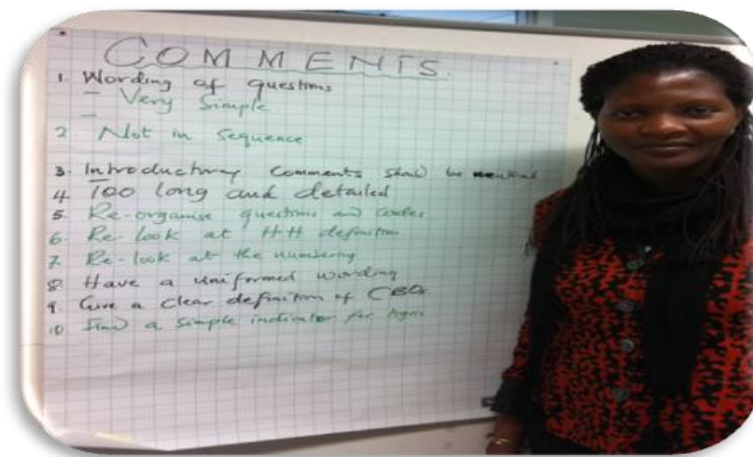
A World Café methodology is one of the interactive methods of soliciting ideas from colleagues, participants and stakeholders on issues. This is a proactive process for facilitating collaborative dialogue and sharing of knowledge, issues, and ideas through the network of conversations and actions. In the words of (Slocum, 2005), this is a process, where a café ambiance is created in which participants discuss questions or issues in small groups around the café tables. At regular intervals, the participants move to a new table for further discussions. However, on a table, a host remains and summarizes the previous conversation to the new table guests.

The idea according to (Slocum, 2005) is to ensure that the preceding conversations are cross-fertilized with the ideas generated in former conversations with other participants. At

the end of the process, the main ideas are summarized in a plenary session and follow-up possibilities discussed.

In this study, an opportunity was created through a World Café for PhD students in a colloquium. Four students also had research tools and four tables created for four groups. In this session, the field tools were group into (interview guides, institutional questionnaire, survey questionnaire and observation guides). I was the secretary to one of the tables with my tools. However, a group had a maximum of 5 students (discussants). Each group came to discuss the tools with me. After 5 to 10 minutes discussions, the group rotated for a new group to discuss with me on my tools. This ended with the four groups discussing the tools with me. Comments from each group were quickly written on a flip chart and presented to the entire group. See figure 5.5 for some of the comments raised by PhD peers on my instruments.

Figure 5.5: *Comments on Field Tools during World Café in Dortmund*



As shown in figure 5.5, the comments were both negative and positive. For instance, there were comments that “my wordings were very simple”. Notwithstanding, the negatives outweighed the positives. For example, it was expressed that the introductory part of my tools were very long and I used words that portrayed bias. I was also asked to re-organize my questions to facilitate easy coding

Source: PhD Colloquium in Dortmund, June 2012

among others. These comments were very instrumental in reshaping the tools.

Apart from the World Café that was held in Dortmund, a similar one was held at TaMA in July, 2012. This was to introduce the method to my colleagues at the MPCU and to get them react to my instruments. At the Assembly, 12 members consisting of 1 Metropolitan Planning Officer, 3 Assistant Planning Officers, 1 Metropolitan Budget Analyst, 3 Assistant Budget Officers, 1 Finance Officer, 1 Accountant and 2 WSTLs were assembled at the conference hall of the assembly. They were introduced to the method and the process went like what happened in Dortmund. It was amazing that one of their comments was to include the MDCEs, MDCDs and Assembly men and women in the sample frame since, they were the spending officers and have a lot to answer to WaS issues. This comment was overlooked during the initial frame. These were again factored into schedules and interview guides for this group.

In addition, there was intensive planning for data collection, which included professional and ethical access and approaches to respondents during the field work. A maximum of seven months were used to collect empirical data from the field. After 8 months of data analysis, data gaps were identified and a second field work carried out between January and March, 2014. During the period of field activities, greater attention was allocated to data collection where interviews were booked ahead of time, and planned in a serene atmosphere with little interferences. For instance, when recording was not allowed for

responses from a respondent at UNICEF office in Tamale, notes were taken, neatly typed out and printed. This was given back to the respondent to make inputs onto the data.

The survey questionnaires were first tested and revised before the final questionnaire. The selection of the research assistants took into considerations their educational backgrounds and prior experience in data collection. There was a full day training of research assistants to enable them ask questions concisely and precisely. There were debriefing exercises to the respondents on the objectives of the study and how their responses could affect the work positively or negatively (See appendix 3 on the household questionnaire). Questions were also worded in very simple language to aid translation.

Unlike reliability, validity intends to ensure that appropriate constructs are taped on the variables being studied. In other words, validity seeks to answer the questions; are the responses truthful? Does the data represent what we think they represent? Punch (2003: 42) and Silverman (1993), citing (Hammersley, 1990: 57) indicate that by “validity, it means; interpreted as the extent to which an account accurately represents the social phenomena to which it refers”. Silverman (1993) adds that, proposing a purportedly ‘true’ statement involves the possibility of two kinds of errors which have been clearly defined as type 1 and 2 errors in testing null hypothesis.

Another area that added to check the reliability and validity of the data was to first draw a table that summarized the general research questions and the operational research questions. Further details were then asked as to; what are the variables that are needed in this question; what type of data is to be collected; what field method(s) is/are to be used to get this type of data; sources of data to be collected and so on. This is presented on table 5.4.

As can be seen on table 5.4, the research questions, variable/ data, field method used, tool used, type of data and source of data enabled me to check and cross check all the needed elements in the process. This was to address the hidden issues in reliability and validity.

5.10 Ethical Considerations and Confidentiality

Ethical issues affect the research study if simple rudiments are not taken into account. First of all, I assured respondents of their confidentiality of responses before the start of the questioning exercise. (See the introductory part of household questionnaire in appendix 3). On the part of the interviews, a letter from my supervisor was given to respondents and this indicated the purpose of the exercise. Observation tools were used in sensitive situation and recorded. In an attempt to find out what the household possessed as household assets, questions were not directly asked as respondents were most times, not willing to divulge such information to outsiders. What happened here was through a discussion starting with; “now that your community has no electricity, it means you and your household members are not able to watch T.V to see the good things happening in the capital city of Accra”. In that instance, respondents were quick to say: “oh, I have a T.V set in my house” or “that is the case my daughter”. My household has no T.V and the like with other questions.

Table 5.4: Research Objectives, Type of Data, Sources of Data and Methods/ and Tools Employed

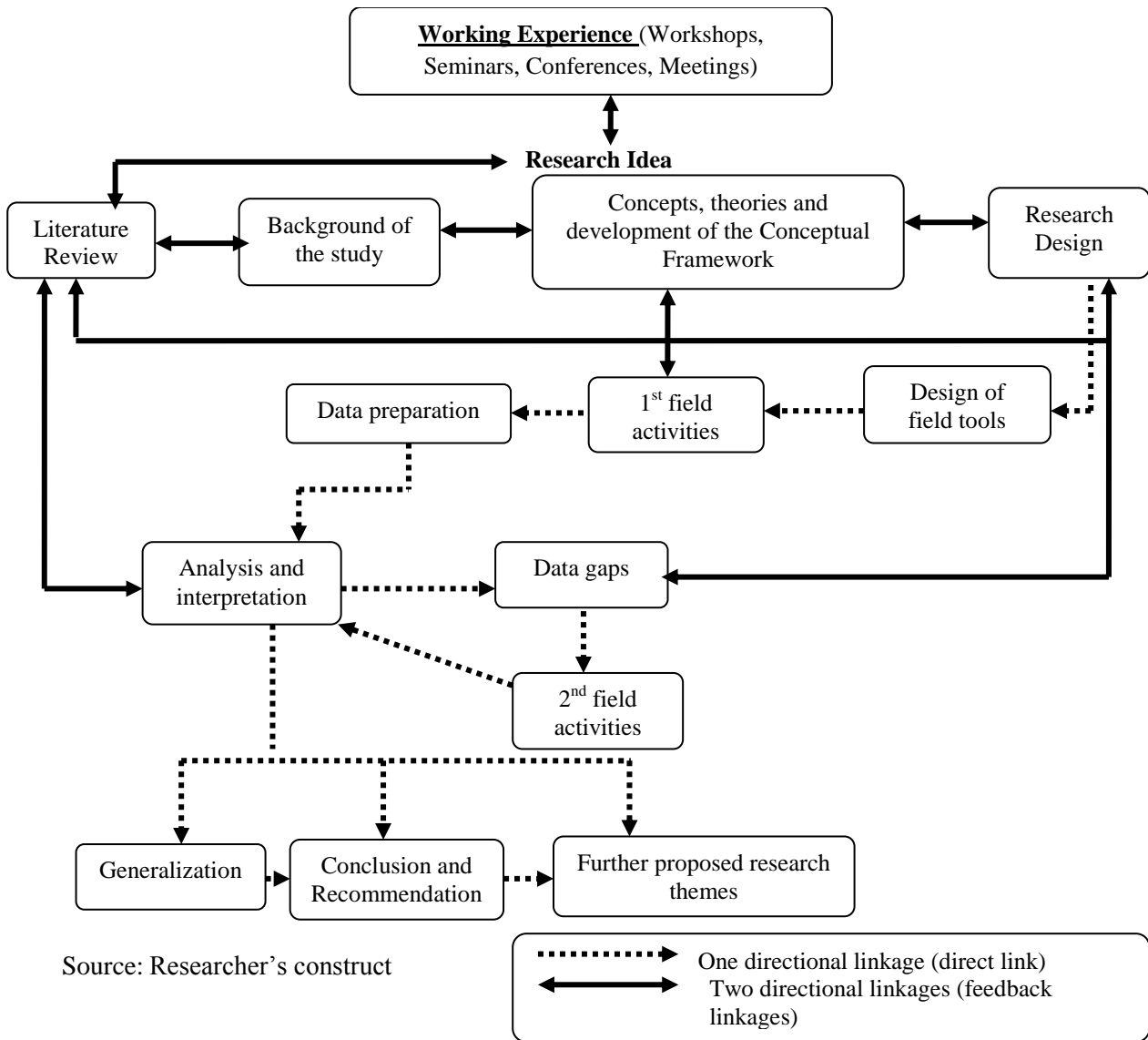
Specific Research Question: 1. What prompted the formation, the evolution of these organizations and structured their operational scope and networking relationships?					
Operational Research Question(s)	Variable/ Data	Field method used	Tool used	Type of data	Source of data
1.1 What guided the formation of CBOs and what facilitated their operations?	Operational structures, CBOs Constitutions Resources	Expert Interviews, Key Informant and in-depth interviews	Semi-structured interview guide	Qualitative data	CBOs DSWF Community Opinion Leaders
1.2 What necessitated their operations into Water and Sanitation infrastructure delivery in rural communities?	Base line data Organizational profiles	In-depth and Key Informant Interviews Review of laws, regulations	Semi-structured interview guide		CBOs DA(s), RPCU CONWAS
1.3 What is/are the working relationship(s) between these organizations and other civil society organizations and also with that of governmental organization in infrastructure service delivery?	Cooperating mechanisms Institutional analysis	Mailed questionnaire Key Informant interviews	Structured questionnaire Semi-structured interview guide		CBOs NGOs DAs RPCU CWSA
2. How has the existence of these organizations contributed to infrastructural development and the provision of basic needs to rural communities?					
2.1 What type of Water and Sanitation infrastructure services are provided by these organizations in these communities?	Facility types	Guided walk in selected 6 communities Observation Key Informant Interviews Facility Mapping	Observation guide Semi-structured interview guide	Qualitative data	Case Communities CWSA DAs NNGOs INGOs
2.2 What processes are followed before these infrastructure projects are implemented?	Planning and implementation process (Project Cycle)	Key Informant Interviews and In-depth interviews	Semi-structured interview guide		RPCU DAs CBOs
2.3 How have the provisions of these facilities aided in access of households to facilities	Water and Sanitation statistical data Household data	Key Informant Interviews Household Survey Observations	Semi-structured interview guide and structured questionnaire		CBOs CWSA Community leaders
2.4 How has these organizations worked towards the sustainability of their projects and	Sustainability Plans Monitoring and Evaluation plans	Desk study			CBOs WATSAN Committees

programmes?					
How have the provisions of these infrastructural facilities contributed in addressing persistent poverty in these communities and in addressing the MDG target on Water and Sanitation?					
3.1 How different are communities with access to improved water and sanitation facilities from communities without access to improved water and sanitation facilities in terms of access to the facilities	Facility inventory analysis	Guided walk Mapping Observation	Observation guide		Case Communities CBOs NGOs
3.2 How different are communities with access to improved water and sanitation facilities from communities without access to improved water and sanitation facilities in terms of some socio-economic indicators?	Poverty analysis with respect to access to water and sanitation	Household Survey	structured questionnaire		Case Communities
3.3 What lessons are there to be learnt from their existence?	Impact analysis	Household Survey In-depth interviews		Quantitative data	Case Communities

5.11 The Entire Research Process

The study process is a systematic description of how the study was conducted from the beginning (conceptualization) to the end (involving all research approaches, justification for chosen the research strategy, methods, choice of unit of inquiry and analysis, techniques of data collection and management, findings and recommendation to the thesis report). The research process is divided into three main phases (see figure 5.6).

Figure 5.6: The Research Process



The first phase presents how the research idea and problem commenced. The idea initially emerged from working experience in the field of Water, Sanitation and Hygiene at TaMA and other districts in the region. In 2010, TaMA prepared a WASH Plan for 2010-2014 plan period. At the time, I was working at the MPCU as an Assistant Planning Officer and was actively involved in all the processes leading to the preparation of this plan. After series of workshops, seminars and strategic planning of the Metropolitan WASH plan 2010-2014, many questions emerged in this sector with regards to access to improved WaS infrastructural facilities and services in the metropolis.

This aroused my interest to a desk study on the phenomenon. A brief literature was then conducted into the research problem. Subsequent meetings, workshops, seminars, and conferences which I attended on the same issue coupled with additional literature opened up the issues for investigation. After intensive literature, the study topic then became clearer

with a personal interaction and intuition, narrowing down to the contribution of CBOs in WaS sector in Northern Region.

With more and more comprehensive literature reviews, the background of the study, the problem statement then unwrap the whole study with the development of a first summarized proposal of the work. The proposal then served as a guide to: what is to be done in the subsequent phases of the study. Additional concepts and theories were also reviewed. High considerations of these theories were Basic Human Needs and Regional Regional Development theories. These were considered because of their links to rural poverty reduction. The next stage of the study moved further into intensive archival and desk study research. This exercise offered me the opportunity to re-organize the study with a firm control of conceptualizing the whole study with the aid of theoretical intuitions.

Ideas gathered from the PhD semester colloquiums further added in-depth and valuable contributions at this stage in shaping the problem statement and the research questions. As these issues became clearer, the conceptual framework (presented in figure 4.3 in chapter four) which serves as the focal point linking the research topic, the problem statement, research questions, theories, and the methodology opened another stage for me to focus on the basic issues of the study. The conceptualization of the study framework then led to profundity of the research design.

This phase ended with the selection of appropriate research strategy that led to field investigations on the issues raised by way of research questions. After researching on plausible research strategies which would facilitate the investigation process, field tools were designed for data collection in the study region. It must be stated here that the process was a forward backward approach with these stages relying on each other for feedback.

As part of the contribution of Volkswagen Stiftung toward enriching PhD research in Africa, Volkswagen Stiftung sponsored workshop was organised by “Partner Institutions”⁹ for PhD candidates in Arusha, Tanzania in 2012. I was a participant and made various presentations of my work to the resource persons and my colleagues attending this workshop. Again, valuable contributions helped to shape the entire study.

Returning from Arusha, Tanzania where experts contributed to shape the entire research exercise, additional literature reviews were conducted. This also accorded me in-depth insights into the phenomenon of water, sanitation and hygiene provision in a more general and wide range of inter sectoral perspective within different geographical settings thereby establishing at this stage:

- ❖ the connection of the research problem in terms of the research design and the hypotheses;
- ❖ the research design and criteria for selecting cases for the study; appropriate data collection methods and specific tools; and strategic planning for fieldwork that was under way. This also took into consideration how to effectively manage resources of the entire field work period. All these were then inputted into the field activities at the time in Northern Region, Ghana.

The last stage commenced with post field activities. The third phase started to analyse data collected from the field. During the analysis phase, data gaps were again identified. I returned to the research design and did a revision on literature. After this, tools for 2nd field activities

⁹ Partner institutions are Universities that partner with the Planning Department of the University of Dortmund on the SPRING Programme. These are Kwame Nkrumah University of Science and Technology (KNUST) Kumasi, Ardhi University, Tanzania and Technical University, Dortmund Germany.

were developed. The completion of the 2nd field work therefore provided ample data to complete the entire report.

One of the issues of this study was not just a down movement procedure, but a forward backward process where at different phases; there was backward movement of the process. As can be seen in figure 5.4, the arrows are illustrating this forward and backward process during the entire study. The arrows are into two categories of: one directional and two directional linkages.

What this means is that, with the one directional, the activities were sequentially followed while two directional were providing feedback to each other. The direct link seeks to explain which activity had an immediate influence on that activity. For instance, during the field exercise, new ideas emerged, and the immediate activity to seek redress was to return to review literature on these concepts. These linkages moved to the end where generalizations, conclusions, recommendations as well as future research themes emerged.

Second Phase

5.12 Data Processing

The primary data that was collected in the field went through processes that made these data credible and reliable for use. For the quantitative data, I cleaned the data by editing all questionnaire received from field workers. Questions that were not answered were highlighted and I made follow ups to households for additional responses. For instance, follow ups were made to “Abdulaiyili”¹⁰ the 12th household sampled in Wambong. All household members were not around during the first survey except 3 children. The second visit on a Friday met the household head who did not go to the farm because of Friday prayers in the Mosque. In the qualitative interviews, transcriptions were made with the aid of “f4” computer software programme. All these transcribed interviews were neatly label and stored in folders. Immediately following this exercise was coding of the interviews and that of household questionnaires. Codes were assigned and the data was ready to be entered into computer software programmes.

5.12.1 Computer Software Programmes

The household data were entered into “epidata” a computer software programme. In the first place, a template was designed that captured all the questions in the survey. Numerical values were assigned to the codes in each question. These were then entered onto a template. This programme accorded me an opportunity to check, correct all mistakes before exporting the entry sheet onto “Stata” another statistical software programme that aided in most of the statistical calculations and analysis. During field work, field notes, memos were written in “Mindjet Mind Manager” another software programme. This programme accorded me the opportunity to write field notes, memos and schedules on the field. An Excel sheet was also designed and data from “epidata” sheet was exported to. The Excel sheet basically helped in developing charts and figures from the household survey data while “stata aided in calculating chi-square values and that of cross tabulations.

¹⁰ Yili is the name given to household in Dagbane. Abdulaiyili means the household of Abdulai in Wambong.

5.13 Data Management

Data management was one of the crucial components of the data collection phase. This is because data management and data analysis are integrally related (Miles and Huberman, 1994: 45). This was also partly due to the fact that volumes of data ranging from interviews, questionnaires, observation notes, and secondary data among others were collected. It was prudent on my part to store all these data for easy retrieval during the analysis phase. Data were primarily stored in computer software programmes and copies stored in different mediums. For the secondary data, files were created and labeled where hard copies of institutional data were stored for easy reference.

Second Field Activities

During analysis, it became apparent that data was scanty on some issues involving the cases. For instance, the first field activities did not collate data on specific projects and the phases of implementing these projects. Aside, data were also lacking in individual community facilities on the issues of functionality, coverage, reliability among others. On the basis of these and others, data collection tools were designed for a second field trip to Ghana.

This lasted a period of 3 months. The following were the activities during the second field work summarized in table 5.6.

Table 5.6: Second Data Collected

Research Question: What process are followed for the implementation of projects and programmes			
Type of data	Source of data	Field method	Research tool
Qualitative	NewEnergy and CLIP	Interviews	Interview guide
An assessment of the facilities in the communities on: functionality, coverage, reliability, distance to facilities			
Qualitative	Communities, CWSA, some selected households in Wambong and Nyoglu	Interviews, observation and community meetings	Interview guide
Service providers and sustainability of facilities in the communities			
Qualitative	DAs, WATSANs and CWSA	Interviews	Interview guide

Source: Researcher's construct based on field activities, 2013-14

As can be seen in table 5.6, the second field activities were basically to address three data gaps identified during analysis in Germany. The type of data collected at this phase was qualitative and the sources of data came from NewEnergy, CLIP, CWSA, DAs, WATSANs and the communities. The methods employed during this phase were basically interviews but there was one community meeting in Nyoglu. A summary of activities during this phase are presented in table 5.7

Table 5.7: Summary of Second Data Collected

Number of interviews	Organization	Community meetings	Secondary documents
2	CWSA	1 in Nyoglu	Statistics of water projects (CWSA, Tamale)
1	NewEnergy		
1	CLIP		
1	WATSAN Member, Nyoglu		
1	WSTL, GCDA		

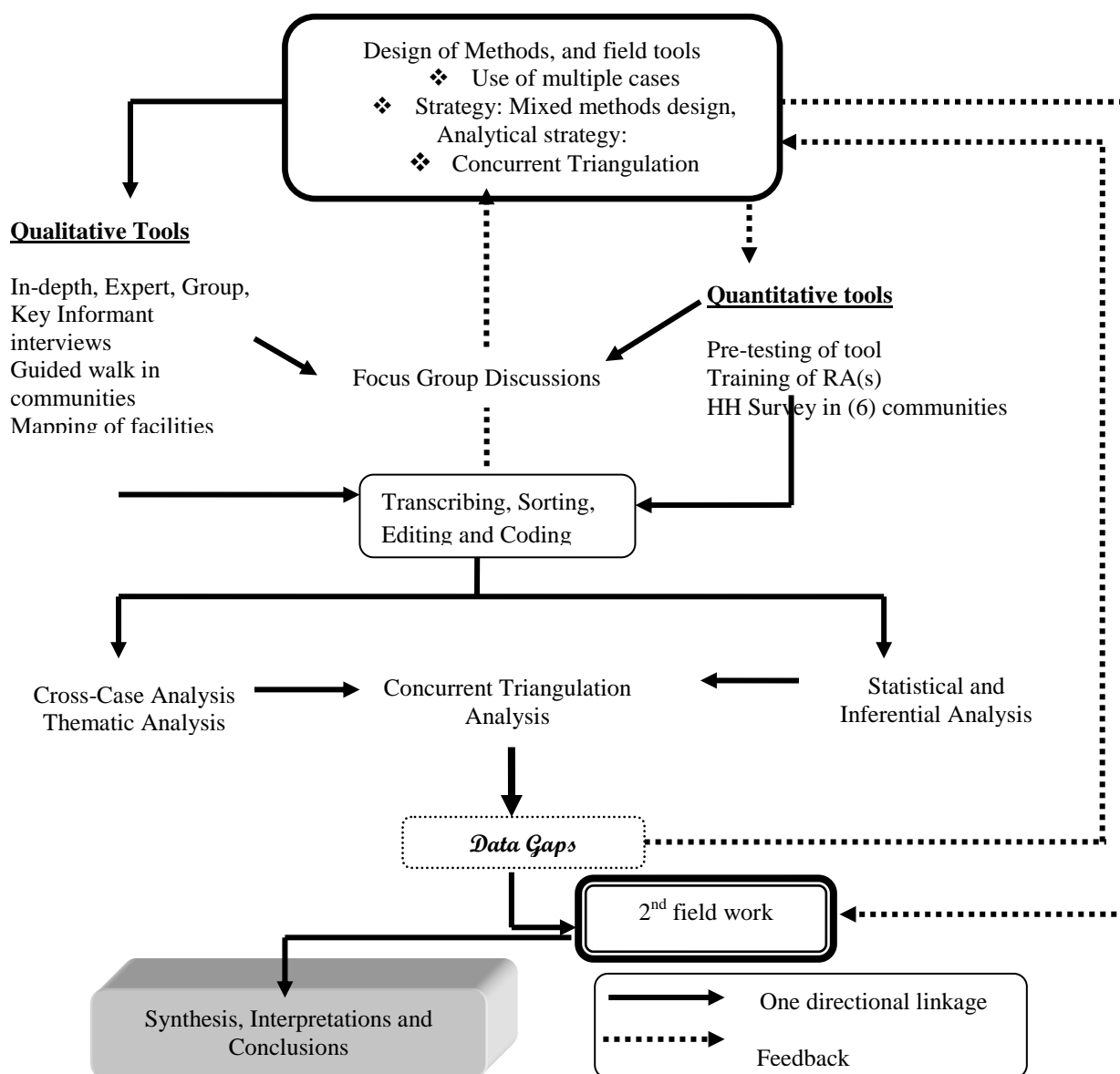
Source: Researcher's construct from field activities, 2013-14

As shown in table 5.7, there were a total of 6 interviews conducted. Two of these interviews were in Danbgane and were first translated from Dangbane into English and from English to words. One community meeting was held in Nyoglu to discuss issues of facility management before the inception of Community Water and Sanitation Agency. These were incorporated into the analysis of the final report.

5.14 Analytical Process

The analytical process set the stage for me to actually display the data collected as well as work towards drawing conclusions on this study. Most of the analysis that was carried out was mostly thematic, cross case and concurrent triangulations analysis. The analytical process is discussed in figure 5.7.

Figure 5.7: An Analytical Framework for Triangulation



Source: Researcher's construct

The Analytical frame depicted in figure 5.7 seeks to highlight how the processes of primary data collected were analysed and for generalizations, recommendations and conclusions to be drawn. The process started with the design of methods and field tools for data collection in the study region. I employed and used the Mixed Method Research strategy because this was a method that enhanced data collection from different sources. The data collected from this method was used to enrich the analysis process and gave a wider room to address the research questions.

Based on this strategy, I started data collection by using qualitative data tools such as semi structured interview guides presented on the right hand corner of figure 5.7. A set of expert, in-depth and key informant interviews were conducted. These were carried out to explore in-depth the issues with professionals and personnel who deal directly with these issues at the grassroots level. After the first phase of data collected, transcriptions were quickly made. The transcribed data were sorted and thematic codes assigned to the data. This stage enabled me to again re-visit the field tools and to make additions as well as subtractions especially to the quantitative tools (household survey questionnaire). The logical flow also facilitated the preparation for the second phase of quantitative data collection.

The quantitative stage, however, came with series of activities. For instance, pre-testing of the quantitative questionnaire was carried out in one community in the Upper East region. After pre-testing the tool, additional revisions were made. This was followed by recruiting and training of research assistants. It was when the Research Assistants were trained, that the final household survey was conducted in 6 sampled communities in 3 districts in the region. After the completion of the quantitative data tool, I again went to the qualitative side to conduct 1 Focus Group Discussion. This according to figure 5.7 was separate from the earlier activities under qualitative tools. With the completion of these phases of data collection, a desk work was carried out to finalize the process of transcribing, sorting, coding, editing and organizing of field documents and data.

The next level set the stage for the presentation of cases, cross cases and thematic analysis. These were done concurrently with statistical and inferential analysis. The two methods, therefore, enhanced the concurrent triangulation process. During this stage, data gaps were again identified with respect to the data analyzed and the research questions asked. I went back to design field tools for the second phase of field work. The second field work was conducted from January to March, 2014. After this stage, the second data were analyzed together with the first analysis; making room for synthesis, interpretations and conclusions.

5.15 Concurrent Triangulation Analysis

As shown in figure 5.7, a concurrent triangulation analysis was used to confirm, disconfirm or either cross-validate and corroborate data from two databases (QUAL and QUAN). In this strategy, both qualitative and quantitative data were used concurrently in the analysis in chapters 6-8. According to (Creswell, 2009: 213) this side-by-side integration is often seen in published mixed methods studies in which a discussion section first provides quantitative statistical results followed by qualitative quotes that support or disconfirm the quantitative results. There were two separate databases in this study. The qualitative data were mostly interviews and an institutional questionnaire. The quantitative data was from observations and a survey. In this study, I presented first, quantitative data, confirmed or disconfirmed the quantitative data with qualitative data. This strategy provided well-validated and substantiated findings in the study. Though the strategy required greater effort and expertise to adequately study a phenomenon with two separate methods (Creswell, 2009), results from the two databases were convincing. For example, the chi square analysis from “stata”

database revealed a relationship between access to potable water and health hazards. This was however, weak. The data from interviews and discussions in the communities confirmed the results of the chi square (χ^2). Similarly findings emerged from interviews and observations.

5.16 Conclusion and Limitation of the Study

In this section, attempts are made to present details of the methods applied in this study. The type of research employed; the type of data, the methods and tools used to collect the data, the sampling procedures as well as the analytical framework of the study have been elaborated. There were however limitation(s) in this study. The study is limited to the extent that there was lack of baseline data and periodic data to enable me compare the before and after and also conduct trends over time. For instance, baseline data would have been used to compare to determine whether there is convergence, differences or some combination with field data. This was however, not available in the region.

Chapter 6: Structural Arrangements of CBOs in the WaS Sector and their Linkages with Other Actors

In chapter 5, I discussed the research design and methods that were employed to empirically investigate the research questions in chapter 4. In this chapter, I describe the outcomes of the data-gathered. The data collected were analyzed in relationship to the overarching general research question asked in this study:

What prompted the formation, the evolution of CBOs and how are their operational scope and networking relationships structured? Inherent to this question is the assumption that CBOs are formed to amass wealth for themselves (stakeholders) through organized groups. This is because of the proliferation of these organizations formed on daily bases. Meanwhile, (Kettl, 2002) admonishes that new processes and institutions often NGOs have become more central to public policy. Willis (2010) affirmed that these organizations augment in the provision of basic needs as well as hunt to fight poverty in rural communities for which, state institutions have done little on. Nonetheless, the notion of proliferation suggests either flexibility in the formation processes and/or ardent conditions of these organizations to support rural communities.

The notion is further explored in these operational questions on more specific grounds of:

What guided their formation; necessitated their operations and what is/are their working relationship(s) with other civil society organizations?

In-depth and key informant interviews were applied to investigate these questions. Interview guides were designed to solicit views on how these organizations are formed. These were to address operational questions to ascertain how these organizations are formed, and how they operated in the WaS sector in the region. The component of this chapter encompasses formation issues, specific case profiles, their programmes and working mechanisms.

6.1 Rural Settlement Pattern and Basic Needs Provision

Almost all rural areas in Ghana are challenged with access to basic human needs (BHNs). This situation emanates partly from the settlement pattern. For instance, a larger percent of the inhabitants of rural communities in the country are farmers. A farmer who is in need of fertile land to farm after exhausting the fertile grounds in his/her neighbourhood moves from his immediate community to a distant bush to farm.

This is because fresh fertile lands would result in high yield and productivity. In the process of his farming activities which are far from his original home; such persons make sheds with wood or branches from trees in the new farm. He starts to sleep in this newly constructed shed. He starts looking for water in nearby surroundings probably from a stream or river. Weeks or months later, this farmer brings the family to live with him and assist in farming activities. When good yields are recorded, the practice would continue and this shed would be expanded with more sheds. When news get to other farmers, more would migrate to join him and his family and a community is formed. A name is given to this community and human activities would begin in this area that was once a bush or forest. This is the reality of how most rural settlements start in Ghana.

As these people settle and start building or constructing their sheds and houses, their source of water may be a distant river or stream or a dugout constructed by households and/or community members. On the part of sanitation, due to the vastness of the bush, household

sanitary facilities may not be part of the struggle. As time passes by and this newly settlement begins to have problems especially in WaS borne diseases, the attention of city authorities are drawn into the picture. Government now starts to plan and make all the efforts to provide this community with water, sanitation, roads, electricity, market centers and the list is seemingly endless. The ability of central government to be able to provide this community with these basic needs depends also on the availability of national resources which are not readily available and for which planning was not done. Another observation is that communities of this nature are unable to meet their tax obligations one of the sources of revenue for central government probably because of the type of occupation of this group of people.

While the struggle is on to provide these needs to the newly formed community without layout plans, attention of their predicament is raised by the media and/or civil society organizations. Active members in the community start looking for means to solve their basic needs problems. The idea of forming what is termed advocacy groups is also raised.

Active members in the community mobilize resources together to get the legal documentation to start local organizations that would assist in solving some if not all the community needs. The descriptions below provide details of the legal processes involved in setting up organizations under this category. The descriptions are based on meetings and interviews with the Director, Department of Social Welfare (DSW) and the leadership of the cases in the region.

6.2 Legislative Instruments Guiding the Operations of CBOs

In Ghana, legislative instruments (LIs) play a key role in the formation of most institutions and organizations. These LIs guide the operations and working arrangements of these entities. Another component is to ensure compliance with the law(s). In an interview with the CEO of NewEnergy, Tamale, he illustrated systematically how the procedure works with the setting up of CBOs or local NGOs.

In the case of CBOs or local NGOs, the company's code 1963 Act 179 guides the formation of organizations under this category. The registration process is done at the Registrar General's Department (RGD) where every region now has an office. What it means to be established under this law is that; your organization is limited by guarantee. This simply means that your organization is entitled to make profits or even surpluses in your operations but you are not allowed or permitted by law to distribute especially profits among your shareholders. The profit(s) or surplus you make can only be plough back into the business. This is because your organization, outfit or establishment was found under what they refer to as social and humanitarian services reasons. In this case, one can therefore, not make a surplus or profit and divide it to the shareholders. What you can do is to put profits realized back into the organization. (Thomas Sayibu Imoro, NewEnergy Tamale, July 9, 2012).

These were the remarks explaining the working guidelines of Act 179. He also mentioned other requirements of this code to be:

- ❖ Active Board members who will work to direct activities of the organization
- ❖ Evidence of resources (human and financial) to run the organization
- ❖ Signatories to the accounts of the organization

From this narration, it was obvious that the company's code 1963 Act 179 is the major legal document guiding the formation of CBOs or local NGOs in the country. However, there were other formation guidelines discussed.

In a brief discussion with an officer at the Registrar General’s Department, Tamale when I went to purchase the form, the form was silent on the source of funding for an organization’s activities. The officer stated that the Act does not deal with how an organization sources its funds but Audit reports from organizations outline the financial sources.

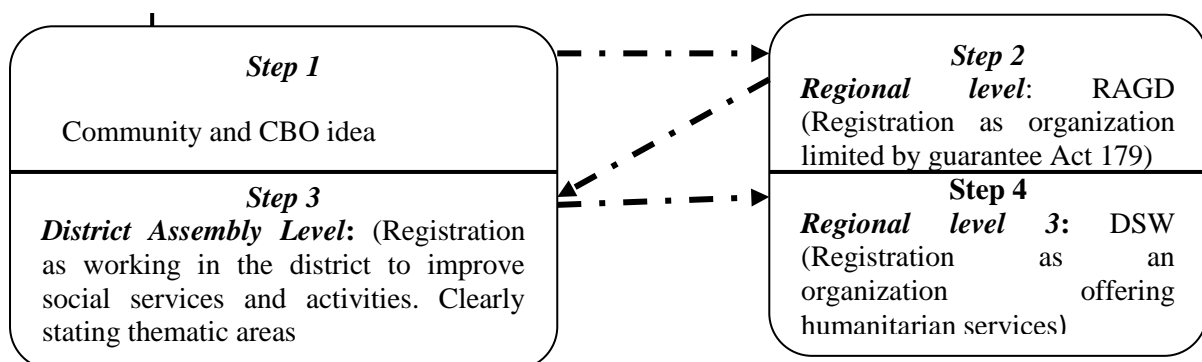
6.2.1 Formation Guidelines

The legislative instrument is not the only document which is needed before a CBO or local NGO is formed. Other documents such as recommendation letters and certificates from Department of Social Welfare (DSW) are required. A meeting with the Regional Director, Department of Social Welfare, Tamale explained the basic requirements and procedures. In his submissions, Department of Social Welfare gives NGOs or CBOs certificates of recognition authorizing them to operate. In this document the Department of Social Welfare “declares that the name of the organization offers selfless services to humanity” (John Ankrah, DSW Tamale, October 15, 2012). The department gives the certificate to the named CBO after the organization has met the following requirements.

- ❖ Has registered with RGD under the company’s code 1996 Act 179
- ❖ Has a letter of recommendation from District Assemblies where the organization would operate
- ❖ Present a profile of the organization
- ❖ A form bought from DSW at a cost of Gh C 30 (2012) filled and returned
- ❖ Submit a report of their activities

When all these requirements are met and the Department of Social Welfare is satisfied with all the documents, a district officer of DSW is sent to conduct investigation on the activities of the organization. This is to assist in subsequent annual approvals and renewals of the organization’s activities. For instance, in order to renew an organization’s activities, CBOs are expected to report on their activities to the Department of Social Welfare annually. Below is a graphical presentation of the formation linkages of these organizations and that of governmental institutions.

Figure 6.1: Formation Linkages between CBOs and Governmental Institutions



Source: Researcher’s construct from field data, 2012

Figure 6.1 attempts a simple explanation of the linkages between the regulatory bodies that register CBOs in the country. The formation process basically takes three (3) levels illustrated in figure 6.1. In the case of CBOs, they are formed and organised at the community level. That is where the ideas and intentions emerge. Active groups take the decision to form humanitarian organizations. They do this by first going to the regional level to purchase Act

179 at the Registrar General's Department (RGD). This is clearly indicated with the arrow in figure 6.1. The forms are filled and returned. All relevant signatories' are required to sign the completed forms. From the regional level the forms are forwarded to headquarters (Accra) for the necessary approvals. The documentation at this level takes close to three (3) weeks.

After approval from Accra, the authorized documents are returned to the regional office where the officers are called to receive their documents. From this level, officers move to the District Assemblies (DAs) with the authorized documents to register. DAs also make their assessments and present recommendation letters to the organization. This is an attestation that they have registered with the RGD. After this, a final registration is done at the Department of Social Welfare. Here, forms are also bought, filled and copies of approval documents from the Registrar General's Department and that of the DAs are attached to the forms for the Department of Social Welfare. From this level, the organization can now start to operate.

Based on these narrations from the Director, Department of Social Welfare on the issues of registration and setting up of CBOs, response to the question as to whether it is difficult to register a local NGO attracted a positive response from interviewees.

The process used to be bureaucratic but with the setting up of RGD at the regional level, the process is much faster than it used to be. There are still challenges with regards to follow up for documents at every level but the system of registration is now faster (Programme Coordinator, CLIP Tamale, July 20, 2012).

From this response from the Programme Coordinator CLIP, Tamale, it was evident that the registration process under this category of organizations in the country is less bureaucratic. This could be as a result of decentralization of most of the governmental institutions in-charge of the

registration procedures of these organizations in the country. This could probably be the reason for the proliferation of these organizations in the region however, it was not ascertained whether this was the reason for the flourishing activities of these organizations. Nonetheless, it was observed that the charges for the start up of these organizations were very low. For instance, the (form) was sold at Gh ¢ 5.00 in 2012, Gh ¢ 30.00 for the forms at DSW and the registration at the DAs is between Gh¢ 50 to Gh¢ 100 depending of a specific fee fixing resolution of the assembly. From the calculations, it takes between Gh ¢ 180 -250 an equivalent of less than € 50 (Euros) August, 2014 exchange rate to register a CBO in Ghana. It is evident from this that, it is relatively cheaper to get a local NGO formed. It could not be determined whether this was a contributory factor but this could be one of the reasons.

6.3 CBOs Structure in Ghana

Every CBO registered under LI (Company Code Act 1996 Act 179) has a structure. The organization has at its top an Executive Council (EC) stipulated by the Act. Under the Act, the Executive Council are the owners of the organization. They are those who are held responsible if law(s) are violated.

The Director, Department of Social Welfare explained that every CBO has this structure once the organization has registered under this Act. Others include management team members, a structural working area or office where administrative work is done. This enables bodies such as the DSW to conduct monitoring exercises.

From these descriptions on the procedures and guidelines in setting up CBOs, this part attempts a presentation of the profiles of each case (NewEnergy and CLIP) and how administrative and decision making processes are carried out in an attempt to implement WaS

infrastructural services in communities. The analyses here are based on data collected from both the case CBOs and some NGOs.

6.4 Case 1: NewEnergy

NewEnergy is one of the active CBOs in the Northern Region (NR). NewEnergy started its operations in 1994 in few districts. The West Mamprusi district is one of such districts that NewEnergy operated in. Today, NewEnergy has grown and has expanded its operations and activities to more than half of the 24 districts (see appendix 7) on Northern Region. It is a registered organization under “the Companies Code”, 1963 (Act 179). This organization has satisfied its legal status by registering with Department of Social Welfare to operate as a Non-governmental organization (NGO).

From the organizational brochure obtained from the office of the organization, it stated that “NewEnergy helps to a large extent to deal with problems confronting communities that are relatively deprived in meeting their basic needs requirements”. This illustration in the brochure is backed by the vision and mission statements. The vision of the organization is that of:

“having an environment of socioeconomic prosperity where all people will live in dignity”. And the mission as: “we cannot accomplish anything by ourselves but working together with communities and other relevant stakeholders especially governmental and non-governmental so that we will be able to address social infrastructure and other services for the deprived communities.

Revisiting issues in the brochure regarding the vision and mission statements of the organization, the CEO indicate that “all activities of the organization are non-profit in nature”. We implement projects that would meet the needs of communities. When we make profits, we plough this back into our operations. The organization abides by the guidelines of other institutions especially Act 564 establishing Community Water and Sanitation Agency (CWSA). Our programmes are demand-driven. There was a strong acknowledgement that these projects are also in partnership with donors and other sister organizations. This response was also in the same fashion with responses from the international NGOs that recognizes the importance of partnership arrangements in project implementation. Exerts of partnership arrangements is presented on p. 147.

6.4.1 Organizational Structure of NewEnergy

Riddell and Robinson (1995) in their book “*Non-Governmental Organizations and Rural Poverty Alleviation*” used a range of characteristics to depict the structure of NGOs globally. Assessing the characteristics by (Riddell and Robinson, 1995) discussed in details in chapter 4, it became clearer that NewEnergy has a structure defined in terms of the size, activities and operational procedures.

From the interviews with the CEO of the organization, NewEnergy operates an executive type structure. The organization is small in nature working closely with 20 permanent staff. NewEnergy however, works with artisans and technocrats who are not permanent staff.

Breaking the structure down, NewEnergy has at its top the Executive Council (EC) as the body at the helm of affairs. This body is equivalent to what is known in private profit making organizations as Board of Directors (BoD). The Executive Council has 6 members which superintend over the policy direction of the organization. Next to the Executive

Council is the management team which is in-charge of management related issues. The narration has it that, the Executive Council is at the top and a Chief Executive Officer (CEO) position follows this council. The CEO reports to the Executive Council and sits at the board as its secretary. There is a senior management team which is made up of four (4) people, that is the Chief Executive Officer, and three (3) directors or managers. The (senior management team) meets weekly to evaluate the activities of the organization. Aside the senior management team is another management team which is made up of 9 people. This team is mostly involved in project works of the organization. The following narrations are presented in figure 6.2.

Figure 6.2: Organizational Structure of NewEnergy

<u>Staff Structure</u>	<u>Composition</u>	<u>Functions</u>
Executive Council	6 member council	Policy direction of the organization
Chief Executive Officer	One (1) Person at a time	Liaison role(s)
Senior Management Team	Four (4) Members The CEO and 3 Directors	General Managerial duties
Management Team 2	Nine (9) Members Mostly Programme Officers	Direct Project Planning and Implementation
Lower level officers	No definite number	Secretariat and Security Services

Source: Researcher's construct from field data from NewEnergy 2012

As can be seen in figure 6.2, NewEnergy aside working with a lean staff also has 2 management teams. Explaining the rationale for 2 management teams, the CEO Mr. Thomas Sayibu Imoro indicated that the second management team deals directly with project implementation whereas the senior management team attends to other issues other than just project implementation. For instance, he explained that the senior management team could engage in partnership arrangements while, management team 2 members would not.

6.4.2 Operational areas

Taking an inventory into the operational areas of NewEnergy, the CEO elaborated that their organization seeks to promote and enhance innovative programmes implementation in the region, and by so doing, works in three (3) board thematic areas. These he stated as:

1. Water, Sanitation and Hygiene which implies (WASH)

2. Energy and the Environment and
3. Sustainable Livelihood

WASH thematic area is one area that the organization has greatest competence and also the longest history in. This is because the organization started in this area since its establishment in 1995. In this area, NewEnergy has implemented a number of projects especially with her partners. NewEnergy has effective and efficient partners in WASH sector. Notably among these, are UNICEF and WaterAid. Under WASH, Ghana government came up with National Community Water and Sanitation Programme (NCWSP) in 1995. At the time, Northern Region (NR) happened to be a beneficiary of this programme which was also an Irrigation Development Agency sponsored project. West Mamprusi district where NewEnergy started operations in WaS, was then a beneficiary and the organization worked intensively under this project with other partners and stakeholders (Thomas Sayibu Imoro, NewEnergy Tamale, July 9, 2012)

He however, explained in details what the following themes seek to achieve.

Moving to Energy and the Environment, the CEO stated that the organization is working in the 3 Northern Regions

namely, Upper East (UE), Upper West (UW) and Northern Region because they are one of the few local NGOs or CBO that tries to address energy issues directly. The emphasis here is on the utilization of solar energy an area that has received wider publicity of late. He further explained that:

WASH, energy and the environment seek to support the livelihood efforts in rural communities. This is because most of the communities in this part of the world do not live in compartments. They live in a sort of competed way, in that, communities where women want to engage in agro- processing would need water. For instance, if women are engaged in Shea butter extraction or rice parboiling, they would need a lot of water. So, WASH programmes in any community in addition to drinking seek to provide for women water that would be used for processing. Again, agro-processing requires energy; a lot of fuel wood is also used in the 3 northern regions. Our energy intervention tries to help improve stoves that the women would use with less energy but for the same amount. By so doing, they would be increasing their profit margins (Thomas Sayibu Imoro, NewEnergy, Tamale, July 9, 2012).

This explanation from the CEO, NewEnergy's thematic areas corroborated with literature that suggested water linkages to other sectors. In this case, it is agro-processing. Majority of the women in the region are self employed in agro-business. They are into groundnut oil extraction, Shea butter processing, rice parboiling and 'neeri'¹¹ processing. These activities use large quantities of water. The thematic areas of NewEnergy, clearly illustrate the organization's zeal to address issues confronting rural communities. Notwithstanding, there was still deeper reasons why the organization settled on WASH as one of its themes.

6.4.3 Choice of Operational Areas

There are many reasons that compel individuals and organizations to narrow their area of operations in a particular direction. CBOs are smaller organizations with limited human and financial resources. Discussing further on why NewEnergy decided to work in the above

¹¹ Neeri is a local seed in the northern region. It is grown on a crippling plant and used to make soup and sauce. It is very nutritious and involves a lot of processing during the ending part of the dry season.

thematic areas, the CEO elaborated the contribution of WaS to economic growth. He explained that the organization's earlier thinking was on activities that would be recognized after implementation. This, they saw in the WaS sector. The other reason was that the organization among other things, also realized that they could not do everything all by themselves. The organization seeks to partner with others to achieve their goal(s). They were therefore, able to get more partners who shared in their vision in these themes. Lastly, he also explained that, resources play a key role and this organization depends to a large extent on partners. As more partners move in one direction, they (NewEnergy) also moved in the direction of their partners (CEO, NewEnergy, Tamale, July 9, 2012).

Further to these, the CEO explained that, WaS is an ingredient that attracts competent and qualified personnel into a working region or community. This is because people would like to know if they have good drinking water and water generally to use. At the time the organization started operating in the newly created district West Mamprusi District (WMD), the water situation called for immediate stakeholders' intervention. The reasons for operating in WaS by NewEnergy were however, different from the reason given by CLIP. CLIP's intervention in WaS, was basically to improve school enrollments in the region.

6.4.4 WASH under NewEnergy

From the insight of the I-WASH programme in general, NewEnergy actually started with the implementation of WASH facilities in the region during its inception but not as a means to eradicate Guinea Worm as presented by UNICEF. According to the Chief Executive Officer, NewEnergy, by focusing on this sector, "the organization's objective was to make significant contribution which would be noticed, appreciated, and recognized" (CEO, NewEnergy, Tamale, July 9, 2012). In the CEO's submission, WASH was such an intervention that would be noticed, appreciated and recognized because of the numerous challenges in the sector (both in the past and now).

The CEO highlighted a key issue that has to do with community participation in project management. The issue here is that "before communities would listen to one's intention, assist you in your quest for partnership, there is the need for one to address their basic and most pressing needs which was in WaS" (CEO, NewEnergy, Tamale, July 9, 2012). One cannot talk of the other two (2) thematic areas especially energy without water. Before the organization could talk about energy, there was the need for water to survive. So, the organization's choice to start with WaS, was not a misplaced priority.

The main programme objective is: WASH for an improved health in the communities. The main livelihood of these communities in the region is farming. Their health is very paramount to their activities. The CEO expressed that this programme was therefore, to ensure that communities have access to WASH infrastructural facilities and services. By doing this, the communities are able to utilize good quality water and improve sanitation practices in order to meet a good quality health. This, the organization believe would contribute to general income generating activities and livelihoods of the people.

6.4.5 Components of WASH under NewEnergy

Water

Describing the water facilities implemented by the organization, the CEO elaborated that hand dugout wells are the main water facility in the region. He further indicated that the organization has partnered to fund dam treated water where water from dams are treated and pumped into laid pipes channeled into the communities for distribution. This system however, requires a Water Board (WB). The main duty of the Water Board is to collect

money (tariffs) from the system. NewEnergy facilitates the training of these boards for effective and efficient water delivery.

Sanitation

In the area of sanitation, the CEO again explained that the organization used to implement physical sanitary facilities such as household and institutional latrines. With the introduction of Community Led Total Sanitation (CLTS) by other organizations like UNICEF, NewEnergy engages in this process of attitudinal change other than just the implementation of physical facilities.

Hygiene

This is a behavioural or attitudinal orientation to institutions and communities on the need for adhering to hygiene practices. This component includes the provision of hygiene facilities mainly for institutions such as schools. Details of the facilities are discussed in chapter 7.

6.5 Administrative and the Decision Making Processes in NewEnergy: How are the Processes Done and Who Does What?

As indicated in the introductory part of the chapter; explanations, illustrations and elaborations in this chapter are as a result of data gathered through in-depth and key informant interviews and other secondary documents obtained from NewEnergy. In this part of the chapter, I present an account of how administrative and decision making process especially with regards to WaS projects are carried out based on the data I collected in the field in addition to self interpretations of such data.

The administrative and decision making on projects in WaS theme at NewEnergy are in two directions. These are termed NE-Initiated Projects and Invited Projects. NE-Initiated Projects (NE-IP) are projects that the organization has under its working arrangements implemented in communities. With Invited Projects (IPs) the organization is called to partake in implementing one or two projects. The major difference between these two is that in NewEnergy-Initiated Projects, the organization takes full responsibility of the process whereas in Invited Projects some responsibilities are shared. Two projects namely the Ghana School Feeding Programme Enhancement Project (GEP) and Second Urban Environmental Sanitation Project (UESP II) are expatiated to highlight the difference.

NE-Initiated Project: Ghana School Feeding Programme Enhancement Project (GSFEP)

The Ghana School Feeding Programme Enhancement Project (GSFEP) was an entirely NewEnergy initiative. It is an institutional project implemented in the educational sector namely in basic schools where GSFEP were been implemented in 2008 in Northern Region. This project was initiated and implemented following the organization's participation in an inventory into the Ghana School Feeding Programme (GSFEP) in 2007. SNV invited NewEnergy to join her in conducting an inventory of WASH situation in Ghana School Feeding Programme Enhancement Project schools across Northern Region (NR). The exercise took place in 2007. During this exercise, the organization identified the lack of WASH facilities in schools and how this situation affects the GSFEP.

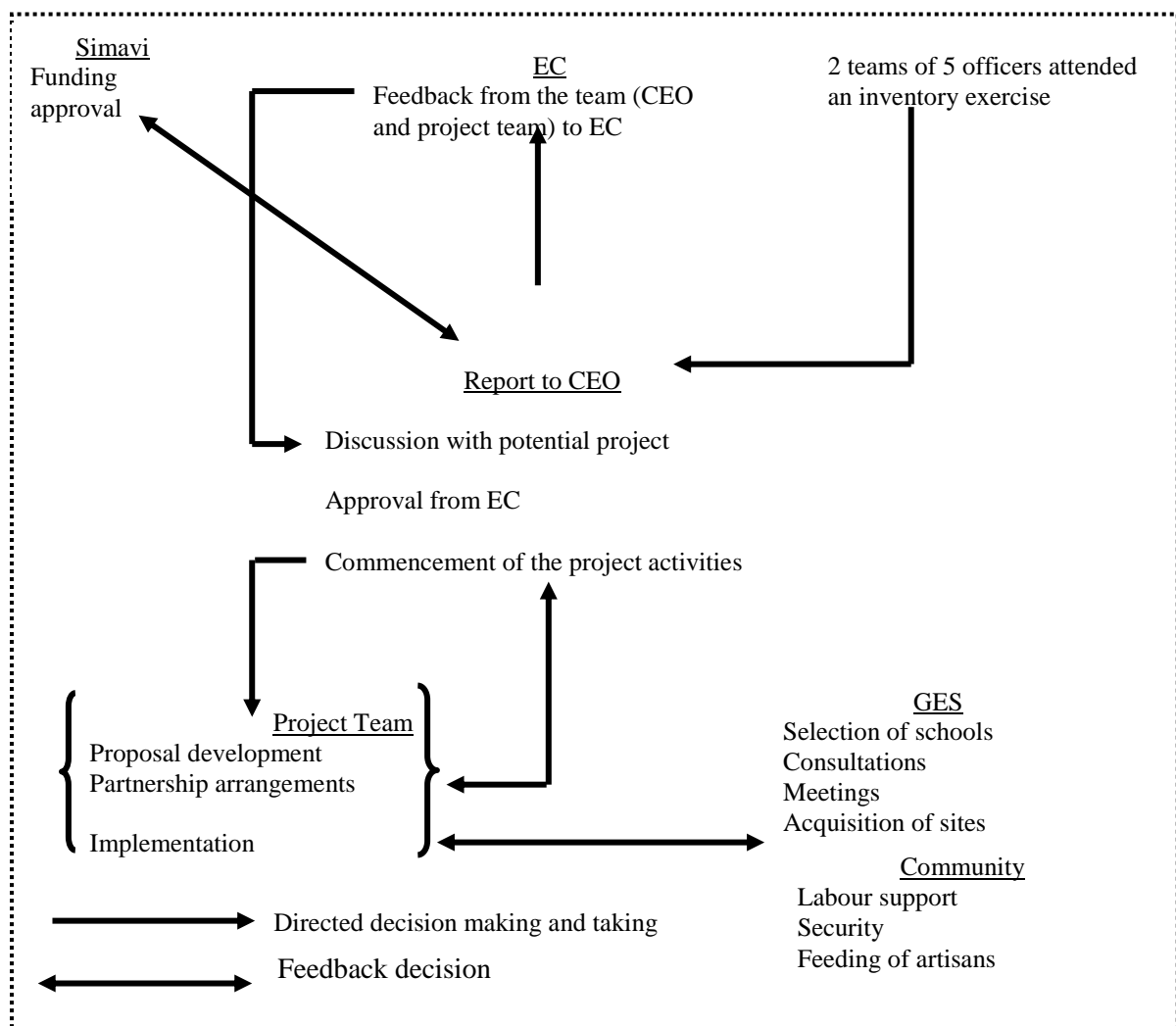
Based on this baseline exercise, NewEnergy designed a 2-year school WASH project to enhance the GSFEP. Ghana School Feeding Programme Enhancement Project therefore, came from this background. The funding for the project came from Simavi, a Dutch international NGO. The project was implemented in 11 districts across Northern Region,

delivering 31 Rainwater Harvesting Tanks, 1 Pipe Extension and 12 Institutional Latrines of varying seaters ranging from 2 to 8 depending on need. In addition, the project facilitated School Health Education Programmed (SHEP) in the participating schools. There was also the formation and training of SHEP Clubs in the process. This project followed a decision-making process regarding who does what in the organization's Organogram in figure 6.2.

Decision making process in Ghana School Feeding Programme Enhancement Project (GSFEP)

The decision making process in GSFEP implemented by NewEnergy followed the process depicted in figure 6.3.

Figure 6.3: Decision Making and Taking Process in the Ghana School Feeding Enhancement Project



Source: Research's construct based on field data 2012

The decision making and taking process in this project as explained by one of the Monitoring and Evaluation officers went this way. Two teams of about 5 persons were invited by SNV a partner International Non-Governmental Organization (INGO) in the region to schools

inventory exercise. After the exercise, a report was submitted to the Chief Executive Officer (CEO) as depicted in figure 6.3. The decision making process actually started with this report after the inventory exercise. The Chief Executive Officer after discussions with the project officers on the potentials of a project on WASH facilities for schools further submitted a report to the Executive Council. This council meets twice in a year. The Executive Council also deliberated on the project potentials and then gave approval to the project. The approval came back to the Project Team through the CEO.

However, the Project Team (PT) started other processes such as developing a funding proposal for the project. Among the funding proposal were also the partnership arrangements that were to be drawn, and partners sourced. Simavi was approached for funding. In the narration of the Monitoring and Evaluation Officer of NewEnergy, “it was in January 2008, that NewEnergy conceived the project idea and designed a draft project proposal in February. This was shared with Simavi and upon a back and forth discussion, the project was approved for work to commence on July 1, 2008”.

The approval came to the Chief Executive Officer who further passed the information to the Project Team and the Executive Council. While these processes were going on, Ghana Education Service (GES) was also approached because the implementation was in education institutions. The District Assemblies and GES were written to about the project. GES District Directors and their School Health Education Programme Coordinators were invited to an information sharing workshop in Tamale. Sensitization visits were paid to the respective schools.

As depicted in figure 6.3, the community also played a role in this project. During construction, the schools (communities) provided storage and security for the construction materials and equipment; accommodated and fed the construction artisans; and assisted with unskilled labour. This process is depicted by the arrows in figure 6.3. It took 6 months from conception to start of implementation of GSFEP.

Reporting phase: Reporting is very vital in every organization especially during project planning and implementation. This is because effective reporting supports stakeholder participation and involvement in all processes that are related to the project. Another factor is that good reporting enhances coordination of activities and dissemination of feedback to stakeholders. According to (Hill, 2008), enterprise reporting or management reporting facilitates the regular provision of information to decision-makers within an organization to support them in their work.

The reporting process in this project took a horizontal style with the CEO at the core and center of every activity. The Project Management Team and other officers reported and discussed interventions with the CEO who intended reported on developments to the EC. Feedbacks from the donor and partners went to the Executive Council where the CEO is a member of the council. Decisions taking at this level were disseminated through the CEO to the other officers working on the project. From this, it was evident that the CEO played a vital role in NewEnergy. This positions serves not only as a coordinator, but also as a liaison officer as indicated in figure 6.2

Invited Project (IP): Second Urban Environmental Sanitation Project (UESP II)

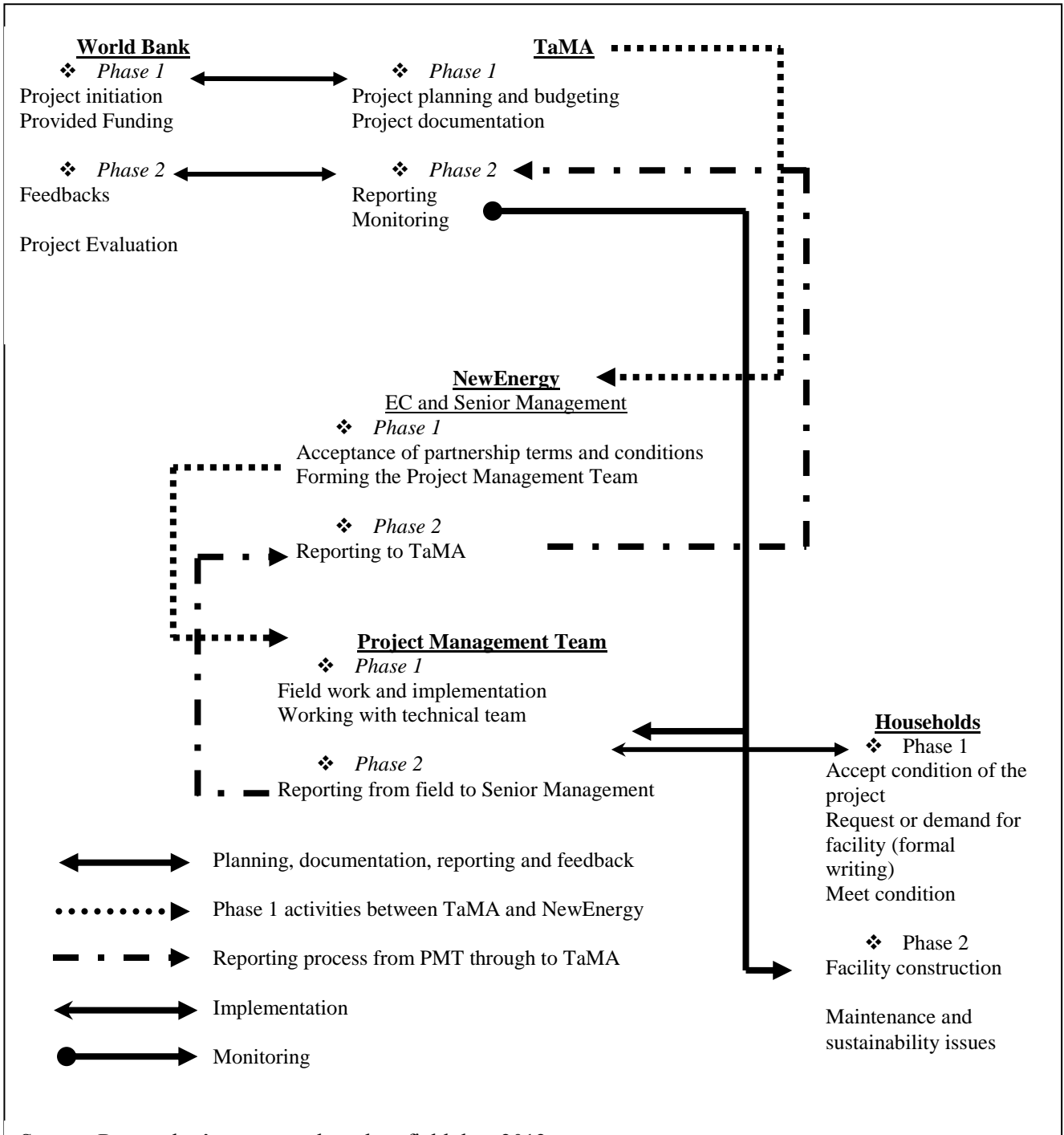
As the name implies, Invited Projects is a project which has its inception design from a different organization or institution but for many other reasons have shared implementation partners. What this means is that “the project was not conceived by NewEnergy”. “We were invited or brought in by our partners to assist in the implementation of the project” (Monitoring and Evaluation officer, NewEnergy Tamale, March 20, 2014).

UESP II is one of such Invited Projects that NewEnergy implemented. This project had its background from the World Bank. According to the waste management officer at TaMA, there was an Urban Environmental Sanitation Project I that supported the construction of about one thousand (1000) household pit latrines in the metropolis (Samson Akwetey, Head of Waste Management Unit, TaMA, July 20, 2012). UESP II was therefore a

With this project we had what we call management intermediaries. There were some consultants between us (as Assembly and the individual households). All you needed to do is to write an application stating that you want to be supported to construct a household toilet. Then somebody would come into your house and assess the house to see the type of facility that would fit the house and the cost involve. Then, the consultants would tell you 'the household' that you need to pay this, the project would support you with this. If you can go by that then we just start work on the facility. (Samson Akwetey, Head of Waste Management Unit, TaMA, July, 20. 2012).

follow up project to UESP I. This project was to support TaMA to address the sanitation challenges by providing physical sanitary facilities to households. In this project phase, additional two thousand (2000) household pit latrines were constructed in the metropolis. Based on this background to UESP II, this was what happened as an organization in an invited project. The processes in this project are presented in figure 6.4.

Figure 6.4: Planning and Implementation of IP: Second Urban Environmental Sanitation Project II



Source: Researcher's construct based on field data 2012

Unlike Ghana School Feeding Enhancement Project that was initiated by NewEnergy, the Urban Environmental Sanitation Project II initiated by World Bank and TaMA, where, NewEnergy was involved in the implementation of the project took a different planning and reporting process. As shown in figure 6.4, World Bank and TaMA started this project which was in the second phase after the first phase implemented in 2006. The second project then gained approval after evaluative and consultative exercises carried out by the World Bank (Samson Akwetey, Head of Waste Management Unit, TaMA, July 20, 2012). The first phase activities for the World Bank under this project as outlined in figure 6.4 were finalizing the project documentation and providing funding. On the part of TaMA, their activities included full planning and budgeting as well as documentation. As part of the documentation for TaMA, an advert was floated and NewEnergy applied. NewEnergy was invited for an interview and a decision made to contract them as “Management Intermediary” for the household toilet component of UESP II.

NewEnergy was invited to serve as consultants to the project. There were therefore, partnership arrangements for the project. This process involved the Executive Council and that of the Senior Management Team in the organization. Moving from this level, NewEnergy then formed a Project Management Team (PMT). The PMT were to do the field work with a team of technical members who are not permanent staff of the organization. The Project Management Team worked among others to educate the households on the facility types, assessment of the households, the location and the facility type of a particular location. NewEnergy facilitated the acquisition of latrines by households. TaMA paid a flat monthly management fee and a commission based on the number of latrines constructed.

From this point, households that met the project criteria were approved and implementation of the project began. After this process, the reporting process also began. This process is a bottom-up approach where the PMT gave field reports on the progress of the project to the Senior Management Team (SMT). SMT also made assessments on the reports and forwarded these to TaMA. From TaMA the reporting ended at World Bank and feedback came again through this line down to PMT as shown with the arrows in figure 6.4.

However, monitoring of the project was done by TaMA directly on PMT activities and that of the phase 2 activities (construction of facility) at the household level. According to Mr. Charles Nachinab, a total of 560 household latrines were constructed under the supervision of NewEnergy in this project. In November, 2007 a final project report was submitted to World Bank through TaMA. It was however, not asked whether project evaluation exercise has been carried out by World Bank and TaMA on these facilities.

6.5.1 Funding Arrangements and Processes

Most activities of local NGOs are funded by international donor and agencies. UNICEF, working for women and children are concern about WaS in communities because “where there is no water, children particularly the girls suffer to draw water” (Charles Nachinab NewEnergy, Tamale 20.03.2014). UNICEF is therefore one of the main donors supporting WaS projects in the region. WaterAid, another United Kingdom agency, is also a donor for WaS projects especially in rural communities. In this study, NewEnergy rely on the support of these organizations to implement their projects.

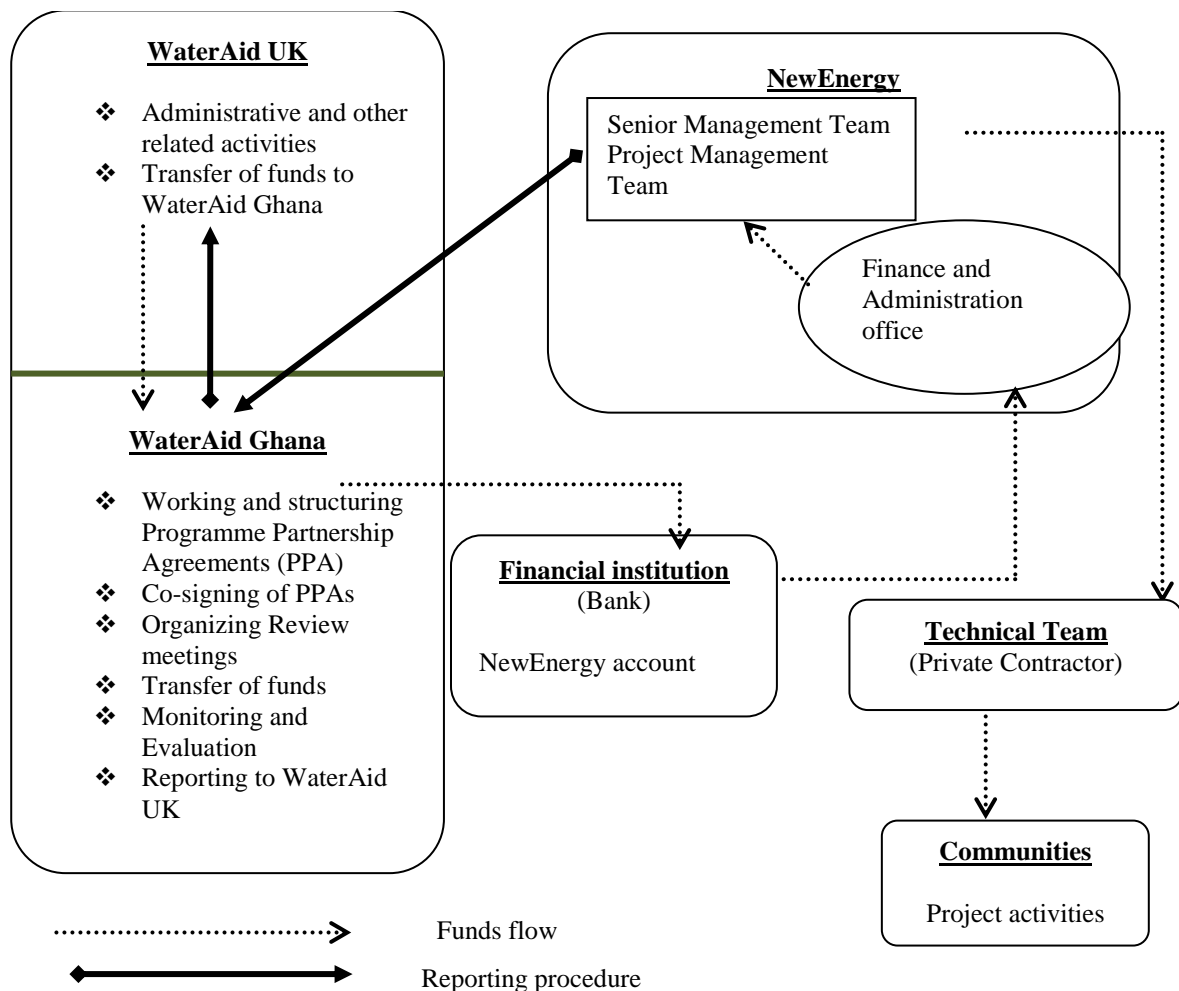
In terms of donors, each donor would normally have some specific interest but there are certain things that run through them. So, for example, if you take NewEnergy, we work with people like UNICEF, we work with people like WaterAid, we work with people like UNDP, we work with people like World Food Programme, we work with people like Simavi. So let me restrict myself to WaterAid, UNICEF and Simavi because of the fact that our interest is more in WaS and they are the people who fund our WaS activities (Charles Nachinab NewEnergy, Tamale, March 20, 2014)

From this narration, it is obvious that funds for the implementation of projects in NewEnergy are from international

donors. However, it became evident that different donors fund different projects. That was the reason that made this officer to indicate that; “he would restrict the process to WaterAid, UNICEF and Simavi” because these are the donor organizations that support their WaS activities. Others such as UNDP and that of World Food Programme also support other projects other than WaS. Apart from these organizations, there was however, no mention of national organizations except the DAs.

Illustrating in details, WaterAid was used to demonstrate how the process of funding projects work within NewEnergy. These illustrations are presented in figure 6.5.

Figure 6.5: Funding Arrangements, Processes, Flows and Reporting



Source: Researcher’s construct based on field data 2012

As presented in figure 6.5, WaterAid is a United Kingdom based NGO. On its brochures, WaterAid has a vision of a work where everyone has access to safe WaS. The organization has branches in Ghana and partner NewEnergy to implement what is termed the WASH crisis (water, sanitation and hygiene). For project funding through WaterAid, the organization normally develops a partnership agreement termed Programme Partnership Agreements

(PPA) annually. PPA is an annual work programme that is signed between NewEnergy and WaterAid. Based on arrangements in the PPA, funds are transferred from WaterAid (UK) to WaterAid (Ghana) for onward transfer. This is clearly illustrated in figure 6.5. From WaterAid (Ghana) funds are further transferred into NewEnergy financial account normally in a financial institution. Access to the funds from the bank is through the finance and administrative branch of NewEnergy. The funds are further handed over to the Senior Management Team and the Project Management Team for implementation. Senior Management Team and Project Management Team works with gangs of artisans, many of whom are their trainees. NewEnergy designs some form of agreement to guide the relationship with these artisans but Mr. Charles Nachinab, explained that these agreements would not be called contracts.

While funds are transferred quarterly the financial reporting is done monthly. For example there could be a transfer for the second quarter say April - June, but by the end of April, NewEnergy sends a report indicating how funds were disbursed. The quarterly transfers are based on the activities NewEnergy has agreed to implement and what targets NewEnergy are expected to achieve. Nonetheless, these transfers are not necessarily a lump amount divided by 4 because there are 4 quarters in the year. But funds based on activities in the PPA. In this regard, there are quarters when the transfers involve large amounts and some quarters much less.

Apart from the monthly reports that the SMT and PMT submit to WaterAid (Ghana) for onward submission to WaterAid (UK), there are also what is termed the mid-year and annual review sessions. At the mid-year review, NewEnergy reports comprehensively on what targets were met and what achievements have been made. This also includes the financial position of NewEnergy. In other words, NewEnergy has to state the amount that was received, what it was meant to do, how the amount have been disbursed, what is outstanding, a forecast as to what is required to be done during the remaining half of the year. The annual reviews also take this same form.

From these narrations, it was observed that these partnership arrangements with WaterAid and NewEnergy are comprehensive than the arrangement in the Invited Projects with other partners. For example, there were deepened activities with monthly, quarterly and annual reviews that were not seemed in Invited Project arrangements. Nonetheless, this was expected because in Invited Projects arrangements the organization was paid as a consultant as explained by Mr. Charles Nachinab other than the arrangements with WaterAid that transfers lump sums for annual activities.

6.5.2 Mechanisms used to Source Funding for Project Implementation

Organizations use different methods to source funding for projects. This is particularly with CBOs who are registered under Act 179 and have on means to make profits from their activities. When the CEO NewEnergy was asked how the organization gets its funds from; this was the response.

Definitely, it is because we do not have our own funds to implement our activities. As I told you, by the law we are founded with the purpose of social or humanitarian services that is, number 1. This means, you want to also contribute to improve the life of people whether using energy or environment but Government of Ghana would not give you the money and say do this work. They would normally use their own departments like Environmental Health Unit. So, if there is a government project for pushing CLTS, EHU would normally like to keep it to themselves.

As NGO, that is why it is call NGO. The government does not budget for you, plan for you or allocate resources for you, you have to look for the resources yourself. The resources are only found with corporate entities like banks, like private businesses but those private businesses have a very narrow widow for what we call “corporate social responsibilities”. Like, take the oil and gas industry for example. The companies that deal in gas and oil may be located around the Western Region because that is where the action is and they would say, well, we want to do this for the people (5 classrooms, 3 boreholes) here. This and that as part of their corporate social responsibility. It would not extend beyond that. If you go to a gas company and say, give us resources. There are very needy villages around Zabzugu they would say “where is that”? or Saboba. They would say “where is that?” Oh, it is not part of our operational area. Do you understand?

So, that is why we have to stay in partnership with international and national development organizations because we do not have our own resources or source of funds. As an NGO, NewEnergy we do not have a place where we make money. We are thinking about it but that is not easy. If you want to remain under this law you cannot just easily adopt an operation that is profit making. You will go against the law and you are no longer operating under Act 179 because government would come after you and you would have to pay tax, you have to pay the necessary things, you have(Thomas Sayibu Imoro, NewEnergy, Tamale, November 7, 2012).

From this narration, it is apparent that CBOs do not have self financial resources to implement projects. They cannot also depend on government because central government normally uses its decentralized departments to implement their programmes and projects. Another sector that probably could assist these organizations would be the private sector.

Although, the private sector has profit making as its core objective, these entities normally have corporate social services unit. This unit assists communities with the provision of social and basic needs. In Ghana, most of these companies are found in the southern sector. Their corporate social responsibilities are therefore, directed to communities where they operate other than communities in the northern sector of the country. CBOs therefore, find it difficult to source funds through these entities to implement their activities.

On the contrary, these organizations cannot operate in other sectors that are profit oriented. By the law establishing them, they are not to operate to make profits and implement their projects. Once profit objectives are attached implies meeting other tax demands from the state as well as other responsibilities. From the views of the CEO of NewEnergy, they would however, have to be in business with the objective to serve needy communities to get what is not readily provided them by the state. They would have to look at means to fund their activities. As a result, they depend on others. They depend on other development organizations either national or international to source financial resources to implement their activities. This, they do through the following arrangements.

Partnership Arrangements

Going by the data collected from NewEnergy, the organization uses two main mechanisms to source funding for activities. These are Partnership and Collaborative agreements. Partnership arrangements are very common in business circles where the quality of partnerships can have a lasting effect-for better or worse on the people involved (Gage, 2004; p. ix). However, it is now common to also see partnership arrangements within the circles of development work. Eisler (2002) in her book *“The Power of Partnership”* indicates that “we are affected by a much wider web of relationships swirling around us and impacting every aspect of our lives” (p. xiii). Eisler (2002) went on to emphasize that if we do not pay attention to these less immediate relationships, then just trying to fix ourselves alone is like trying to go up on a down elevator. What this implies is that no one person or organization can do a task alone. Partnerships are necessary arrangements that would assist two or more organizations to achieve a goal.

NewEnergy therefore has such partnerships. According to the organization, different donor organizations have different partnership arrangements; however, they are short, medium or long term arrangements. These arrangements are also given different names depending on the organization involved. For example, the partnership arrangements between NewEnergy and WaterAid are termed Programme Partnership Agreements (PPAs). Though this is a long term working partnership between these two organizations, PPAs are signed annually by the two organizations.

For UNICEF and NewEnergy, different partnership arrangement exists. UNICEF normally signed what is termed MoUs with NewEnergy. These are also short termed normally for a period of one or two years. These arrangements allows for the donor organization to transfer either quarterly or annual funds to NewEnergy to implement their programmes and projects. UNICEF mostly initiates some projects or programmes at the District Assembly level. It is the assemblies who would implement or invite CBOs to implement. Apart from physical transfer of funds that these organizations enjoy from the arrangements, the Partnership Arrangements also aid NewEnergy to enjoy other administrative benefits discussed on page 150.

Simavi also has a different partnership agreement with NewEnergy. The arrangement between Simavi and NewEnergy is termed multi-year rolling agreement. However, on annual basis, a work plan is submitted for consideration. This forms the base for funds to be transferred to NewEnergy. Funds are transferred twice in a year following the submission of a semester report.

These findings corroborated with what Gage (2004) stated in his book *“The Partnership Charter”*. Gage (2004) highlighted that “no two set of partners will have the same arrangements. No two Partnership charters will look the same” (p. xii). This is evident in the different partnership arrangements between NewEnergy and her Partners.

Collaborative Arrangements

From the study, it became evident that CBOs do not only use partnership arrangements where contracts are signed but also use collaborative arrangements where they work with other organizations to achieve some targets. These arrangements were mostly observed to be between CBOs and governmental organizations. For instance, CWSA is a governmental agency that seeks to address water and sanitation issues in rural communities in the country.

According to the policy, the provision of water and sanitation facilities should be demand-driven and community managed. This to a large extent involves DAs, who are to receive demands from the communities and in turn forward these demands to CWSA. The

activities of other organizations in WaS sector strictly confronts to this policy. NewEnergy works with these governmental organizations to achieve their results without compromising the tenets of this policy. Aside working physically to provide facilities, NewEnergy stated that they recognize these organizations as their landlords and as such work as a tenant in the sector.

By our mission, we believe that we cannot do it alone. So we are only entering the district to contribute. And so, we recognize that the landlords are the DAs. We work closely with DAs. We try to support DAs to even increase their capacities and other things. We support them to have WASH and energy plans so that whatever they do in these areas, it is guided by a plan just as NDPC expects assemblies to file their Medium Term Development Plans. So our work is to contribute to the Assemblies and CWSA activities. We do collaboration in this direction (Thomas Sayibu Imoro, NewEnergy, Tamale, November 7, 2012).

From this response, it was clear that NewEnergy does not work in isolation but work with governmental organizations as well. The organization does not approach the needy communities without first consulting with the DAs and CWSA. It is also evident that their collaborative arrangements are not just limited to contributing to physical facility provision, but first and foremost, they contribute in the preparation of plans and in building the capacities of staff of DAs. It was however observed that, the collaborative arrangements do not come

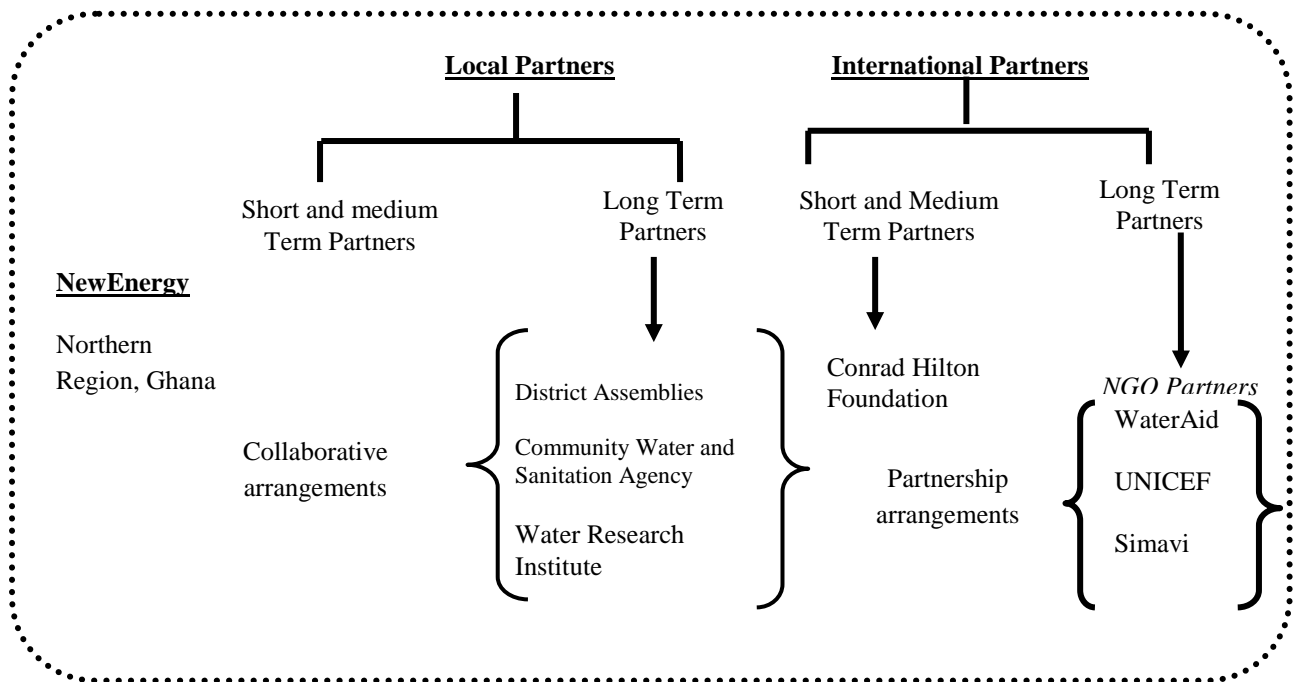
with financial assistance unlike in the partnership arrangements. These collaborations were seemed as a means of ensuring that policies in the sector are strictly complied with by all stakeholders.

Based on this finding it can be justified that government policies influence the activities of these organizations in the WaS sector. The difference is that the policy does not come with financial support for these organizations.

6.5.3 Partners

NewEnergy has multiple partners. In the field of WASH, their main partner is WaterAid. Others are UNICEF, UNDP, Simavi. The organization has once worked with the British High Commission on an International Trachoma Initiative (ITI) programme. There was once a partnership arrangement with Conrad Hilton Foundation at different times under different projects. NewEnergy partners are presented in figure 6.6.

Figure 6.6: Partners and Partnership Structure NewEnergy



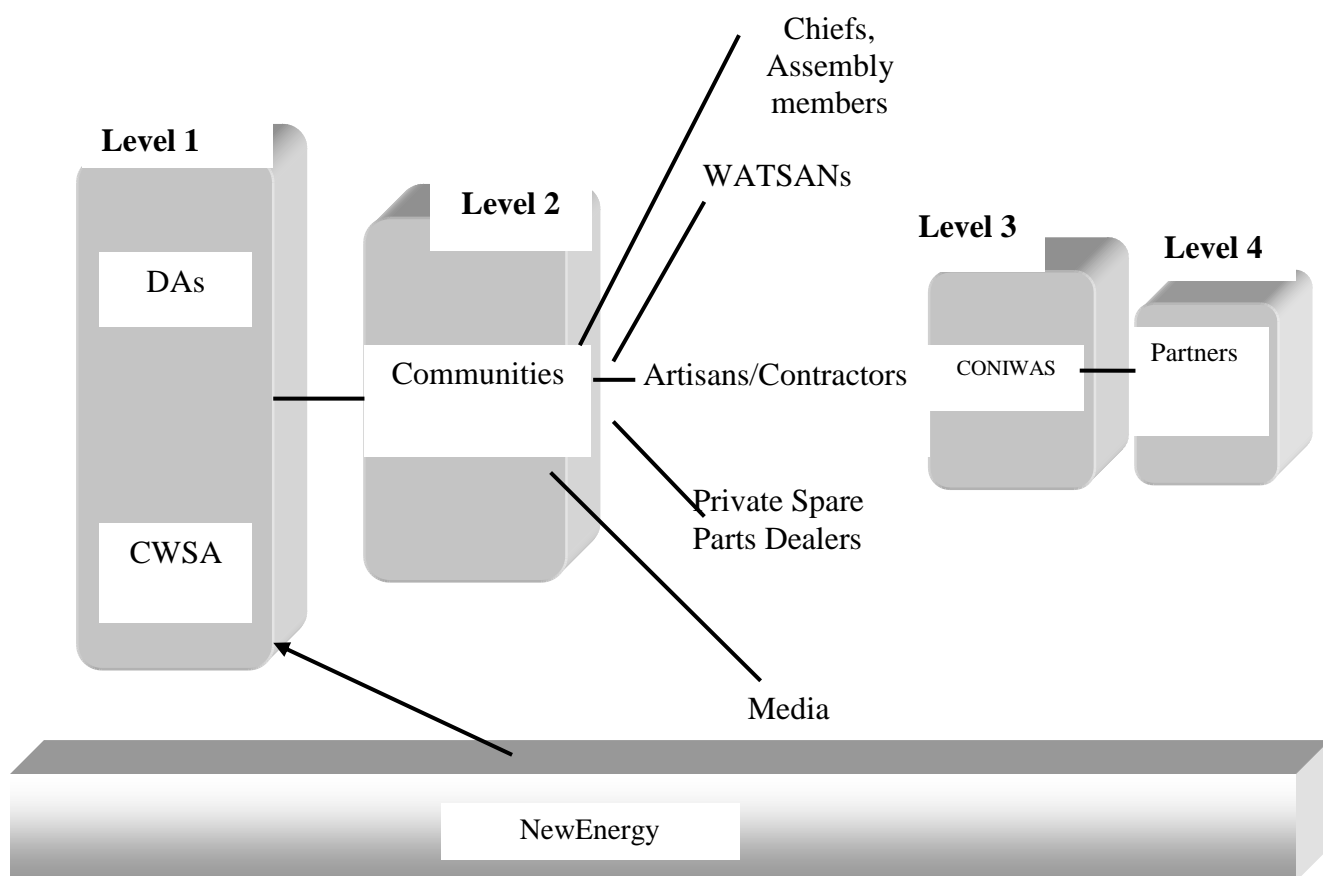
Source: Date on field work, 2012

As shown in figure 6.6, NewEnergy’s partners are grouped under local and international. Under this broad grouping, the partners are further categorized into short and medium term and long term partners. Further categorization has put them into those that are governmental and those that are sister organizations (NGOs). Interestingly, the local partners are long term and are mostly governmental. The District Assemblies, Community Water and Sanitation Agency, Water Research Institute (WRI) are all government institutions who mostly collaborate with NewEnergy in their projects. Apart from Conrad Hilton Foundation that was a short international partner, the rest WaterAid, UNICEF, Simavi are long term partners.

6.5.4 Stakeholder Consultations

Aside partnership and collaborative arrangements, stakeholder consultations also emerged. NewEnergy identified stakeholders that the organization works with to implement their programmes in the WaS sector. These according to the organization, facilitate the operations of physical project implementation as well as sustainability of the projects after implementation. They were put in levels as presented in figure 6.7.

Figure 6.7: Stakeholder Consultation in Project Management



Source: Researcher’s construct base on field data, 2012

Figure 6.7 highlights the stakeholders that are involved in project implementation and how consultations are made at each level. From figure 6.7, four major groups of stakeholders were identified. These were the DAs, CWSA, the Community, Coalition of NGOs in Water and Sanitation (CONIWAS), and Partners. Based on this, four levels of consultations emerged. The presentations in figure 6.7 represent consultations that go on after partners and donors have approved funds for a particular project. In this case, the first level according to figure 6.7, is consultations with governmental bodies with the sole responsibility of providing these facilities. These are the District Assemblies (DAs) and Community Water and Sanitation Agency (CWSA). These consultations are to seek approval of an intention to implement WaS facilities in a particular district. NewEnergy informs the DA of the availability of funds for (N) number projects in the district. Due to the demand-driven policy, DAs would have received at the time list of communities demanding for these projects. From this stage, a formal submission is also made to CWSA.

The next is at the community level. The communities are the beneficiaries of these projects and they are consulted before implementation takes place. NewEnergy identified some of the stakeholders at the community level to be the Chiefs, Water and Sanitation Committees (WATSANs) if they are already existing, artisans and local contractors, private spare parts dealers and the media. It was explained that these stakeholders may not be consulted at the same time, but in most cases, they are consulted in the hierarchy as can be

seen in figure 6.7. For instance, an introduction is first made to the Chief of the community at times in the presence of the Assembly member. According to the CEO, NewEnergy, chiefs are very paramount in their activities because they are the land owners and we will need land in our activities. They are also the traditional leaders who mobilize the people for community animation and assist us to manage conflict if any should arise. “Traditionally, they are approached to ask the ancestors to give blessing to our projects” (CEO, NewEnergy 2012).

From the chiefs, WATSANs if there are any in the community are also consulted. According to the CEO, NewEnergy, these consultations with WATSANs are to get first hand information of the situation on the ground. Further to these are also consultations with the local artisans. These are to find out their capacity levels (artisans and contractors). They will work on facilities if and when they break down. Base on the information here, services in the form of capacity building programmes are drawn for such group of stakeholders. Aside, others such as the media are consulted.

From figure 6.7, the third level is CONIWAS. CONIWAS is a network of organizations in the WaS sector in the region. It is not always the case that CONIWAS is consulted but in cases where there are challenges, CONIWAS is consulted for professional assistance. For example, it was cited that in some instances, piece of land designated for water projects could be diverted for other activities. In such instance, when NewEnergy finds it extremely difficult to address the situation, CONIWAS, the boarder network is approached to seek redress.

The last consultations are with partners who are mostly consulted on the progress of work on a particular project. These consultations are normally through reports, and/or meetings. Feedbacks are applied in subsequent stages of consultations and in that order. However, different projects could change to consultation arrangement as depicted in figure 6.7.

6.6 Case 2: Community Livelihood Improvement Programme (CLIP)

The second case is CLIP. CLIP is an organization under the umbrella organizations called the Ghana Danish Development Association (GDDA). Under GDDA, there were series of programmes implemented among which was the School for Life programme. School for Life programme started with a strong focus on school enrollment in the region. After the realization that establishing schools was not the only solution in meeting high school enrollment, CLIP emerged. The reason for establishing CLIP was that; there were other challenges that prevented pupils from these areas from attending school. One of such challenges was that pupils have to look for water or assist their parents especially their mothers to fetch water for household use.

CLIP emerged seeking rural development as a priority area towards bridging rural-urban gap in access to basic needs provision especially in WaS. CLIP started its activities in 1997 aiming to increase self-help capacity and improved living conditions for the populations in rural communities in the region. Currently, the organization is operating in three (3) districts namely: Yendi, Gusheigu and Karaga districts all in Northern Region, Ghana.

CLIP is registered under the Companies Code (Act 179). It therefore has organizational and managerial structures as prescribed by Act 179. Though, this organization is concentrating its activities in the three (3) named districts above in the region, its head office is also located in Tamale. From the interviews with the Programme Coordinator and other Field Officers, CLIP vision is: “*A society free from poverty, hunger and disease*” while the mission statement is:

‘To identify vulnerable people in the rural communities of Northern Region, sensitize and equip them with the necessary capacities and skills for advocacy and development.

In an in-depth discussion on these key elements of the organization, the Programme Coordinator indicates that:

We are seeking by our vision and mission to increase productive capacity for sustainable livelihoods in the 3 Northern Regions, especially in the most deprived districts in the future. Poverty, hunger and diseases are some of the major predicament in this part of the country. These are prevalent probably because of basic knowledge in these issues. In order to achieve this, CLIP has adopted the Sustainable Livelihoods Approach (SLA) to provide a platform for communities to analyze the relationship between their own assets, their vulnerabilities, activities, outcomes, structures and processes for appropriate decision making for general development needs. One of the problems we have identified as an organization is the fact that most of the people are illiterates and lack basic knowledge in literacy and numeracy. This is a challenge that hinders skill development and the ability to development through the use of basic local resources. CLIP therefore identifies these groups and equips them with the necessary tools (capacities and skills) to solve their own problems. (Adam Iliasu, CLIP Tamale, July 20, 2012).

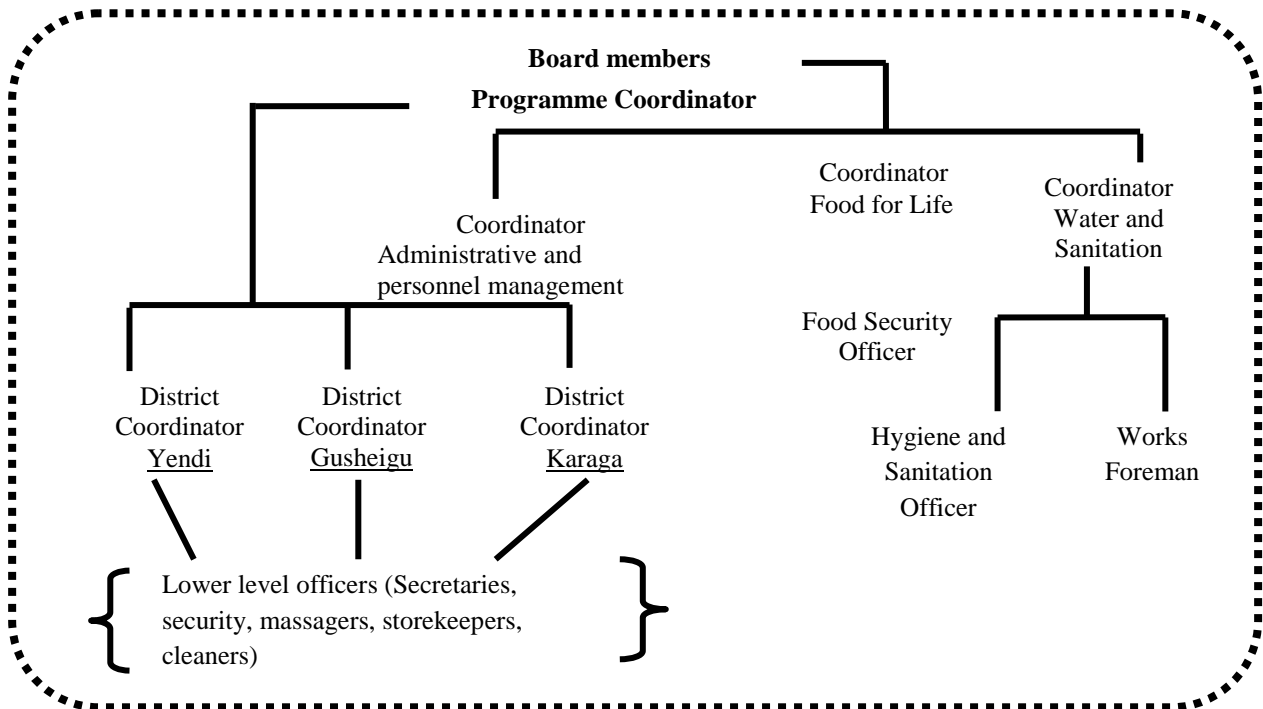
From the unfolding explanation from the Programme Coordinator above, it is comprehensible that CLIP seeks to advance first and foremost skills training to the communities. The organization sees basic knowledge acquisition as one of the ways by which these communities can analyze relationships in what is normally termed as potential, opportunities, challenges and constraints (POCC). It is when the communities identifies these structures and processes that they would be in the position to make or take appropriate decisions towards their own development.

These were however, in variance with the findings from NewEnergy. The vision and mission of NewEnergy seeks an environmental and the dignity of the people interface. The mission statement is centered on networking to achieve results of one’s goals. While CLIP uses the community to achieve their goals NewEnergy uses a combination of stakeholders to meet the demands of the communities. Nonetheless, there was commonality in these two organizations. This was meeting the needs of the communities they seek to serve. The two organizations use different approaches but their end goals are the same.

6.6.1 General Organizational Structure of CLIP

From the discussions and interviews with management of CLIP, this organization has a different organizational structure from that of NewEnergy. The organization adopts the coordinator style of leadership. The head is known as a Programme Coordinator (PC). Under PC are other Coordinators that work in the districts and on two different programmes. Other officers are also assigned to work under these programmes with their respective coordinators. An Administrative and Personnel Coordinator is in-charge of the administrative duties and coordinates the activities of other personnel in administration. The general organizational structure of CLIP is illustrated in figure 6.8.

Figure 6.8: Organizational Structure of CLIP



Source: Researcher’s construct based of field data CLIP, 2012

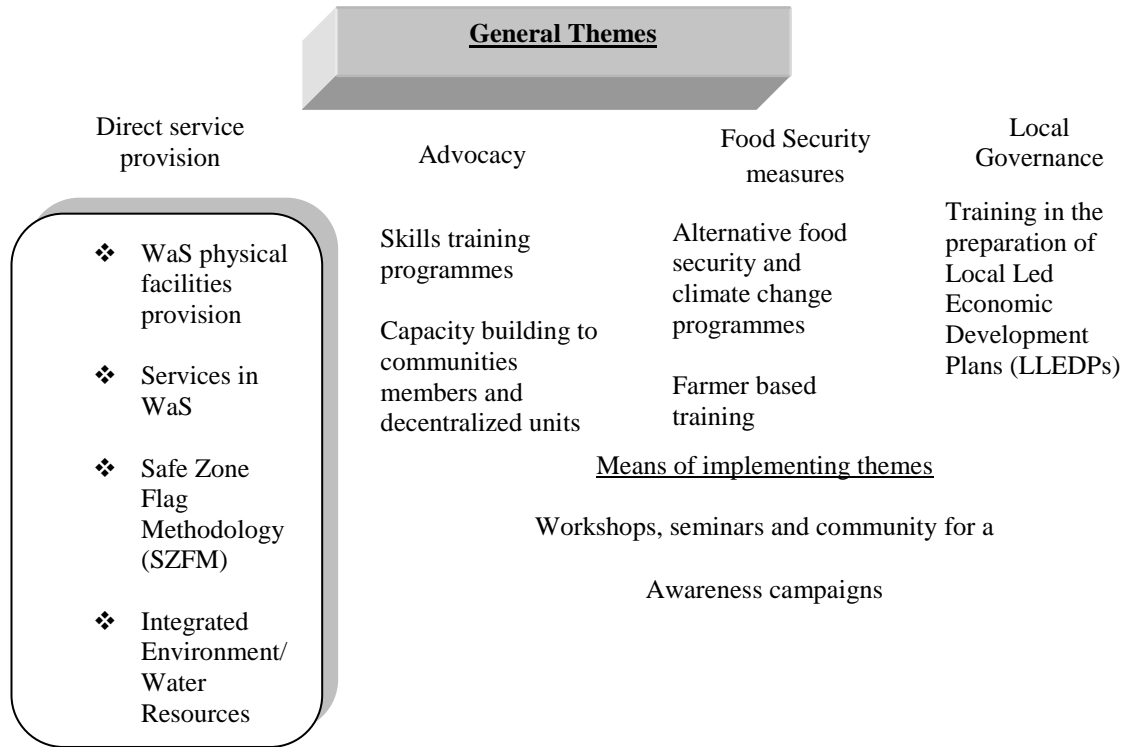
As can be seen in figure 6.8, CLIP operates with a lean staff just like that of NewEnergy. There are six (6) coordinators that work directly under the Programme Coordinator. These six (6) coordinators all work in different fields such as the coordinator for administration and personnel management, Food for Life, WaS and three (3) district coordinators. Apart from the district coordinators, there are also other officers who do not belong to lower level officers, who work under the other three (3) coordinators. For instance, the Food Security officer works directly under the Food for Life Coordinator. Similarly, the Hygiene and Sanitation officer and that of the Works Foreman works also under the WaS Coordinator. However, the lower level officers such as secretaries, security personnel, messengers, cleaners mostly work with the district coordinators.

CLIP does not have the Executive Council found under NewEnergy. The head of the organization is the Board Members. The Programme Coordinator reports to the board and it is the board that takes key decisions of the organization. This structure is however comparable to what (Riddell and Robinson, 1995: 33) emphasized that “a typical southern NGO is a small agency with a handful of staff working in a cluster of villages in a particular locality”. From this structure it is evident that CLIP does not possess large human resources that can work at other regions and national level. The organizational capacity is narrowed to the 3 districts they are currently operating in.

6.6.2 Operational Areas

Apart from the provision and development of WaS facilities in their operational districts, CLIP works in other sectors with the aim of increasing access to services delivery. Some of these areas are presented in figure 6.9.

Figure 6.9: Operational Themes of CLIPS



Source: Researcher’s construct based on field data CLIP, 2012

According to figure 6.9, CLIP operates in four (4) themes. These are direct service provision, advocacy, food security measures and local governance. Apart from the direct service provision theme that is involved in physical provision of facilities in the communities, the other themes are mostly into skills training, capacity building and training in community plans preparation. When asked whether under the advocacy theme research and publications were conducted by the organization, the Programme Coordinator explained that CLIP does research in partnership with other organizations. “We do not owe that to ourselves because we do not have the financial resources to do it, but, we do carry out researches with other organizations. That is the reason why we do not include research under the advocacy theme”.

The training and advocacy programmes are conducted normally in the form of workshops, seminars and community fora. According to Mr. Nashiru Bawa, one of the coordinators, these programmes are conducted at different levels on different social development themes. He explained that awareness campaigns are mostly used in the WaS sector however, when there is a new intervention especially in the area of our food security theme, we also engage the communities through awareness campaigns (Nashiru Bawa, CLIP Tamale, January 12, 2014).

6.6.3 CLIP in the Water and Sanitation Sector

Since this is an embedded case study and the research concentration is on WaS, CLIP direct service provision theme is discussed here in detailed. According to the Programme

Coordinator, CLIP has constantly engaged in the provision of tangible physical facilities for communities in the three Assemblies (Yendi, Gushegu and Karaga) in the region. The aim is to ensure that facilities that are provided for the communities are managed and operated in a sustainable manner. He however, indicated that the organization has no set of rules regarding how a facility should be maintained. Our concern is for the community to maintain the facility once constructed.

What happens is that we do not impose any solution on the communities but we give them options as to how they can maintain the facilities. So, there are some communities, it is, pay as you go. Some will bill the households and some communities they would bill only when there are problems. Here, they make contributions from households. So, it is left onto them to come out with their own solutions because if you impose a solution on the community these are most often close communities. They should have a mechanism by which they can sustain the facility. We do not impose any solution but we have told them that they should have a method by which they can maintain the facility (Adams Iliasu CLIP Tamale, July 20, 2012).

From the narration of Mr. Adams Iliasu, it was obvious that one of the principles of CLIP is facility maintenance. The facilities are constructed for the communities with donor assistance funds. The process is discussed later in subsequent pages in this chapter. However, for the sake of 'value for money' CLIP places high premium on sustainability of the facility. The organization

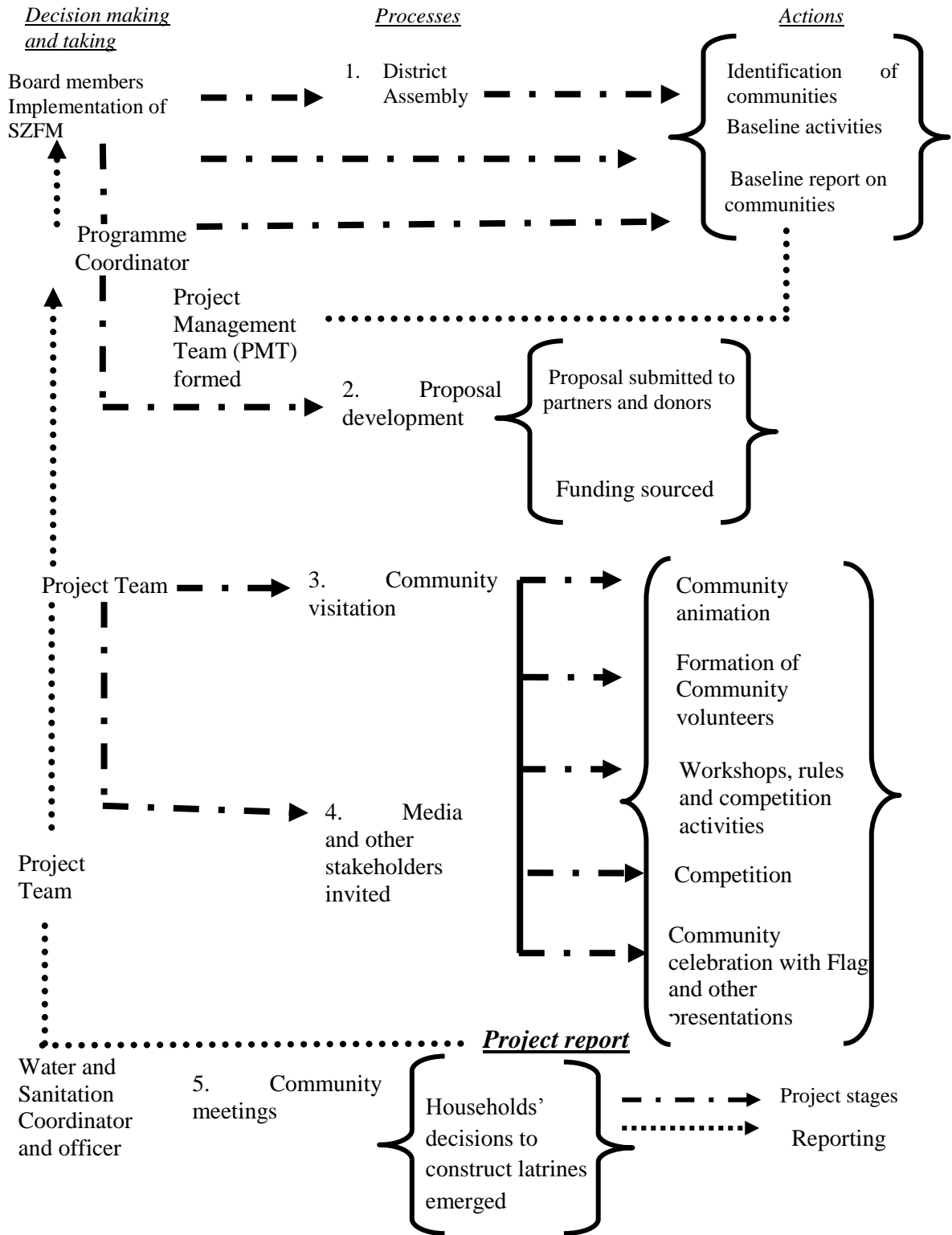
does not however, dictate to the communities how the facility should be maintained but give options for the communities to choose from. For instance, one option was to bring in the artisans and the pump caretaker, they intend evaluate the cost of spare parts and repairs and each household is levied to meet this cost.

This finding from CLIP was akin to the strategies used by CWSA and that of NewEnergy. From the household survey, all the six communities in the 3 districts namely Yendi Municipality (YM), Central Gonja District (CGD) and Savelugu Nanton Municipality (SNM) use this method to maintain their water facilities. Notwithstanding, this maintenance strategy contravenes water reliability a variable under CWSA. This is discussed in chapter 7. CLIP is however, very active in the sanitation sector with a relatively new methodology aimed in changing attitudes on sanitation in the communities. Details of this are presented in chapter 7.

6.6.4 Decision Making and Project Management Arrangements in CLIP

As discussed by the Programme Coordinator, decisions and project management are carried out by Broad members however, the project initiation and management is carried out by the permanent staff presented in figure 6.7. Furthermore, decision making and taking comes from both sides as explained by the Programme Coordinator. He elaborated that decisions to implement a particular project could come from a district coordinator through to him and to the Board members or could also come from the Broad members through to him and his other staff. This process is illustrated with a sanitation project that was implemented at Puriya in the Yendi Municipality. The processes in this project are further illustrated in figure 6.10.

Figure 6.10: Decision Making and Project Management Arrangements in CLIP



Source: Researcher's construct based on field work, 2012

As shown in figure 6.10, the stages in this project involved decision making and taking, the processes that were involved and the actions taken at each stage. Decision making and taking in this project started from the Board members of the organization which consist the Programme Coordinator and 6 others. The Board members decided that Safe Zone Flag Methodology should be implemented in 2 districts. This decision was taken at Board members meeting of the organization. The Programme Coordinator was therefore asked to take up the necessary steps for the successful implementation of the project.

From this point, the Programme Coordinator also formed a Project Management Team. Members of this team included the Water and Sanitation Coordinator, 2 District Coordinator, the Water and Sanitation Officer and one Secretary. However, there were five (5) major processes that were involved in this project. The Project Management Team was directly involved in these processes and pursued these to the end of the project. The first process was a visit to the 2 assemblies. Among some of the actions taken were; identification of communities with serious sanitation problems. After this activity, baseline studies were conducted in these communities and a report written by the PMT and submitted to the Programme Coordinator.

After this report, the PC requested for a proposal to be developed. The Project Management Team again developed the proposal and this was submitted to DANIDA for funding. After 3 months of discussions and negotiations, the proposal was accepted and approved for funding for the project. On the other hand, the PMT continued with community visitations to the communities selected. Some of the activities at this stage included community animation exercises where communities members were sensitized on sanitation and hygiene related issues. Community volunteers were also formed. A total of 8 volunteers were trained on the issues and rules of SZFM. Details of the SZFM are discussed in chapter 7. A workshop was then held in Yendi to set the rules of the competition for communities selected for this activity. A date was set for the final competition.

Additionally, PMT invited the media and other stakeholders such as the DA, EHU to the final competition activities. Major activities at this stage were the communities' competition and the presentation of the Flag to the winning community and other souvenirs to the community volunteers. A community durbar was held at Puriya the winning community. Water and sanitation related issues were discussed intensively at this durbar and the communities were challenged to take up their sanitation concerns and act to ensure improved environmental practices.

At the end of the project, a report was prepared by the PMT and submitted to the Programme Coordinator. This report was further submitted to the Broad members who intended forwarded the report including the financial disbursements to DANIDA (donor). The report was however, not the last activity of this project. The Water and Sanitation Coordinator and that of the WaS officer again visited the communities that competed for the flag to monitor the progress of sanitation after the competition. Among the activities carried out at this stage included community meetings at the various communities. These meetings resulted in the communities commitments to adopt Community Led Total Sanitation concept. Households then decided to construct pit latrines. Nevertheless, the challenges confronting the households in constructing these facilities emerged in these meetings. CLIP again filed the challenges of these communities where they are now seeking support from other organizations to address households concerns (households who were and cannot still afford to construct latrines on their own).

6.6.5 Partners and Partnership Arrangements in CLIP

CLIP is implementing their programmes and projects through donor partners. In a discussion with the Programme Coordinator, the first financial resources came from donors and this is still the case with the organization. For example, Mr. Adam Iliasu explained that “money (financial resources) initially came from the Danish Embassy” but after three (3) years of implementation, they saw that construction and establishment of schools failed to yield the necessary results, the organization’s focus changed.

CLIP still have partnership arrangements either local or international partners or organizations. In an in-depth discussion, the Programme Coordinator revealed that their local partners are mostly the DAs and departments working in WaS sector. These included CWSA, and the Water and Sanitation Team Leaders (WSTL).

First and foremost, we worked very closely with the DAs. Working with the DAs is not only on the administrative aspect. We work with the elected Assembly members and the decentralized departments directly engaged in WaS. Our programmes are demand-driven. We do not impose anything on a community.

On the part of CWSA, yeah! they are at the regional level. And even on our board, there is a representative of CWSA. When we do water testing and everything, we give reports to CWSA. So the thing is, as I said, they (CWSA) are supposed to be playing the coordinating role. You know NGOs have limited life span but these other organizations, CWSA and the Assemblies are permanent; so we feel they can be the link between the present and future that is why we give them our reports. They are on our board and they give us the technical advice on what to do (Adam Iliasu, CLIP Tamale, July 20, 2012).

From the recounting above, it is observable that the first and foremost partners of CLIP are government organizations or institutions working in WaS. A close working relationship between CLIP and YMA was evident in Safe Zone Flag Methodology project implemented in Puriya in 2010. However, a different observation was made in the partnership arrangements between DAs and CLIP.

CLIP does not only work with the

District Planning Coordinating Unit but also works with the elected assembly members. This could probably be because they are elected and have the full support of community members. It could also be because they (elected assembly members) reside in these communities and have a full appreciation of the issues that CLIP seeks solutions for. This was further evident when the WSTL at YMA stated that “CLIP involves them (their unit) in most of their activities”.

Furthermore, CLIP engages CWSA. CLIP’s Board has a member from CWSA. CLIP submits reports to CWSA and recognizes the fact that CWSA is playing a coordinating role in their activities. Not only do they coordinate but also CWSA gives technical assistance in the form of advice to CLIP. The local partners however, observed in these narrations provided coordinating and technical roles. For instance, at Board meetings, CWSA member on the Board could assist to make and take decisions. In times of project implementation such as water facility construction, CWSA gives technical advice through their professionals. The DA through their WSTL provide baseline data on communities with water and sanitation issues but these organizations do not give any financial assistance to CLIP.

On the contrary, the observation on the relationship between CWSA and CLIP was however, not the case with CWSA and NewEnergy. Though NewEnergy has relationship with CWSA, specific details such as having a member of CWSA in their EC were not stated.

On the part of reporting to CWSA, NewEnergy does this only on special occasions when an activity involves CWSA and that of NewEnergy.

Nonetheless, these observations both from NewEnergy and that of CLIP are comparable to what (Riddell and Robinson, 1995: 33) explained that “it is these organizations (NGOs) which are the best known in government and donor circles with funding from foreign NGOs and in some cases, government sources”. What this implies is that; local NGOs in the case of CLIP and NewEnergy are known to government through these governmental bodies and other donors but funding is normally from foreign organizations. This is very empirical with these two cases. About 90% of CLIP’s activities are funded from donor partners. DANIDA is the main donor for CLIPs activities.

There are two other partners Ghana Friendship Group (GFG) and Ghana Danish Development Association (GDCA). GFG is a partner based in Denmark and has been used in the study as partner 1 while GDCA is based in Ghana and known as partner 2. These partners however, serve as liaison partners between CLIP and DANIDA. It was also observed that while NewEnergy had many donors such as UNICEF, Simavi and WaterAid, CLIP relies only on DANIDA for funds.

Partnership Arrangements

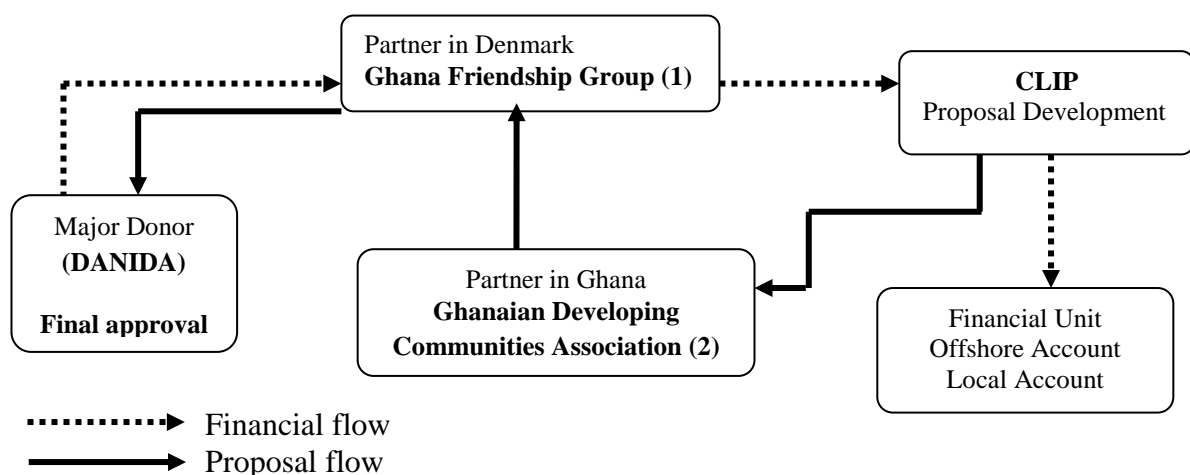
From the narrations of Mr. Nashiru Bawa, their partnership arrangements are through MoUs. He stated that the organization normally develops an Annual Action Plan (AAP) for DANIDA. This proposal is sent to DANIDA through their partner 2 (GDCA). Partner 2 will in turn forward the proposal to Partner 1 (GFG) and to DANIDA. This process is illustrated in figure 6.10.

In the Annual Action Plan, the activities to be implemented are stated, where they would be implemented with that of the unit cost. Based on this AAP, a detailed proposal is developed outlining the importance of each project. This is then forwarded to DANIDA for approval. However, there are projects that could be implemented after Board decisions. This at times could be proposed at assessing the urgencies of such projects. One of such projects is the Puriya SZFM project in 2010.

Financial Flows

The financial flow of funds from DANIDA to CLIP follows a simple process. From an interview with Mr. Nashiru Bawa, the proposal that CLIP develops is forwarded to DANIDA through a partner organization GFG in Denmark. This process is illustrated in figure 6.11.

Figure 6.11: Financial Flows of CLIP



Source: Researcher’s construct based on field data, 2013

As depicted in figure 6.11, the proposal flow leading to the financial flow to CLIP follows a simple but technical process. CLIP normally develops AAP for her donor in Denmark. The proposal is forwarded to Ghana Danish Development Association. GDCA also forward this proposal to GFG in Denmark. Both partner 2 and 1 are expected to make suggestions and contributions to the proposal. When these are done, partner 1 would finally forward the proposal to DANIDA. This process is shown in figure 6.11.

After the approval for funds to be released to CLIP, the process however, is different. DANIDA releases funds to partner 1 in Denmark. This time the funds from Partner 1 are transferred directly to CLIP Financial Unit. In this case, Partner 2 is no more involved in the financial arrangements.

6.6.6 Reasons for Partnership Arrangements

Observing that CLIP and NewEnergy rely solely on partnership arrangements to source funding for project implementation, it was imperative to unearth whether other international development organizations and/or donors do have partnership arrangements and if they have, what reason(s) attracted them into such arrangements.

Responses from a questionnaire to nine (9) international organizations operating in WaS in the region revealed the use of partnership arrangements during project planning and implementation. The eight (8) organizations that responded to the questionnaire have on average a minimum of 7 years working experience in the region. Apart from SNV that works in four districts, the others work in more than eight districts in the region. The respondents in the various organizations ranged from Hydro Geologist/Water Supply Specialist, WASH Programme Coordinator, WASH Specialist, WASH Project Officer, and WASH Experts. Only Cowater International Incooperate stated that they do collaboration with other organizations. The rest of the organizations indicate that they were involved in partnerships, collaborations, negotiations and stakeholder consultations to implement their programmes. Some of the organizations however gave more than one (1) reason why their organization was in partnership arrangements. These responses are presented in table 6.1.

Table 6.1: Reasons for Partnership Arrangements in Project Implementation

Names	Titles	Reasons for partnership arrangements				
		No direct implementation	Donor style	Expensive enterprise	Complementary roles	Capacity building
Catholic Relief Service(CRS)	WASH Advisor				X	X
Canadian International Development Agency (CIDA)	Programme Coordinator		X			X
Christian Children Fund of Canada (CCFC)	Grant Manager				X	X
Cowater International Incooperate	Hydro geologist/Water Supply Specialist		X			
SNV	Project Officer					
UNICEF	WASH Specialist	X	X			
WaterAid Ghana	Programme Officer					
World Vision Ghana	Senior Hydro geologist-WASH Water Supply			X	X	X

Source: Field data 2012

As shown in table 6.1, the responses from the major international players in WaS in the region are grouped into five (5) broad headings. These are that; the organization does not involve in direct implementation of projects, it is the donor's style; it is an expensive enterprise for one organization alone, this is to complement each other and for capacity building. The order by which these organizations responded is marked with X.

Aside Cowater International Incooperate, that gave one response that; they engage partners because this is their style of implementing their programmes, all the other organizations gave two or more reasons. CRS explained that they engage partners because partners complement each other. For instance, the WASH Expert stated that "to reduce cost, we involve local partners who already have the staff at the community level". We also want to build the capacities of these younger organizations. From table 6.1, most of the organizations expressed capacity building as the reason for involving other organizations (local) in their activities. The organizations that stated this reason were CRS, CIDA, CCFC, and World Vision Ghana.

World Vision Ghana gave three reasons for their engagement in partnership arrangements. These were that the WaS sector is an expensive enterprise for one organization alone to do implementation without partners. This was the only organization that also stated this reason. The organization also stated how they use local resources of local organizations and in doing so try to build the capacities of these local organizations.

From table 6.1, it was only UNICEF that stated that the organization does not do direct implementation. Information gathered from WASH revealed that for sustainability reasons, UNICEF works with other existing government/ civil society and community

structures. It was also found that UNICEF transfers funds only to formal institutions meeting UN standard for receiving funds for project implementations.

CIDA indicated that; “it was the donor style based on arrangements between Canada and the Government of Ghana”. The Programme Coordinator of CIDA also stated that these partnerships are necessary because “the skills and competencies required in some instances are only available within the private sector”. This response was not only narrowed to partnerships among development actors such as international and local organizations, but partnership also with the private sector. CIDA is the only organization that highlighted partnership arrangements between donors and that of the private sector. It was however not stated how such partnerships were made.

These responses suggest that partnerships arrangements do not only exist within CBOs but a common practice among other development organizations. The reasons for these partnerships however differ. Whereas CBOs mostly depend on these arrangements as a means to financial resources, the others seek to accomplish their objectives by relying on the existing human resources of CBOs. These organizations see the need to build the capacities of CBOs and their personnel as it is a means to ensure quality standard during project implementation in the sector. Aside these, it is a way of ensuring sustainability of projects in the absence of international organizations. This is because CBOs are closer to the communities and might continue to exist when international organizations are no more in the system. These findings justified Riddell and Robinson (1995) assertion that large international NGOs often work with local representation providing funding and support to indigenous NGOs and also rely on these organizations to accomplish their objectives (p. 33). Notwithstanding, respondents enumerated that these arrangements have their advantages as well as disadvantages.

6.6.7 The Advantages and Disadvantages of Partnership Arrangements

Observing that there was no organization in WaS that works individually to achieve the goal of facilitating communities to have access to these facilities, but working ardently through partnerships and other mechanisms to provide these facilities and services, the following were highlighted as possible advantages and disadvantages of such partnership arrangements.

As indicated by some of the international organizations and donors, partnership arrangements accord both international and local organizations to reduce cost of implementing projects in WaS. The international organizations and donors mostly rely on the human resources of the local organizations. This was disclosed by the CEO of NewEnergy.

NGO work is such that, you are based on donor partnership and donor funding. So if for instance, a particular donor wants to work in Zabzugu or/and Tatale, and gives you a guarantee that for the next 5 years I have resources, I want to partner you in these districts “I mean remote districts”. What happens is that; you have that guarantee and that, this project will support a project officer may be somebody for animation, may be a gender officer. I am just giving you an example. So with that guarantee you can recruit people and say that the location is in Saboba. You are expecting the thing based on what is offered you. Most donors do not want to contribute to 1: human resource recruitment and training. They want to add their money for it to get direct effect on the field. But it has to pass through a human being. So, they would give you very short contracts. Here we want you to do this, we want you to do 10 wells and it should be this and that, hoping that they would ride on your back.

With that kind of funding, you cannot have a district office and you cannot locate the person there because locating somebody in such a rural area you have to have some cost overruns. Pay rent of that person because the person was not originally staying there let us say Chereponi. You want him/her to go there. Then the person's movement to the regional capital if say the family is here or Yendi, the fellow would regularly move at weekends let's say in the worse scenarios. But even some times, the week days when there is a critical problem he/she would come. If he has an official motor bike, he would ride and most likely use organizational fuel. So the cost of running you cannot afford it.....(Thomas Sayibu Imoro, NewEnergy, Tamale, November 7, 2012).

From the views of a senior staff from NewEnergy, it is palpable that most donors would usually not like to invest in human resource development (recruitment, training and capacity building). They would probably like to invest directly into the project in the field but these investments would necessarily be directed through human resources. So, what these partnerships seek to do is that; as a local organization, you already have some staff, you have other resources like working space. The international donors would then channel the cost of the project including wages for the staff to you. This at least will reduce cost of recruiting, training, rent and other administrative overheads.

Apart from reducing the cost, it was noted that these partnerships have held to their agreements. That is to say, partners have kept to the partnership arrangements. This came about as a result of a question asked “Have you had challenges so far? For instance, is there a year you have not received funds for your activities? And for which your projects have come to a standstill”? This question received a positive response.

Normally, and especially with WaterAid, if they were going to or have challenges with funding, normally, for what they call the staff cost they would still make sure that they transfer that one. Because that one is a commitment, people have been recruited based on this and that and the people must be paid. So, for that one, they would transfer the staff cost. What would or may suffer or delay is; they would say you hold on a bit with the latrine or the borehole you are going to do here or the training you are going to carry out. Hold on a bit and let us sort out some things before. Eventually they would send the money. That can delay but as for the staff cost usually they would paid. (Charles Nachinab NewEnergy, Tamale March 20, 2014).

This explanation to the questions is evident that one of the advantages in these partnerships is that donors keep to their word. There may be instances that a project may delay or put on hold but its implementation would be obvious. It could however not be established whether this is probably the reason why donor funded projects are always completed on schedule than those from government funding.

On the contrary, it was observed that these partnerships are within short and medium term arrangements.

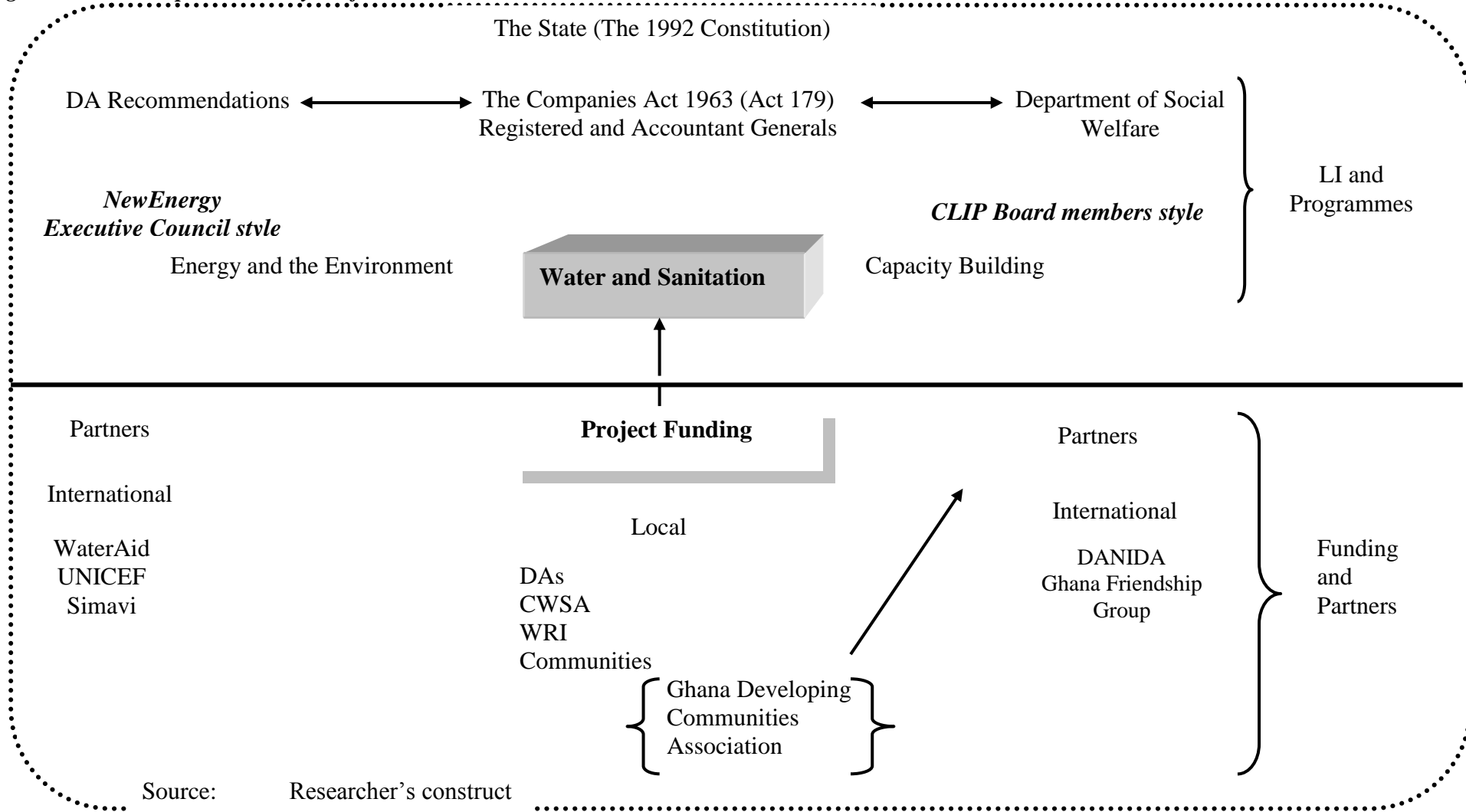
Your relations with the group like I said, if there is a donor who wants to partner with you in a particular area let's take water; they would not just do it. You are our partner for life. Every year we can guarantee you may be 200,000 GH ¢ for the next 5 years. When they give you that type of opportunity, you can really plan ahead. But when they say, this year we want to do this, next year we are not sure whether we want to work with you or we would find somebody. Then, you have a very short MoU which is annual and that also affects the way you would also deploy staff. Because you would also give the staff annual contracts because beyond that, you do not have your own independent resources to keep the person. If that donor does not renew the contract, your structure is also short. So, that is why you cannot retain may be quality staff for long. Because they are looking for something more permanent more predictable and you say one year contract. What happens next year if I do not get?..... (Thomas Sayibu Imoro, NewEnergy Tamale, July 9, 2012).

From the views of the CEO NewEnergy, long term arrangements accord “they” the local organizations the opportunity to actually plan with experience staff. This is because the organization depends on the resources of donors and due to the short term arrangements, one cannot maintain a team if you are not given assurances. On one hand, professionals searching for jobs in the system would prefer to have long term job security. This explanation from the CEO was also comparable with a study conducted by Clark and Postel-Vinay (2005: 3). Clark and Postel-Vinay (2005) carried out a study on “*Job Security and Job Protection*” where the findings revealed that “workers feel most secure in permanent public jobs, and least secure in temporary jobs, with permanent private sector jobs occupying an intermediate position”.

6.7 Commonalities among the Cases

This part of the chapter seeks to highlight some commonalities of the 2 cases in the study. This is based mainly on comparative analysis of the databases of the cases and my own interpretations of such data. This comparative analysis is summarized in figure 6.12.

Figure 6.12: Comparative Analysis of Cases in Water and Sanitation in Ghana



As shown in figure 6.12, I attempted a comparative analysis of the cases in two (2) major areas of: their formation process and their sources of funding. The laws of Ghana are spelt out in the 1992 Constitution however, it is the Companies Act 1963 (Act 179) that register organizations under this category normally as a Company Limited by Guarantee. Act 179 has regulations for Companies Limited by Guarantee. Some of these regulations indicate the existence of an Executive Council where two (2) members of this council are Directors and that of a secretary. From the organizational structures of NewEnergy and CLIP, it was evident that NewEnergy strictly apply these regulations with their Executive Council style of leadership where the Chief Executive is the secretary to the Executive Council of the organization.

On the part of CLIP, this was different as the organization has Board members style. However, when asked whether the Board members were equated to the EC as prescribed by the Act, the answers was positive. The Programme Coordinator explained that it is just a matter of style however; the Board is made up of different personalities like a member from CWSA.

Aside Act 179, there are other bodies that give approval for Companies Limited by Guarantee to become fully operational. These include the DAs and DSW. Both DAs and that of DSW are working as monitoring agencies on the activities of organizations established as Companies Limited by Guarantee. The cases acknowledged the due process in the formation stages of these governmental agencies, but from the observations the Department of Community Development (DCD) both at the regional and district levels were absent in this process. One would have expected that since DCD is directly involved in community development activities and these organizations are working directly on community development themes, this department should have been included in the formation process of Companies Limited by Guarantee.

Meanwhile, the cases work in commonality in WaS. In figure 6.12, both attempt to provide WaS facilities to rural communities with limited resources basically from donors. Aside working in WaS, it was observed that there were other themes of interest to the cases. NewEnergy is more involved in “Energy and the Environment themes” while CLIP is more into Capacity Building themes. Assessing their themes, it became comprehensible that the cases seek to address community needs. For instance, the energy programmes under NewEnergy seeks to provide energy friendly options such as solar in agro-processing activities. This is not only addressing the energy needs but also addressing an environmental challenge of tree population conservation. On the part of CLIP, the development of the communities should be tackled by the communities themselves. There is however, a challenge here, because most communities have high illiterate population. To be able to drive their own development means to have the basic tools such as leadership skills, advocacy, and abilities to analyze community needs among others. CLIP, therefore considers that building communities’ capacities could probably drive community development.

Notwithstanding, the observation was that could capacity building programmes be less expensive and demanding than that of physical facilities provision. This is because CLIP depends only on one source (DANIDA) for funds. However, James (1994) in his research “*Strengthening the Capacity of Southern NGO Partners*” stated that organizational capacity of Southern NGOs is currently being identified as a crucial development strategy by official and non-governmental development agencies alike. James (1994) further explained among other findings that capacity-building is strategic, not just another sectoral programme. “This work is complex; long-term; changing; expensive in time and money; requires Southern ownership, not just acceptance; and is not a convenient exit route” (p. i). Going by James (1994) findings and what some field officers (WSTL) explained, capacity building projects cannot be seen as less expensive than physical projects. It depends on the contexts in which these projects are run.

The final part of figure 6.12 seeks to illustrate how the cases fund their programmes. From figure 6.12, it is obvious that the cases use partnerships to source funds to implement their

programmes. The observation here is that, the cases use either local or international partners. Meanwhile, it is the international partners who basically provide financial resources for programmes. The local partners are mostly governmental establishments who work with the cases to ensure that policies in the sector are followed during project planning and implementation. They act as coordinators of the policy in WaS especially for rural communities. However, it was observed that CLIP has a local partner who is neither a governmental body. This is GDCA. This organization is also a local NGO but links CLIP up to its partners in Denmark. This is rather not the case with NewEnergy. Nonetheless, it was confirmed that NewEnergy is a member of the Ghana Coalition of NGOs in Water and Sanitation (CONIWAS). This naturally makes all CONIWAS members their partners of some sort. Currently, NewEnergy is coordinating Northern Region WASH (NRWASH) Programme as part of the WASH Alliance programme in Ghana. This is in partnership with Simli AID, Aford Foundation, Ghana Young Artisans Movement (GYAM) and Presby Water Project. This suggests that partners change from time to time depending on the type of programme or project being implemented.

6.8 Networking Analysis

Networking is a common phase today. This concept is used in many disciplines and across different sectors. Networking is in the business circles, formal organizational structures, in migration linkages, in educational establishments, the tourism industry and the list is seemingly endless. According to (Pavlovich, 2003), relationships between firms are now seen as an important component of competitive advantage, with the “relational” perspective now positioned legitimately alongside the other strategy frameworks of industry and resource-base views in assisting us to understand organizational dynamics. Our understanding of organizational networks comes from the network theory that is concerned with the collective nature of organizational action, constraint and coordination. This theory assumes that relationships do not occur within a vacuum of dyadic ties, but rather in a network of influences where firm’s stakeholders are likely to have direct relationships with one another (Rowley, 1997: 890). In the contribution of (Waldstrøm, 2001), networks are made up by the following two major compounds. The nodes (sometimes called actors, egos, unit), and the relations between them (sometimes called links). Further to this, (Waldstrom, 2001) explained what these nodes are. Terms like bridge, liaison, isolate, star and others connote the nodes: where in a bridge, the individual in a communication group connects with other groups thereby bridging two or more groups together.

Meanwhile, based on the network theory, (Pavlovich, 2003: 204) elaborated that it is these overarching patterns of relationships or ties between organizations that offer insights into the network architecture and its relational data. Further to this, are also the institutional and resource dependence theories where organizations or institutional groupings can be drawn as strong ties and/or weak networks ties. In the analysis of (Pavlovich, 2003), there is a centrality and density position in networks where centrality reveals how critical an organization is within the network’s global structure and suggests that the more central position an organizations has, the more important it is to the network’s coordination functions. On the part of the density, (Pavlovich, 2003) stated that this explores the overall structure of the network and examines the number of ties that link network actors together. The assessments of (Pavlovich, 2003) are however; based on structures closer to the firms where profits and competitions do exist. Nonetheless, there are similar findings of network relations in non-profit making entities.

Based on the assessments of (Pavlovich, 2003) and (Waldstrom, 2001) and comparing the database of the two cases, it became evident that networking relationships within WASH sector, the cases and other actors in Northern Region was pulsating. The cases network with a cross section of actors that can be termed “the compass” networking relations. This “compass” networking relations also produced what (Pavlovich, 2003) described as strong ties and weak ties.

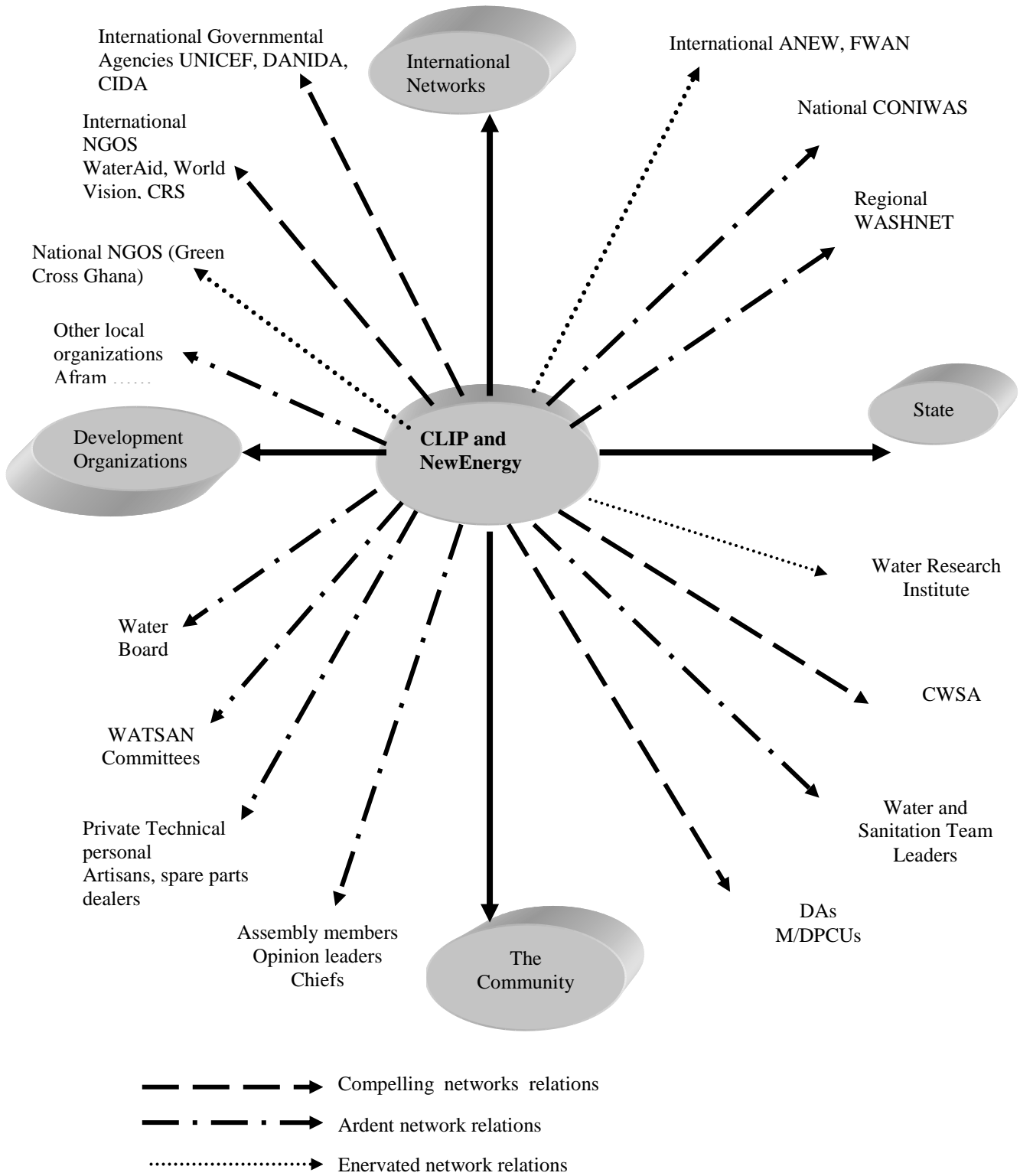
In this study the level of ties in networking relations is to describe how the cases interact with other actors in their operational activities. There is also the knowledge and influence dynamics.

On the point of knowledge, a study by (Tsai, 2001), highlighted that organizational units can produce more innovations and enjoy better performance if they occupy central network positions that provide access to new knowledge developed by other units. Tsai (2001) further indicates that this effect, however, depends on units' absorptive capacity, or ability to successfully replicate new knowledge. From (Tsai, 2001) study, network is pinned to new knowledge and how such knowledge could be used for better performance. This to a large degree is agreeable probably because (Tsai, 2001) study context is centered on business companies where profits are the underlying principle.

In this study, other components other than new knowledge were uncovered. These include resource sharing, level of influence on decisions, innovative exchange of programmes and projects. CLIP and NewEnergy are involved in different level of network relations in their quest to implement development projects. These network relations has resulted not only in the acquisition of new knowledge as in the case of Tsai (2001) but in what these cases term as resource sharing, levels of influence on decisions as well as innovative exchange of programmes and projects.

On the contrary, the network relations also revealed that networking is done at different levels. There are some levels with less influence than others. Some of the networks cannot go unattended to. Such networks influence the success of their activities. These linkages are illustrated on figure 6.13.

Figure 6.13: Networking Analysis



Source: Researcher's construct based on field data

As illustrated in figure 6.13, CLIP and NewEnergy network with a number of actors in WaS. Figure 6.13 seeks to categories these actors into four (4) board groups of international networks to the north of the figure, the state actors to the east, the community to the south and development organizations and donors to the west. This grouping further identified actors that these cases network with. For instance, from the community level to the state, the actors that these cases network with are DAs and M/DPCUs that are closer to the community. This is the order to the state level within the WaS sector in the country. To the left hand side of the figure, moving from the community to development organizations, the Assembly members, opinion leaders, chiefs down to the Water Boards were also identified. In this order a total of fifteen (15) different actors were identified to be networking with the cases.

There were however, levels of how these network relations take place. It was observed that three (3) levels of networking exist in this “compass” relationship. These are termed “compelling network”, “ardent network” and “enervated network” relations. A compelling network relations exit depending on the influence such actors have on the cases. These include influencing major decisions of the cases, the frequency in taking decisions, knowledge and resource sharing among others. An ardent network relations exit when there is less influence, less frequency in taking decisions. While enervated network relations exist when there is no influence on the activities of the cases.

Based on these levels assigned to the network relations, three (3) actors were identified to have enervated network relations with the cases. These are WRI, International networking organizations such as Africa Network of Civil Society Organizations (ANEW), and National NGOs such as Green Cross Ghana. WRI is a state institution in-charge of water related research issues. This institution mainly does water testing. While ANEW is a continental organization representing the interest of the other national organizations in their respective countries in the WaS sector. Green Cross Ghana is a national NGO working to ensure access to water services, water campaigns and others. These actors have no influence on the activities of the cases. WRI does water testing for the cases but after the results are presented to the cases they have no direct influence as to whether a particular project should be implemented or not. This is the same with ANEW and FWAN. These organizations have no direct influence on the cases. There is less networking relations between these actors and the cases.

On the contrary, about eight (8) actors were identified to have ardent network relations with the cases. These actors are from the community to international levels. For example, the assembly members, artisans, WATSAN and WB members, WASHNET and others all had ardent network relations with the cases. For example, CLIP stated that they involve the assembly members frequently in project planning. NewEnergy on their part indicated that they work with artisans but they are not permanent staff. The two cases are all part of WASHNET at the regional level. These actors therefore have some level of influence on the activities of the cases. For instance, during community animations, the chiefs have an influence on community members. Their acceptance to your objectives would lead to community participation and involvement in the activities of the cases. Both cases again illustrated how they offer service related activities in the form of training WATSAN Committees and Water Board members. These are the actors that work to ensure the sustainability of the facilities after construction. In the absence of these actors, the cases probably would have to find other measures to ensure sustainability. This is what is termed ardent networks in this study.

The last is the compelling network relations group. From the criteria, four (4) actors emerged in this group. These are the DAs, CWSA, International NGOs and International Governmental Agencies such as DANIDA, CIDA and UNICEF. There is a compelling networking relations between these identified actors and the cases. For instance, under Act 564, the cases are expected to work on demands from DAs. The cases programmes are approved after

negotiations first at the DA and that of CWSA. CLIP stated how a member from CWSA is a member on the Board. This level of networking has influence on the activities of the cases. The international NGOs and donors have financial influence on the cases. The frequencies in dealing with this group of actors are also different from that observed under the ardent and enervated network relations. These network relations are very compelling and piquant.

6.9 Summary and Discussion of Emerging Issues

In this chapter, I presented the formation procedures of CBO in the region. It was obvious, that this group of organizations is stipulated by law as Companies Limited by Guarantee. Other governmental entities such as the DAs and DSW are mandated to review, and recommend their activities during and after their establishment in the region. There was however, an observation that the Department of Community Development a department under MLGRD would be involved in this process. This is because MLGRD exist to promote the establishment and development of a vibrant and well resource decentralized system of local government for the people of Ghana and to ensure good governance and balance rural based development. If this is so, it could be argued that DCD be included since these organizations work in themes directly under DCD.

The organizational profiles of the two cases present a similar organizational structure but differences especially in decision making. While decisions in NewEnergy could be taken by field officers and pass through to the Executive Council as in the case of the Ghana School Feeding Programme Enhancement Project (GEP), CLIP decisions are basically at the Board members level. It is after the Board's decision that a proposal is developed and forwarded to donors for funding. Meanwhile, both cases implement programmes in other themes other than WaS programmes. Data revealed that the cases work through partnership arrangements and agreements. These arrangements are not on a uniform level but depend on each donor's style. This finding is comparative to (Gage, 2004: xii) who stated that "no two set of partners will have the same arrangements. No two Partnership charters will look the same". However, there were variations in partners. CLIP depended on one partner (DANIDA) for funds while NewEnergy was observed to have different partners ranging from WaterAid their main partner to others like UNICEF, Simavi, and many more in their other themes. Their process of receiving the funds however, looks similar with direct transfers to the organization's account. Consequently, it was remarkable that it is not only local NGOs that initiate partnership agreements with donors to implement programmes but donors and international NGOs does initiate the process as well. This was observed to be a two tier process. The INGOs and donors do same so that there can be exchange of resources. The INGOs give financial resources while the CBOs give human resources. This was seemed as a complementary role.

Lastly, the chapter attempted an analysis of network relations observed as a commonality among the cases. This analysis presented a flashback of the different ties that exist between the many partners and actors in WaS sector in the region. There was first an identification of all the actors that network with the cases and levels of such networks. Based on what (Pavlovich, 2003) described as centrality and density of relationships, I then developed some criteria to assess the network relations of these organizations. From the database, three (3) levels emerged where the donors, DAs and CWSA were identified as actors who had compelling network relations with the cases. The next chapter outlines the specific infrastructural facilities and services that the cases provide in communities and their sustainability arrangements.

Chapter 7: Basic Needs Provision in Rural Communities: The Case of WaS Infrastructural Facilities and Services by CBOs

From the discussions in chapter 6 centered on the overall structure of CBOs and their networking relationships, in this chapter, I discuss the facilities and services that CBOs implement. The deliberations are based on the general research question 2 that:

How do organizations contribute to infrastructure development and the provision of basic needs in rural communities? This question is imperative because much attention is not paid to the operations and services provided by CBOs in the region. Besides, there are few analytic discussions on what CBOs in the WaS sector does.

To unearth this, specific questions such as:

- ❖ *What type of WaS facilities and services are provided*
- ❖ *What are the processes; how have the provisions of these facilities aided in access to facilities by households and how do organizations work towards sustainability* were asked.

Presentations in this chapter are based on data from interviews, field observations, and a survey in 6 communities.

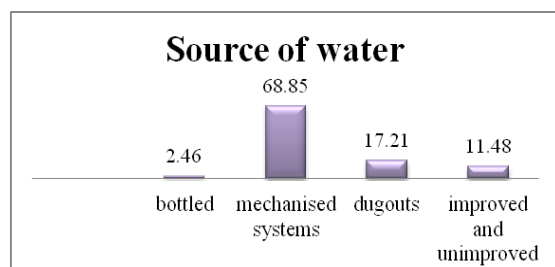
The chapter analysis is in two parts. The first part presents a general picture of WaS facilities observed in the field. These are grouped into WaS facilities and services. These are further grouped into levels of provision (at the community and household levels). Water facilities were mostly implemented for the community whereas sanitation facilities were implemented at the household level. It was observed that water facilities that are community based were well managed due to the community management structures instituted to manage these facilities. Sanitation facilities were however, managed at the household level but had low management or maintenance plans as compared to the water facilities.

The second part presents activities of the individual cases. CLIP sanitation services are geared towards attitudinal change in sanitation practices. NewEnergy enhances community management structures that manage the facilities after implementation. From the household survey and data from community meetings, it was observed that water facility functionality in these areas is about 30% higher than global standards.

7.1 Potable Water Facilities

According to (JMR, 2013) updates, the end of 2011, (89%) of the world population used an improved drinking-water source, and 55% enjoyed the convenience and associated health benefits of a piped supply on premises. The report further indicate that, improved drinking-water sources are piped water on premises; public taps, standpipes, tube wells or boreholes, protected dug wells, protected springs, rainwater collection. This study used these facilities as the basis to measure whether communities had access to these improved drinking-water sources as used by (JMR, 2013). This is because the JMR indicators are the universally acceptable indicators in tracking the progress in WaS globally. Based on observations from the field, 89% of rural communities rely on underground water to meet their domestic water needs. This observation was further confirmed in a household survey and details presented in figure 7.1.

Figure 7.1: Source of Water for Household Use in the Region



Source: Field data, 2012

From the household survey conducted in the six communities in the 3 districts in the region, 69% of the population relies on mechanised systems for their water supply. The mechanised systems

include boreholes, Small Town Water Systems, mechanised boreholes, piped into dwellings and public standpipes. The various sources were provided by different groups of which external donor support stands at 45%. External donor supply is mostly by the partnership of CBOs in the region.

From figure 7.1, it is evident that most of these communities have access to mechanised systems for potable water supply. The 69% in figure 7.1 is also comparable to (JMR, 2013: 8), that “the end of 2011, 89% of the world population used an improved drinking water source”. Notwithstanding, about 17.2% of households in these communities still rely on dugout sources for their water supply while 11.4% used both improved and unimproved sources.

Figure 7.2: A Dugout Well Observed in Wambong



Source: Field work, 2012

As can be seen in figure 7.2, this is how water from a dugout well looks like. The 17.21% of households in figure 7.1 who indicate that they use water from dugouts use water similar to what is observed in figure 7.2.

The 11.4% that used both improved and unimproved sources explained that, they use water disaggregation which is discussed in subsequent pages. In situations where potable water is not readily available for all household activities, potable water sources are used for drinking and cooking while the unimproved sources are used for other household

activities that are not directly consumed.

Aside, 2.4% of the households indicate the use of bottled water. These are the sachet water that is bag and sold. In Wambong, D.C Kura, Kusawgu (Kootito) there were evidence of these sold in these communities. This finding is however, in variation with the (PHCR, 2013) that presented on average 0.4% of the districts in the region consuming sachet water. On this background, there was a general inventory of the water facilities in these communities.

7.2 Water Facilities

The water facilities in the communities sampled are grouped under two broad headings of underground water source facilities and surface water source facilities. The underground water sources are water sources obtained from underground. Surface water source facilities are water sources obtained from surface running water. These grouping are presented in table 7.1.

Table 7.1: Water Sources and Facilities

No.	Underground water source facilities	Surface water source facilities
1.	Single Point Systems	Small Town Water Systems
2.	Mechanised Boreholes	Rain water
3.	Boreholes	
4.	Standing pipe systems	
5.	Small Town Water Systems	

Source: Field data 2012

the region that these are the major sources of drinking-water in the region.

As presented in table 7.1, underground water source facilities are mostly used in these communities. The underground water source facilities are single point systems, mechanized boreholes, boreholes and standing pipe systems. This finding was also consistent with the (PHCR, 2013) on the

The surface water source facilities are basically of two types. These are small town water systems and rain harvesting facilities. The Director of CWSA Mr. Offori MacCharty however, categorized rain water as a type on its own. Nonetheless, the two (running water and rain) in this study are regarded as surface water sources and discussed in that perspective. It was observed that, all the facilities under the two sources except rain water were community owned and managed. Meanwhile, rain harvesting was purely at individual household level except at Wambong (2) and Nyoglu (1) where rain harvesting tanks were functioning in these two communities.

With rain harvesting at the individual household level, smaller containers were used to harvest the water. About 80% of the roofing type (thatch) did not support rain harvesting in these communities.

Figure 7.3: Rain Harvesting Containers in Kusawgu



Source: Field work, 2012

As shown in figure 7.3, the blue container is the type used in these communities to store rain water. This household had aluminum roof and as such could harvest the water.

Rain harvesting was also plausible only during the rainy season. This type therefore, presented a smaller percentage of water sources in these communities. Again, the (PHCR, 2013) indicate that in the CGD, Yendi and Savelugu Nanton Municipalities rain harvesting present 2.2%, 0.6% and 1.2% respectively. This was similar to the observations on rain harvesting practices in

these communities.

Similarly, the Director of CWSA, Tamale explained in an interview why rain harvesting was a challenge especially in the northern part of the country. This was in response to a question asked whether rain harvesting was a new phenomenon and why CWSA and communities were not utilizing the opportunity of rain water.

It is actually not new, except that, there are two (2) things about rain water harvesting. This is basically as I told you, we have not been doing it effectively in the north because of the nature of the roofing system we have here, ok! It does not allow us to construct the harvesting mechanic channels on the roofs and again another constraint on rain harvesting is you need storage. In the north we have long dry seasons. So, if you build a storage facility, that would have to hold the water for six 6 months if you can construct. This is just like re-constructing the whole village. So why would you want to do that? (Offori MacCharty, Director CWSA, Tamale, July 10, 2012)

This is clearly the reasons why rain harvesting remains a challenge in this part of the country as compared to the southern parts. Notwithstanding, the (JMR, 2013) and previous reports indicate rain harvesting as an improved source for domestic use. Observing the nature of how rain water was harvested in this part of the country, it was curious to find out whether water from this source can be categorized as

improved. This was explained by an expert at Water Research Institute (WRI) Tamale.

Rain water ideally because it is coming directly from the atmosphere it does not contain much micro organisms but the problem is how it is collected. If it is collected from the roofs, you know, the roofs, birds defecate on them, leaves from trees and those things. So when it rains, it washes them into your collector. That is where the problem is, but if you want to get it directly from the atmosphere, most of the time, it is free for microbial content. It is always less, may be the chemical and the physical aspect that may be high because you do not know where the rain is coming from. So the rain is also something we would want to; we are doing some proposal, people would like to research into to see. Because, for here it is still raining while in some part of Ghana it is not raining. So we would want to see if it can be harness for drinking. People are trying to do some studies (Gerald Quarcoo, WRI, Tamale, September 20, 2012).

The response from the expert at WRI is an indication that, rain harvesting in this part of the country compromises quality of the water harvested. The nature of the roofs is not clean enough to harvest clean water for consumption. Furthermore, the evaluation report on the Rural Water Supply III project stated that in many cases, evidence suggests that microbiological water quality at the point of use is not impeccable, due to inappropriate transport and storage. This could be said of the type of roofs and storage from rain water.

Despite this, rain water could supplement for other domestic uses as in water disaggregation. The water sources explained above facilitate water supply systems in the region. These systems are further developed into different water facilities.

7.3 Water Systems Explained

From field observations and in-depth interviews with sampled Water Board members and WATSANs committees as well as other experts in the WaS sector at the region level, the following were the water systems provided for small town and rural communities. Based on the narrations and in-depth discussions I categorized the water systems basically into two. These are Small Town Water Systems (STWSs) and Limited Reticulated Water Systems (LRWSs).

7.3.1 Small Town Water Systems (STWSs)

According to the Director CWSA, Tamale, STWS are systems designed for communities with a population of 1000 people and above. It is associated with water systems designed for urban communities. An example of how the system looks like is presented in figures 7.4 and 7.5.

Figure 7.4: STWS in Buipe



Figure 7.5: Underground Connection in Buipe



Source: Field work, 2012

Figure 7.4 shows a STWS. This system could be water channeled from either underground or surface sources. For instance, in Buipe in Central Gonja District, the source is from an underground high yielding well whereas the system in Savelugu in the Savelugu Nanton Municipality is from surface water (river) from Dalum. With the system in Buipe, the water is pumped directly into an overhead tank and re-distributed to the households whereas; the system in Savelugu goes through water treatment before distribution. The dynamics of this system whether from a well or surface water is that pipe lines are laid for water distribution. These lines are first laid from the source through to an overhead tank and from the overhead tank to the individual households.

The tank water serves as a reservoir or a point for re-distribution. From the reservoir, water is again channeled to stand pipes or directed into piped connected households. These are very common especially in the district capitals. Rural communities closer to the main system are connected to these systems in the region. It was observed however, that most STWS are managed by GWC. For instance the system at Savelugu is under GWC but the system in Buipe was community owned. It was again observed that, with these systems, CBOs assist and support to lay pipe lines from the main system to either stand pipes or smaller capacity overhead tank for the communities. A further observation was that, these were predominately in institutions like schools, and Community Health Planning Services (CHPS) compounds. STWS however, requires a Water Board to manage the system and ensure sustainability.

7.3.2 Limited Reticulated Water Systems (LRWS)

Another system is LRWS which is similar to the STWS. These systems are designed to serve populations ranging from 500 -1000. The Director, CWSA explained that these are LRWSs. “It is limited because we do not provide direct supply to households”. These sources can normally serve smaller communities at a point source. They range from a simple borehole in figure 7.6, a mechanized borehole, single point system and that of stand pipes. The explanations to the various types under this system are that a single point system is relatively a deep well constructed and lined with cement on the well walls. This style is done to reduce pollutants and contamination of the water from the bare well walls which are normally soil and stones. It is a point system because it is not distributed like the Small Town Water System.

It was observed that aside the single point system, mechanized boreholes were among the commonest LRWSs in these communities. Unlike boreholes, these were innovative form from the boreholes. The water is gotten from a borehole but the system is fitted with a source of energy (solar or electric) that allows users to pump water from a mechanized means other than physical man power exertion. In this way, users are liberated from using physical energy. The disadvantage of this system however, is that, in the absence or when the system fails, users are unable to have access to water supply. These were common in the Central Gonja District where boreholes were connected to solar energy. The Assembly man of Mpaha however, lamented how these types pose a challenge to the community.

Of course! Mpaha would need a facility that would be there all round because what we have currently is solar. That is it. The system is shut down. In the night we cannot pump, early morning you cannot pump until the sunrises but it would pump and when it is also pumping, we cannot fetch because there are stand pipes about 3 of them in the community. So the tank would harvest before you start to give to the community (Adam Abdulai Square, Mpaha Assembly man, CGDA, September 18, 2012).

From the comments of the Assembly man of this community, it is evident that the mechanized boreholes do pose challenges especially during the night and early mornings when there is little or no sunshine.

This is a confirmation that mechanized boreholes could be of great disadvantage to communities in times of inefficient energy supply. Nonetheless,

most of these could be provided for institutions like schools and clinics since, these institutions would not rely on the system all the time, like that of the communities.

Stand pipes were associated with both STWSs and LRWSs. This is because the water from a stand pipe flows from a main system (STWSs) and it is also under LRWS because it is not supplied directly into households. In communities where pipe lines are not laid directly into households, pipes are laid to a point source where community members can have access to the water. The difference between a stand pipe facility and that of a borehole is that water from a stand pipe flows independently once the pipe is turned on. With a borehole, there is physical exertion of pressure from the individual.

Figure 7.5: *A Borehole Facility in Wambong in the Yendi Municipality*



Source: Field work, 2012

The last facility under LRWSs is the borehole. This is a simple underground water source that requires the use of physical strength or energy by the user to draw water. The boreholes are drilled and pumps are fitted to draw water from underground. It was observed that, this is one of the commonest sources of water in these communities. In a discussion with the chief of D. C. Kura (Naa Mbakidi Jegma), he explained that most of their boreholes however, dry up during the dry season. One of the boreholes in D.C. Kura is seasonal.

7.3.3 Rain harvesting

Rain water harvesting is one of fast water development systems especially for institutions with a modern roofing system. This is actually not a new phenomenon, but because it was not common due to poor roofing materials especially in rural communities, the initiative was not utilized. This system is not also cost effective for use by an entire community. It can be done for individual households or for institutions. But it is very expensive to cover an entire community. In this system, a sizable tank or silo shaped tank is constructed. Pipe lines are constructed across a roof and channeled into the tank. This can be seen in figure 7.6.

Figure 7.6: *A Rain Harvesting Tank for a Teacher's Quarters in Wambong, Yendi Municipality*



Source: Field data, 2012

The water is basically stored during the rainy season and used during the dry season. Schools, clinics and other institutions which are roofed with aluminum sheets are now encouraged to utilize rain water to supplement for other sources in the region.

7.4 Sanitation Systems

Unlike the water issue where (JMR, 2013) indicate a high percentage of 89% of world population using improved drinking-water sources; sanitation is far less in globally figures. The report presented that almost two thirds (64%) of the world population relied on improved sanitation facilities, while 15% continued to defecate in the open (JMR, 2013). Narrowing down to continental and national levels, sanitation systems still remain a challenge. It is again reported that only in sub-Saharan Africa is the number of people defecation in the open still increasing. This is not different at the national level. The sanitation systems in this study also uses the improved facilities approved by the Joint Monitoring Report which states that; “improved sanitation facilities are likely to ensure hygienic separation of human excreta from human contact” (JMR, 2013: 12). Based on this criterion, the major sanitation systems observed in the field were Kumasi Ventilated Improved Pits (KVIP), and simple household pit latrines.

7.4.1 Sanitary Facilities

The KVIPs observed in the field were mostly in the district capitals and in some cases in institutions like schools and clinics in the various communities. This observation drew an attention to why KVIPs were not constructed also in small towns and communities. This is because KVIPs are a source of internally generated funds to the various DAs. From key informant interviews with District Planning officers in the 3 assemblies, it was revealed that it is not profitable constructing the common KVIP latrines in these communities as its done in urban communities in the districts.

The reason been that, it is expensive to manage them since, community members are most often not willing to pay for their maintenance.

These facilities when provided are to be managed by the DA who employs persons to sit and take money from users. It is these monies that are used for the maintenance of the facility. In the case of the rural areas, the public are not willing and prepared to pay for the use of the facility. The DA is also on one hand unable to facilitate the management because of limited resources. This situation led to an increase advocacy in household latrines and with the CLTS programme the DA is assisting communities to come out with measures to solve their own sanitation issues. Currently, five (5) communities are ODF (Abukari Baba, SNMA Planning Officer, August 6, 2012).

From this elaboration from the Savelugu Nanton Municipal Planning Officer, it is obvious that rural communities are not responding to the use of sanitation system which comes with payment. This probably is the reason why less if not none of KVIP systems were present in these communities. However, household pit latrines were observed in the field.

Coincidentally, institutional KVIP latrines were seen in the Local Authority primary school in Kusawgu (Kootito) and Wambong Primary school in the CGD and Yendi Municipal respectively. The L.A primary school sanitary facility in Kusawgu (Kootito) in Central Gonja District was constructed by the DA. The facility is been used by both the school pupils and community members. A closer observation at the facility revealed that there were serious sanitation challenges in and around this sanitary facility. A further interview revealed that the school pupils refused and has stopped cleaning the facility because the community also uses it without cleaning. This was a confirmation of what the Planning Officers at the 3 assemblies narrated. Community sanitary facilities in most rural areas are most times not maintained and the

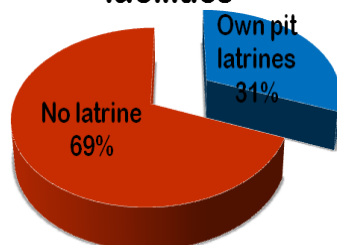
various DAs are also not in the position to continue to maintain these for the various communities. This has led to an increase advocacy and sensitization of household pit latrines.

7.4.2 Facility Usage

From the household survey and observations in the field, it was evident that a low number of households use pit latrines. The survey figures on the use of sanitary facilities are presented in figure 7.7

Figure 7.7: Sanitation Facility Usage

Households' possession of sanitary facilities



Source: Field work, 2012

In the household survey, it became clearer that 31% of the respondents in the six (6) communities used a simple pit latrine. These are owned by the households and constructed mostly with assistance from organizations and donors. The survey data revealed that 69% of the households do not own and use sanitary facilities in the 6 communities.

This figure also conforms to the (PHCR, 2013: 107) on Northern Region. This report stated that “the majority of households in the region (72.6%) have no toilet facility and, therefore, use the bush or open fields”. On an individual community level, there were variations in the number of households who owned household pit latrines. This is presented in table 7.2.

Table 7.2: Households and Sanitary Facilities

District	Community	Number of Housing Units (CSV, 2011)	No. of Households samples	Households with sanitary facilities	Households without sanitary facilities
CGD	Kusawgu (Kootito)	53	20	2	18
	Mankpang	32	15	1	14
SNM	Damdo	33	16	0	16
	Nyoglu	66	23	10	13
YMA	D.C Kura	36	23	20	3
	Wambong	43	25	10	15

Source: Field work, 2012

As presented in table 7.2, communities in CGD had the least number of household pit latrines. In Kusawgu (Kootito), only two (2) of the 20 households sampled had latrines. The same was observed in Mankpang with only one (1) latrine. D. C Kura in the Yendi Municipality had the highest number (20) latrines. This was followed by Nyoglu (10) and Wambong (10) in SNM and Yendi Municipality respectively. This could be the reason why the District Water and Sanitation Team leader, YMA expressed delight on their achievement in CLTS and ODF.

Yeah we were the best because we triggered about 100 communities and we declared 10 as ODF whereas some were not able. It is sustainable but we triggered 100 communities that is the reason why I am saying. On one side, it is not good because when you write an exam and you get 10 over 100 they would not say you have passed (laughing) but here, we were the best out of about 14 districts. Eherrrr! Some did not even get; some had 4, so if we had 10 and we were the best, on one side, you would see that we did well (Sani Mahama, DWST Leader, YMA, September 24, 2012).

These findings from the survey were reliable to the narration of Mr. Mahama Sani. They were on one hand not happy with their achievement as a Municipality in the sanitation sector but comparing their performance with other districts, they were the best. Even in Wambong that was sampled as community with less access to these facilities, the community had (10) facilities as compared to Mankpang (1) that was sampled to have

maximum access to these facilities.

7.4.3 Materials used in Constructing Sanitary Facilities

From the six (6) communities, it was observed that the materials used in the construction of the household pit latrines were basically from local resources. Apart from the institutional facilities that were observed to have been constructed with cement, the individual latrines were constructed with mud. Some of the households who did not construct structures however, used a local mat known as zanamat. The two pit latrine structures observed in the field are presented in figures 7.8 and 7.9.

Figure 7.8: A Mud Pit Latrine



Figure 7.9: A Zanamat Pit Latrine



Source: Field work, 2012

As can be seen in figure 7.8, the household pit latrines are simple structures constructed to ensure the disposal of fecal matter of household members. This structure is also to ensure privacy during “nature’s call”. The structure is constructed by first digging a pit of 1.2 meters diameter either square or rectangular (CWSA Design Guidelines, 2010). However, most of the structures were circular in shape. The pits are expected to be deep to allow for longer usage. But in most cases, a closer observation at pits that were still under construction during the time of field activities showed that some were swallow of about a meter deep. One of the pits in Wambong that was constructed was rather used as a water reservoir.

Figure 7.10: Pit Latrine Used as a Well



Source: Field work, 2012

Mr. Sani Mahama gave this response when asked to ascertain what the problem was with sanitation in these communities. This was because there were proofs of vent pipes and concert slabs distributed to households for the construction of facilities, yet some were lying idle and were not in use.

Nonetheless, those households that had facilities had individual sewer system and could be termed as dry pit latrines. From the narration of the head of “Takumyili” in D.C Kura community, the pits were very shallow and would pose a challenge to the community in the future.

Yes! My sister they are asking us to construct these “things” but we in this community do not have the knowledge on how to do it. You can see from that one under construction that the hole is not deep. If we start using them, they will be full in no time. What will we do? Do you think we will be able to sit in this community? Nobody is also telling us anything. All the inspectors are happy with is for the household to have a sanitary facility. Hmmm! I am just doing what I can (Abdul Mohammed, resident, D. C Kura, November 12, 2012).

You see, interestingly, for the water facilities, they do not joke I can assure you. They do not joke with them, it is only the latrines. The problem is that they put preference on water; you must eat, you must drink before you can go to toilet. So like I said, if you go to the bush you can do it there but, for water there is no alternative (Sani Mahama, DWSTL, YMA, September 24, 2012).

From the narration of Mr. Abdul Mohammed, it confirmed my observation that most of the pits were shallow. Aside, the communities were constructing these facilities as if they just wanted to please the authorities. This is evident in Mr. Abdul Mohammed’s narration that “Nobody is telling us anything. All the inspectors are happy with is for the household to have sanitary facilities”. Most of the households did not show readiness to own these facilities like in the case of water. This is so because in Damdo in SNM, a member in the

chief house told me that “my daughter when you return from the farm, the first thing is to take in water, I cannot sit the whole day without water but in the case of easing myself, I can manage and do it in the night” (Dakurugu Mahama resident, Damdo, November 15, 2012).

Consequently, about 30% of the latrines were constructed with mud, the rest were covered with “zanamats”. Those constructed with “zanamats” had no doors, and roofs. The mud ones had roofs on the structure. There were no vent pipes on the “zanamats” structures. Those that had super structures had vent pipes built in them. All latrines observed had slaps covering the pit. The slaps however, did not have small covers for the openings. It was observed that house flies were moving in and out through these openings from the pit. About 12% of the structures had two separate slaps. When asked why the separate slaps in one structure, the answer was to cater for the

sexes, (males and females). However, it was observed that these were not separated or partitioned for separate use. An example is in figure 7.9 overleaf.

Further to these, the latrines were observed not to be weather friendly. For instance, those that had no roofs posed a challenge for use during a rainy day or during the day time with those without doors. It was also observed that all the structures were designed to allow for squatting instead of sitting. These observations further indicate that the facilities were not user friendly to the aged in the households who may not be able to squat.

Subsequently, it was observed that the entire design of the sanitation facilities did not meet the design guidelines of (CWSA, 2010). The guidelines for constructing household pit latrines are that; latrines should be relatively free from flies and odors. The structures should be stable to prevent collapse and the design should meet the needs of the physically challenged (CWSA Design Guidelines, 2010). The facilities observed in the field however, defeated these guidelines.

Figure 7.11: Hand Washing Container on a Tree in Wambong



Source: Field work, 2012

The latrines were also observed to be detached from the main buildings in the compound. Apart from few that were attached most were 2 to 6 meters away from the main compounds. It was also observed that there were no hygiene facilities like washing containers by the facilities. Apart from three (3) households in Wambong that had hand washing buckets by the facilities hanged on trees or structures closer to the facility in figure 7.11, none had hygiene facilities in the other communities. This again was an indictment on the part of the design guidelines that “all latrines shall have hand washing facilities” (CWSA Design Guidelines, 2010).

7.4.4 Facility Maintenance

It was also observed that maintenance of the facilities were absent. For instance, about 80% of the facilities had weeds growing around the facilities. Consequently, it was the three (3) households that had hand washing facilities that also had local detergent (ashes), used in and around their latrines. In these same 3 households, there were the presence of brooms and brushes found around their facilities. These observations were however, dissimilar to the responses from the survey on the use and maintenance of sanitary facilities. The responses are presented in table 7.3.

Table 7.3: Households Maintenance of Sanitary Facilities

Communities	Households with facilities	Do you maintain the facility? (Yes)	How do you maintain your sanitary facilities?
Kusawgu (Kootito)	20	2	Change old materials, plaster walls,
Mankpang	15	1	Clean round the facility
Nyoglu	16	10	Clean, change old materials, plaster walls, weed round facility
D.C Kura	23	20	Clean, change old materials, plaster walls, weed round facility
Wambong	23	10	Clean and weed round

Source: Field work, 2012

From table 7.3, all the households in the six (6) communities indicate that they clean their latrines. This response from respondents opposed to the observations that saw papers, polythene bags and weeds in and around the facilities at the time of field activities. In Wambong for instance, there were presence of fecal matter around two latrines suspected to be from children. On the issue of how households were maintaining their sanitary facilities, cleaning was the most common response from all the six (6) communities. Three (3) households in Wambong that responded that they weed around their facilities ironically still had weeds around these facilities. Apart from one (1) household that had actually changed the old roof of the latrine in Nyoglu in SNM, the rest of the households had old roofs, old walls of the super structure. There were physical observations of cracks on some of the structures. From these, it sent a picture that the understanding of maintenance of facilities in these communities is basically cleaning.

Generally, these observations were in variation to the (JMR, 2013) indicators on sanitation. The (JMR, 2013: 12) indicator on sanitation is that; “improved sanitation facilities are likely to ensure hygienic separation of human excreta from human contact”. From the field observations, the structures in figures 7.7 and 7.8 ensure hygienic separation of human excreta from human contact in the sense that; they all had slaps making it impossible for human contact with excreta. However, there are more issues on the “improved” that the indicator failed to look at. These are aged friendly usage of the facility, hygiene (prevention of house flies in these structures), and privacy that ensures human dignity during use.

7.4.5 Reasons for Poor Sanitation

From the discussions on sanitation in these communities, it is discernible that there are deep root reasons for this situation in communities. From the interviews, it emerged that the reasons were attitudinal and poverty. On the other hand, the survey proof otherwise. The responses from the households are presented on table 7.4.

Table 7.4: Reasons for Poor Sanitation

Communities	No of sampled households	Households with facilities	Poverty	Reasons		
				No use for the facility	Technical challenges to construct	Availability of space
Kusawgu (Kootito)	20	2	4	6	6	2
Mankpang	15	1	4	5	2	3
Wambong	16	10	2	3	0	1
D. C. Kura	23	20	2	0	1	0
Damdo	23	0	6	7	5	5
Nyoglu	25	10	4	9	2	0
Total	122	43	22	30	16	11

Source: Field work, 2012

Table 7.4 summarizes the responses of households on poor sanitation in the 6 communities. As can be seen in table 7.4, the responses from the households on why their households had no sanitation facilities are categorized under poverty, no use for the facility, technical challenges to construct, availability of open space. The responses came from households without the facilities.

As shown on table 7.4, many of the households (30) in all the communities indicated that they had no use for the facilities. Apart from D. C. Kura that no such reason was given, all the other communities indicated this reason. This response did not surface in the interviews. Though, most of the households opined that their inability to acquire sanitary facilities was as a result of poverty, issues like availability of open space as alternative avenues pop up in the responses. This confirmed the response from Mr. Sani Mahama that there are alternatives to sanitation than water that had no alternative. Also, technical challenges as to how to construct these facilities came to light in the responses. For instance, 6 households in Kusawgu indicate that they were technically challenged to construct facilities. This response was presented in the FGD in Tamale to professionals.

At first, there were disagreements because for the sector and organizations, they give technical assistance to these households to construct facilities, but when photographs of abandoned structures were made available, there was acceptance of organizational challenges on this situation (See figures 7.10 and 7.11).

Figure 7.12: Collapsed Sanitary Facility in Damdo



Source: Field work, 2012

Figure 7.13: Abandoned Sanitary Facility in Damdo



Consequently, the observations defeated the responses that the households were challenged due to poverty to acquire these facilities. This is because, in Damdo 6 households responded that they could not acquire the facilities because of poverty. However, there were evidence of vent pipes and concrete slabs lying idle in the community. This observation suggested other reasons other than poverty.

7.4.7 Patterns of Defecation

Based on the findings on reasons for poor sanitation, it became ostensible that two patterns of defecation emerged in these communities. These, I termed as normal and contingency defecation. Normal defecation is the situation where humans are expected to defecate perhaps in the morning when one is out of bed. This at times happens at home or at place of work. It is normal because it comes within specific times of the day either mornings or evenings. In this type, one can manage to the work place “to do it” or do it at home before work. This is normal. Most of the households acknowledged the need for the facilities because of health benefits and this was expected.

Contingency defecation suggests that defecation occurs at odd hours and places. This is because most of the responses stated that they were farmers, and they spend their time in their farms. They wake up in the morning and on their way to the farm, they are saddled with this situation. They cannot return home to do it and return to the farm even if they had facilities at home. The exigency to do it at that point is high. It is a contingent situation and this happens also at their work places (the farm). This type of defecation is illustrated on figure 7.14.

Figure 7.14: Contingency Defecation



Source: Researcher's construct

As demonstrated in figure 7.14, these are people on their way to their work places. As illustrated in figure 7.14, there is a child and the father. The child ask the Papa that he needs to go to toilet and at that point there is no sanitary facility except the bush. The Papa even goes ahead to tell the son that “don't go into the bush because of reptiles. The same is with the woman who is probably going to the market. Because she took beans in the morning,

this was beginning to disturb her stomach. She has no alternative than to do it immediately.

It is not the fault of these people that there are no immediate facilities around. This is the situation on the ground. But sanitation strategies have been treated to overlook these realities. This is because the measures adopted to remedy the situation are centered on one direction. When they are used to defecating on their way to their work places, it could be the case that, at home they are confrontable doing it the same way. It was also observed that urinating outside is not shameful in these communities. This could probably be the reason accounting for many respondents indicating that they have no use for these facilities on table 7.4.

7.4.8 Sanitation Markets

As the name suggest, these are designated places where techniques of acquiring a sanitary facility are show cased. This is a CWSA policy that was established in 2000. The main idea behind this policy, is to show case the various sanitation facilities and the technicalities in constructing these facilities to individuals and communities to facilitate the households from acquiring these facilities. This would probably reduce the number that stated technical challenges as inhibition to acquiring the facility.

However, it was observed that these policies have existed since 2000 and in 2012 communities were still expressing technical challenges as a reason for poor sanitation in their communities. When subsequent questions were asked whether the household knew of where to go for support to acquire a sanitary facility, 79% of households without the facilities responded negatively. This led to a follow up at CWSA to ascertain the reason for unawareness of the sanitation markets in communities. The Director, CWSA stated that this is slow because these are not in very district and in every community. The agency establishes a sanitation market for three or four districts. This the Director explained as logistical challenges.

Nonetheless, I was still not convinced and made a follow up to the Environmental Health Officer at CGD to ascertain reasons why some of their communities were not aware of this policy. In an interview with Mr. Mahama Amadu, he stated that this policy is far from the people. “You do not expect households in Mpaha, Mankpang, Kusawgu, Kibgarpe, Kokope and Tetecope to travel to Buipe to learn technicalities in the construction of sanitary facilities?” (Mahama Amadu, DEHO CGDA, September 18, 2012). These communities are 2 hours and more drive to the capital Buipe. This was convincing because the policy is far from beneficiaries.

7.5 Levels of Facility Provision

WaS facilities and services provision and supply is a multi stakeholder responsibility. While CWSA indicate that sanitation issues is not their mandate and rather that of Ministry of Local Government and Rural Development, the DAs have turned their attention on the provision of these facilities in urban centers where internal revenue generation can be realized from such facilities. Agyemin (2011: 165) stated that water delivery and provisions in general were reserved for donors, NGOs and other stakeholders. In spite of these, the facilities under the current policy dispensation outline levels for which these facilities are delivered.

From the field, it was observed that, there were levels with which these facilities were being provided in communities. This is illustrated in table 7.5.

Table 7.5: Level of Facility Provision

No.	Levels	
	Water	Sanitation
1.	Community level	Household
2.	Community managed	Household managed
3.	Demand-driven	CLTS
4.	CWSA	DAs and other organizations

Source: Field data, 2012/13

As shown on table 7.4, there are 2 levels with which water and sanitation facilities are provided in communities. Water is provided at the community level. It was observed that the water facilities were shared community facilities. Each household was allowed usage of these facilities without constraints. It was told that it was households that refused to pay for maintenance of the facility that were prevented from usage of the facility. Aside, it was not observed that many households had their own individual water facilities. The management of the facility under water was therefore community owned and managed.

These were managed through WATSANs members. These are members of the community who have volunteered to be responsible in the routine maintenance of the water facility. From the interviews at CWSA and DAs, water facilities are also provided based on a demand-driven approach where the communities demand for facility and show readiness of the sustainability of the facility. Further to these, the activities of CWSA are geared towards water provision with less concentration on sanitation. This was disclosed by one of the officers of CWSA who stated that sanitation generally is not the mandate of CWSA but that of MLGRD.

On the other side, sanitation provision in these communities was at the household level. The various stakeholders attempt to ensure that each household has their own sanitary facility instead of providing community facilities. In this case, sanitation was managed by the individual households. The individual households decide when to undertake routine maintenance of the facilities. Whereas water provision is based on a demand driven approach, sanitation is through CLTS concept which is discussed in detail in subsequent pages. This concept is to change the behavioural pattern of households and trigger them to own their own facilities. It was observed that as the households now come to accept and are not able to acquire other materials such as vent pipes, slabs, and technical support, other organizations then come into assist to provide these for the households.

7.6 Case 1: Water facilities and Services Delivery under NewEnergy

This part attempts an illustration of how water and sanitation services are being provided in the communities by the cases. NewEnergy is used to present the processes in water services in these communities while CLIP is used to illustrate the Safe Zone Flag Methodology in sanitation services. In the case of NewEnergy, Central Gonja District and Savelugu Nanton Municipality are used to explain how such services are carried out by the organization. With CLIP the Yendi Municipality is used to illustrate the processes.

7.6.1 The case of Central Gonja District and the Savelugu Nanton Municipality

The Central Gonja District was created in 2004 under L.I 1750. The district is an infant one but has vast human and other natural resources (CGDA MTDP, 2010-2014). From (PHCR, 2013) the district has a total population of 87,877 people. There are a total of 70,462 rural communities as against 17,415 urban communities. Within the water and sanitation sector, the capital Buipe is served with a Small Town Water System while the rest of the communities are served with

mechanized systems. Some communities still lack water facilities such as Kusawgu which relies on a dam for all its domestic activities. On the part of sanitation, the situation is not different from the rest of the country. There are few KVIP latrines designated at some urban communities while the rural areas have few and/or none at all.

Savelugu Nanton Municipality used to be a district until its recent elevation to a municipal status. This municipality was carved out of the then West Dagomba Municipal Assembly in 1988. Today, SNM has a population of 139,283 people (PHCR, 2013). The municipality also has a total of 139,283 communities out of which 84,031 are rural. In the area of WaS, the municipality has an effective Small Town Water System supplied from GWC source at Dalum. The system is currently supplying water to other rural communities with the assistance of the assembly, the MP, and other organizations such as NewEnergy. With regards to sanitation much has been achieved and the story is similar like the other assemblies in the region. NewEnergy working in these 2 assemblies have played a role in the provision of WaS facilities and services provision.

7.6.2 Services in WaS

Community Animations

Community animation was a common phrase used among stakeholders in the sector in the region. NewEnergy, CLIP and CWSA used this process to pave the way for issues in WaS delivery to take off in the communities. Community animation involves the processes that organizations give orientation to the communities before WaS facilities are provided. This includes community entry with introductions and sensitization of the community on WaS issues. Others that are associated with the process include hygiene education. The CEO of NewEnergy explained that during community animation stages, the communities are taken through issues on operation and maintenance of facilities when constructed. This involves how the community would mobilize themselves to pay for works to support in the Operation and Maintenance (OM) of facilities. The Director, CWSA also stated that, this is the stage where the community is made to understand the water system that would be provided to them. “You get them to understand that, they would set their own tariffs. If tariffs are higher than the system cost, it is better for the community to enable them sustain that facility or system”. The communities are also taken to the sanitation markets discussed earlier to get the communities to understand which facility best fit the household needs.

According to NewEnergy, a team does these animations. The first place in the community is at the chief house where all the formalities are done. A day is then set to meet with the entire community members. This was confirmed in the household survey where households affirmed their involvement in the process before facilities are provided. Again, the Chairman of the Water Board in Central Gonja District also stressed on community animation activities is the sector.

Ahaa, this Water System (WS) was provided by donor funds that is, AfD, which is (Agencies for French Partners in Development). They came in and actually met the community and also tried to give the community with this Water System. Before the WS was put in place, there were lot of administrative works that went round like gathering the community to sensitize them for them to know whether actually water has been a priority and again they were trying to see whether the community would be committed to be able to actually make sure that the Water System is sustained.

You know, if you do have managerial issues, all were discussed. So in fact, it took about a year when they were going round asking this questionnaire and ticking whether actually the community needed water. In fact, with interactions with the committees at the various suburbs, they saw that there was a dying need for water. Though, we are by the river (White Volta) but we all understood that the White Volta was not good because people wash inside, bath inside and bilharzias cases were occurring. So, based on that the people came around and after having certified that Buipe was capable of managing the Water System, infact, it came into fruition. (Abdulai Abdul-Mumin, Buipe, September 18, 2012).

The narrations of Mr. Abdulai Abdul-Mumin, attest to the fact that communities were involved from the beginning of the process in the Water System in Buipe. It is further clear that, managerial issues were raised and addressed to pave the ground for effective management of the system. Another clearer picture from this exercise is that the people know who is best fit to take up which responsibility.

From the interviews and responses from the survey, it was comprehensible that community animation in the water and sanitation sector is gaining more roots than before. Communities are becoming aware of management and maintenance issues; they are becoming involved in the process and are challenged to maintain their own facilities after construction.

However, it was observed that the concentration was more on water than sanitation because communities were more involved in managing the water systems rather than their individual pit latrines. This observation was confirmed when the Director of CWSA stated that “at the moment CWSA is de-emphasizing numbers because of the use of CLTS approach”. What this implies is that, the attention is no more on the physical construction of facilities like it used to be, but rather on the training on CLTS. Could it be that, because sanitation facilities are not provided for the households there is less concentration on the sanitation? In an apparent response to this question, the chairman of the Water Board in Buipe said “we are partners because water matches with sanitation. That is why we say water and sanitation. So, we are not managers of sanitation but partners in sanitation. With the sanitation it is ZOOMLION and the Environmental Health Unit. These are the people who manage the sanitation aspect. We are not trained actually to manage the sanitation”. These are confirmations that the concentration of community animation exercises is in water rather than sanitation. Notwithstanding, this process assists communities to identify and nominate volunteers that form the Water Boards and WATSAN committees who manages Water Systems.

Formation of Water Boards and WATSANs

Water facilities are managed by communities. This is different from the management arrangements of GWC. However, urban communities which have no water supply from GWC but get water through Small Town Water Systems, manage their system with a Water Board. From the interviews with the Director, CWSA, Tamale it was stated that community management of water facilities is a strategy that the agency uses in the water sector.

CWSA is a government organization mandated to facilitate all water and sanitation issues in the sub-sector. We have strategies that we use that are different from urban water delivery in this country. In our strategy, it is basically community managed and this is to say, whatever system we put up, we let the community or the town itself manages that water system as oppose to the water system put up by urban water system (GWC) where they themselves are involved in the management of the system and that of tariffs collection. We leave tariffs collection and management to the communities themselves. That is what we mean by community managed and again it is also demand-driven. We only respond to demands from the communities. So, it is only when the communities demand for water that we go in to assist in the provision of the facilities (Offori MacCharty, Director CWSA, Tamale, July 10, 2012).

Based on this, it became comprehensible that the various committees in water management are termed Water Boards and WATSANs depending on the type of water system. Water Board is a formal established committee of the community that manages Small Town Water System. They

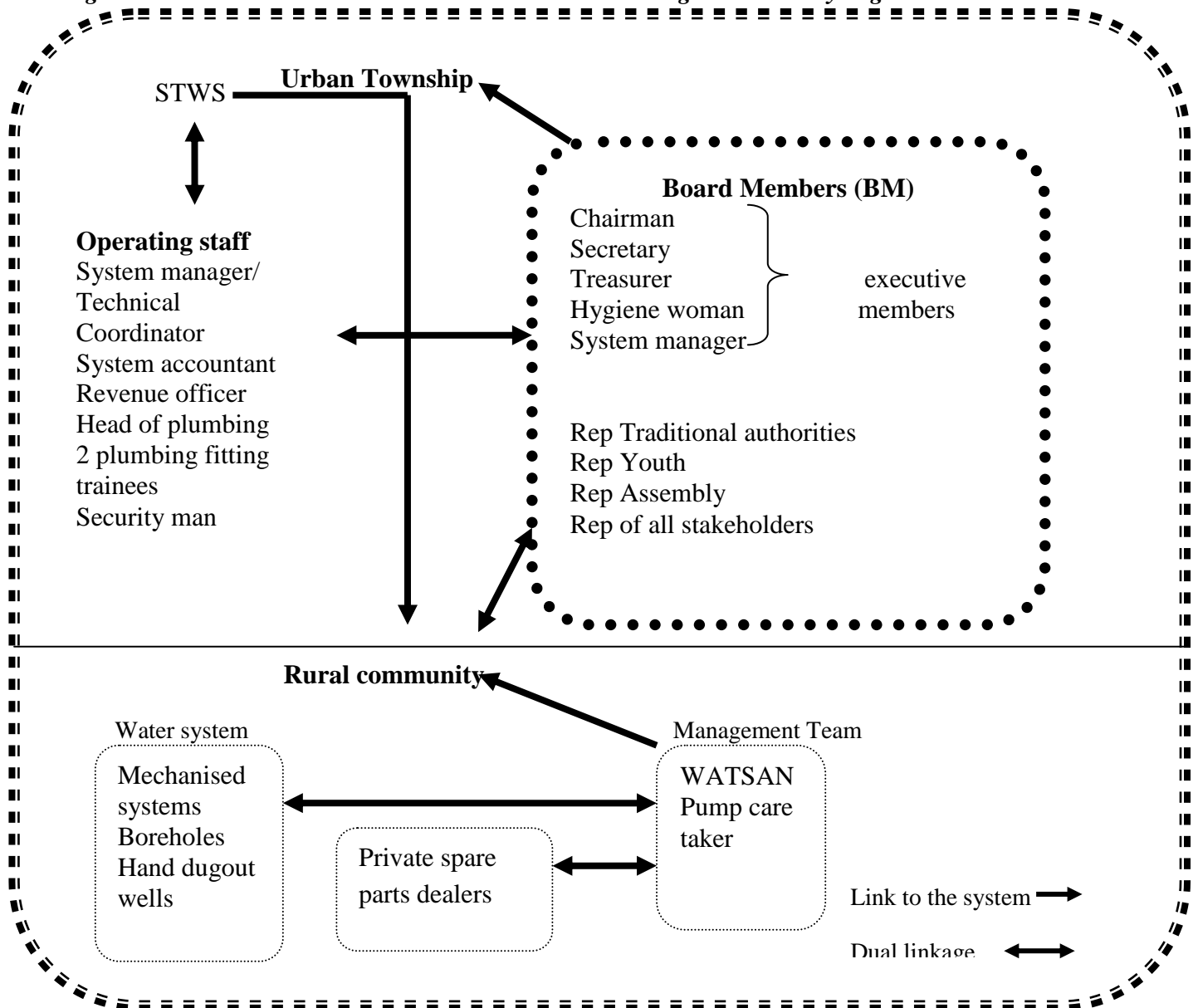
are established for the purpose of ensuring that the system provided for the community is managed effectively and efficiently for the purpose of:

- a) ensuring sustainability of the system
- b) proposing tariffs for approval by the assembly for community members
- c) engaging in sensitization of WaS issues to community members

An interview with the Chairman of the Water Board, Buipe, revealed that most Water Board members comprise WATSAN members who were formed from various sections of the community and had earlier taken care of those small boreholes and hand dugout wells provided for the community.

Figure 7.15 explains how the two committees operate. Water Board manages STWS whereas WATSANs manages small community mechanised water system. The two committees are formed by the communities themselves with fixed tenure to manage the systems. Since STWSs are bigger than a community mechanised system, the membership of the Water Board is at times larger than the WATSAN committee.

Figure 7.15: The Water and Sanitation Committees Linkages in the Study Region



Source: Field data, 2012

As can be seen in figure 7.15, the Water Board manages STWS. There is however, two separate staff in STWS. These are the operating staff and Water Board members. As shown in figure 7.15, the operating staff comprises a System manager/Technical Coordinator, system accountant, revenue officer, the head of plumbing, 2 plumbing fitting trainees and a security man. The operating team is directly in-charge of operating the system. This team ensures that water is pumped from the overhead tank to vendor points for further re-distribution. The system manager is the head of the operating team and forms part of the executive members under the management team (Water Board Members). The System Manager has technical knowledge of the system and further communicates these technicalities to the Board.

The Water Board members on one hand are made of executive members and representatives of major groups in the community. The executive members are the Chairman, the Secretary and the Treasurer. Others are a hygiene woman and the system manager. From the narrations of the operating team members at the water system, Savelugu; the chairman is the head of the board and oversees all the activities of all the other members. The secretary is directly in-charge of arranging for meetings and the preparation of reports for stakeholders. The responsibilities of the financial issues of the water system rest with the treasurer. A hygiene woman is co-opted from Environmental Health Unit. She is directly responsible for hygiene inspections. The rest are four representatives from (traditional authorities, youth, the DA, and all stakeholders).

On the other hand, the rural community water system is managed by the WATSAN committees. The discussion with this group unraveled that they are volunteers and manage either the boreholes, stand pipes or any improved water facility provided for the community. In addition, there is a pump caretaker. The duties of the pump caretaker are to ensure routine maintenance, and report breakdowns to the WATSAN committee. The arrows in figure 7.15 attempt to make the linkages between the systems. The single arrows describe the linkage from the community to the board or committee. For instance, the Water Board has a linkage to the urban centers while the WATSANs have a linkage to the rural communities. However, it was observed that some rural communities are connected to STWS and are part of the system. The double arrows explain the dual linkages. For example, STWSs are operated by the operating staff. There is a dual linkage here. Without a Water System, the operating staff would not exist and vice versa. The Water Board does not work alone. They work with the operating staff. There are dual linkages also here.

Capacity Building of WATSANs, WBs and Artisans

As indicated by the CEO of NewEnergy, one of the services the organization offers in WaS is building the capacities of the boards and committees that manage these facilities. Apart from the Water Board which pays their workers, WATSANs are voluntary services provided by community members. Once these bodies are set to manage the facilities, they are trained in management and other operational skills.

You know, most of the people in these communities have low managerial competences. Most of them are also working on voluntary terms. Since there is no reward to this, we motivate them by giving these trainings, to equip them with some basic knowledge on how to keep records especially with their finances. We link the pump care takers to the spare parts dealers so that they can detect minor faults and repair problems in the systems (Thomas Sayibu Imoro, NewEnergy, Tamale, July 9, 2012).

From the survey, most WATSAN members confirmed that they were invited from time to time for some training exercises. One WATSAN committee member in Nyoglu however, stated that, it was not all the members who got trained but a few. This member mentioned the pump care taker and that of the treasurer as prominent members that were constantly invited for such trainings. This goes to confirm what the CEO NewEnergy asserted. “We train them in some

basic knowledge on how to keep records especially with their finances”.

NewEnergy also indicate that the organization works with artisans and technocrats who are not permanent staff of the organization. The CEO again explained that, the organization works with this team as and when their services are needed. Most of the artisans and blacksmiths are trained in local technologies such as the manufacturing of the rope pump. It was explained that the rope pump technology was used on the local hand dugout wells. This is a concept of improving the hand dugout wells by putting pumps on them to reduce contamination of the water. The organization therefore organizes training programmes for these artisans and blacksmiths and also links them to the various communities for maintenance services in water facilities.

Furthermore, it was observed from the narrations that the trainings for these groups were mostly in the water sector. The treasurer, pump care taker, and artisans and technocrats are all in the water sector. Could it be the case that, since, sanitation facilities were individually managed, there was no need for training? This observation was however refuted by the Water and Sanitation Team Leader, YM that; CLTS exercise trains every community member on how to manage and maintain their sanitary facility.

As I told you, the problems in the sanitation area are attitudes. Why should they even train people how to keep their latrines? Do they train them on how to keep and maintain their bed rooms? Do they train them on how to even keep and maintain their kitchens where they make food from? No! I think that it is too much. The problem is that they put preference on water. (Sani Mahama, Water and Sanitation Team Leader, Yendi Municipal Assembly, 24.09.2012).

This explanation from Mr. Sani Mahama justifies why there were fewer activities in the sanitation area. It was obvious that, sanitation facilities form part of the household facilities. That is, a bedroom, living room, a bath, a kitchen and that of a toilet. Because most of these communities feel they can do it “elsewhere”, toilet facilities seem not to be part of the compound. If a household is maintaining its kitchen, bedrooms among others; it is not the responsibility of any person either to train

community member to maintain their toilet facilities.

The Assembly’s WASH Plans

Aside the capacity building programmes organized by NewEnergy, there are also supports to the DAs in the preparation of WASH Plans. The NDPC sets the guidelines for the preparation of MTDP of all the assemblies in the country. These plans are formulated under various national themes and the assemblies are expected to draw up activities to meet the general goal(s) of the country. These plans include WaS themes but most districts in Northern Region have separate WASH plans specifically for water and sanitation related issues.

.....we try to support DAs to even increase their capacities and other things to have WASH and energy plans so that, whatever they do in that area, it is guided by a plan just as NDPC expects assemblies to file their MTDPs. So, our work is to contribute to the Assemblies to be able to develop such plans and in a small way to implement part of WASH, part of the energy if it is possible (Thomas Sayibu Imoro, NewEnergy, Tamale, July 9, 2012).

In this regard, NewEnergy strongly sees WASH plans as a guide for the implementation of activities in the sector. This was confirmed by the Tamale Metro Water and Sanitation Team Leader. Mr. Amadu Baba indicates that “we normally draw WASH plans and then sell this out to benevolent organizations including the Assembly itself. So that, whenever funds are available, we would

implement alongside what is in the plan”.

Coming from a background where I worked in the MPCU, TaMA, WASH activities are prominent in each assembly's medium term plans. WASH plans give a clearer picture of the situation to donors and other partner organizations including the Assembly itself. In this case, funds that would be available for implementation, the plan is used. However, from the two years working experience in the Assembly, WASH Plans are hardly used. This is probably because funds are not readily available. Agyemin (2011: 165) also affirms that monies that were released from the Irrigation Development Authority and the World Bank to DAs based on RWST budget for water delivery systems had been diverted to other purposes the DAs considered as of greater importance. Aside, most WASH Plans were delinked from MTDPs. This is discussed in details in chapter 9. The preparation of WASH plans should have a link with the mother plan. They should be implemented, reviewed and re-plan to ensure that these plans are not only available but are effective.

7.7 Case 2: CLIP and its Water and Sanitation Facilities and Services

CLIP is working in 3 districts in the region. They implement WaS facilities and services. In the area of water the organization is mostly into hand dugout wells provision while they apply Safe Zone Flag Methodology (SZFM) to improve sanitation.

7.7.1 The Case of the Yendi Municipality

Yendi Municipal Assembly was created in 1988 by PNDC Law 207, Act 462, and LI 1443. This Assembly was elevated to a municipality status in 2007. The municipality is located in the eastern corridor of the region. YMA shares boundaries with the following districts:-

- ❖ Saboba, Chereponi, Zabzugu and Tatale Sanguli districts to the East;
- ❖ Nanumba North and East Gonja to the South
- ❖ Tamale Metropolis, Mion and Savelugu/Nanton to the West
- ❖ Gushegu and Karaga to the North

The surface area of this municipality is 5350 sq km. Currently, YMA has a total population of 199,592 (PHCR, 2013). Water supply to Yendi Township alone is from the GWC plant that utilizes water from River Dakar. However, there are close to about three hundred and fifteen (315) boreholes installed in one hundred and sixty-four (164) communities.

CLIP is working in this Municipality mostly in the sanitation sector. One of their responsibilities in sanitation is to impact on attitudinal change.

What we do is, first, sanitation is a behavioural issue and it is not construction of facilities that would make it. What we do is first and foremost, to see how we can change behaviors of the people. So, we have a policy of catching them young. That is, because behaviors take time to change but if you get the young people in sanitation, for example, school children, that would work. Initially, we constructed school latrines in schools that did not have these facilities and provided hand washing fittings. We also provided hand dugout wells in communities that did not have these facilities. So, the school children do go in turns to fetch water and fill the basin for hand washing. This is one aspect of the sanitation (Adam Iliasu, CLIP, Tamale, July 20, 2012).

From the explanation of Mr. Adam Iliasu, it is understandable that the issue of sanitation in this municipality is that of human behavior and attitudinal. This realization of attitudes towards sanitation under plays construction of physical facilities. Where they have to construct physical facilities, it was in schools where they can catch behaviors at the youthful age. He explains how their sanitation policy works with a continuation of the CLTS policy by government and other stakeholders.

7.7.2 CLTS Policy

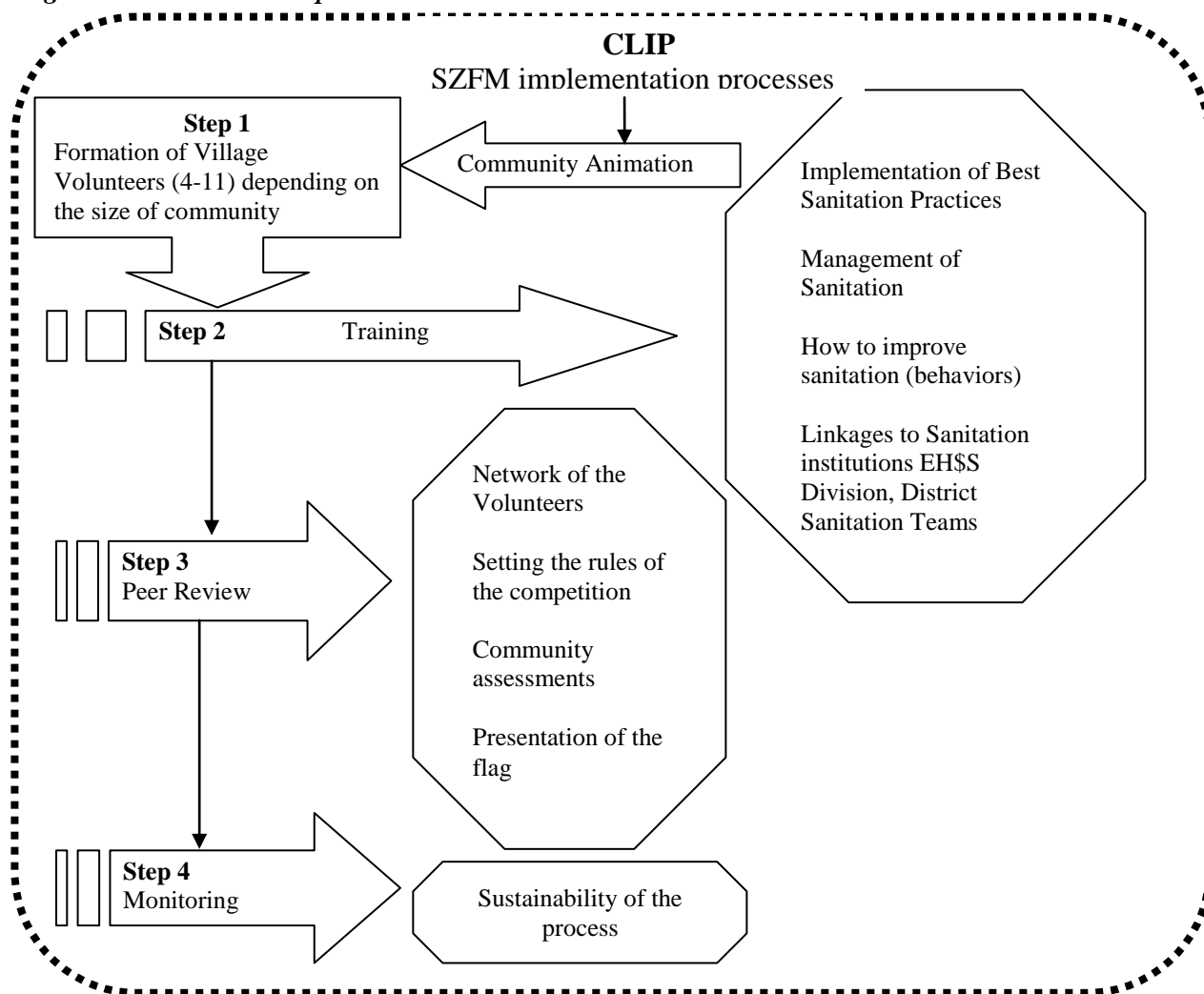
CLTS is an acronym for Community-Led Total Sanitation. This is an integrated approach to achieving and sustaining open defecation free (ODF) status. CLTS entails the facilitation of the community's analysis of their sanitation profile, their practices of defecation and the consequences, leading to a collective action to become Open Defecation Free community Kar and Chambers (2008). This is not an individual led decision but an entire community decision after the community has been sensitized through facilitator(s) to evaluate their sanitation practices and the consequences (p. 8). This is done through facilitating, linking behaviors and consequences of bad sanitary practices. In summary, it is geared towards inculcating a behavioural change in sanitation practice in an entire community. This sensitization would then lead to the demand for household sanitary facilities (simple pit latrines) by community members themselves. With this demand, organizations then facilitate and assist in technical services and provide items that the community members would otherwise not be in the position to acquire.

The programme also advocates for the use of local technology to meet rural sanitation needs. This was evident in the pictures on sanitary facilities constructed in communities in the earlier pages of the chapter. CBOs adapt this strategy to whip up sentiments on the need for household sanitary facilities where self demands for the facilities are made. According to Mr. Kabuka Mwatama Banda, when you use CLTS, you teach people to have a change in behavior and to come to an understanding that, they need to protect their fecal element (WASH Specialist, UNICEF Tamale, July 20, 2012). When they come to that understanding, they start to find their own ways to solve the problem. This background gave roots to SZFM.

7.7.3 The Safe Zone Flag Methodology (SZFM)

For CLIP, sanitation services are not an event but a process. This is specifically so in the Ghanaian context, where the problem has been identified as behavioural and attitudinal. CLIP has identified what the organization terms SZFM. This strategy is to take government position on CLTS one step ahead in changing attitudes through a reward system. From the discussions, SZFM takes stages which are presented in figure 7.16.

Figure 7.16: SZFM Implementation Processes



Source: Field data 2012/13

As shown in figure 7.16, SZFM is a four tier process. The first step starts with an animation exercise in the communities. The animation exercise is to first create awareness of the issues on community sanitation. This exercise, from the narrations of Mr. Nashiru Bawa, leads to the establishment of village volunteers in the various communities. The formation of the village volunteers is to facilitate the process, because, the volunteers are in the village and would work within the community. The number of community volunteers range from four (4) to a maximum of eleven (11) depending on the size of the community. From the narrations, CLIPs has an influence on who becomes a volunteer because, the organization looks for volunteers who can champion the process in the community.

From the first step of village volunteers' formation, the next step is training the volunteers. This is not one shot training. There are series of trainings in the areas of conflict management, team building and various sanitation issues. According to Mr. Nashiru Bawa, the intention is to make these volunteers to be abreast with the issues that they are going to be working with in the community.

After the trainings, the third step is peer reviews. This stage is trying to create a network platform where the volunteers would have the opportunity to exchange ideas with each other and institutions in the sanitation sector. Here, the understanding is that the volunteers are linked up with each other where they exchange ideas. In this scenario, the volunteers try to understand each

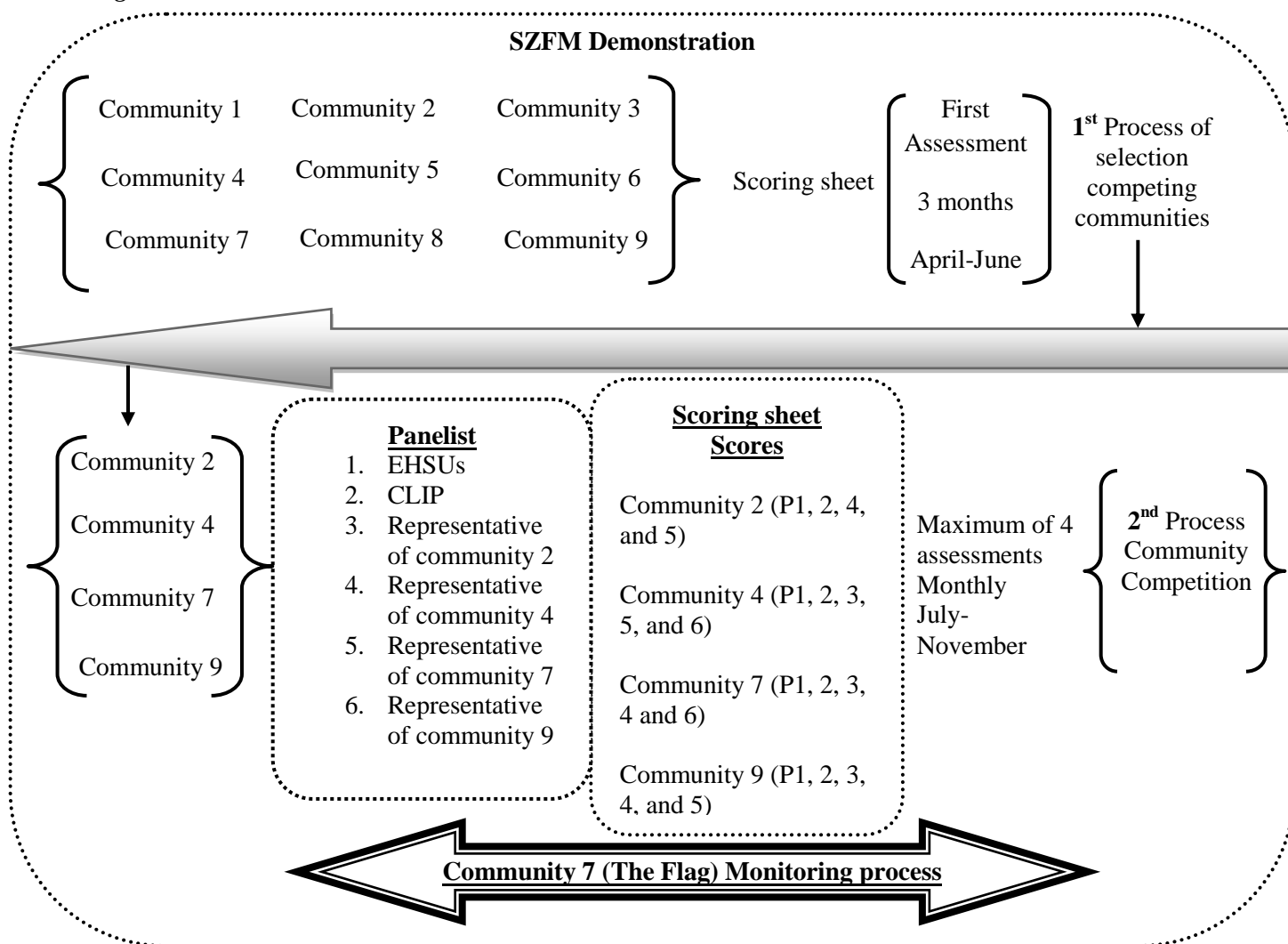
other's situations, review these situations, see what they can learn from each other, and then implement or replicate these situations in their various communities. Mentioning was stressed on the network that tries to meet best practices within the sanitation sector. These best practices include how to manage their sanitation facilities; what they can do to improve on their sanitation situation in terms of their behaviours. Do they behave like other communities in terms of how they acquire sanitation facilities among others?

Again, the networking also extends to relevant state institutions that work on sanitation issues. CLIP links the volunteers up with the Environmental Health and Sanitation Units as well as the DWSTs at the district levels. The EHSU is one of the agencies that have very close working relations with the community groups because they carry out household inspections in terms of sanitation. This linkage between the community and Environmental Health and Sanitation Unit is to continue a kind of monitoring scheme within the community.

From the narrations of Mr. Nashiru Bawa, he explained that EHSU also introduces some basic sanitation issues to the volunteers. These include various regulations that exist in terms of bylaws. The unit leads them to also come out with their own rules and regulations to guide their practices in their communities. These they refer to as the community "golden rules" on sanitation. It is based on these that when a community member misbehaves or misconducts the self in terms of sanitation practices, that person is punished. After this phase, there is the competition where a winner emerges as the community with best sanitary practices among other communities.

The last step is monitoring. A community that has won the flag keeps it for a maximum of 3 months. Monitoring is to ensure that the community with the flag adheres to good sanitary practices for which the flag was presented. In other words, it is hard work towards maintaining the flag. Winning the flag means work further towards sustainability of best sanitary practices in the community. The community is monitored closely by a team of EHOs and field staff of CLIP. However, the way the competition is conducted is presented in figure 7.17.

Figure 7.17: SZFM Demonstration



Source: Researcher’s construct from field data 2013

Figure 7.17 explains how SZFM is implemented. After the four (4) tier process described in figure 7.16, the implementation takes 2 stages. The first stage as presented in figure 7.17 select communities. For instance, nine (9) communities were selected in figure 7.17. The nine (9) communities were taken through a first assessment. The assessment of the communities is done with the aid of a scoring sheet (see appendices 10). The scoring sheet contains the various indicators on sanitation best practices adopted from the Environmental Health and Sanitation Unit. Depending on the scores in this stage, the top four communities (C2, C4, C7 and C9) from figure 7.17 were selected to have scored higher marks during the first assessment which is conducted within three (3) months of implementation.

The communities were further taken through a maximum of four (4) monthly assessments. However, the final assessment for the flag now involves panelist. The panelist comprises a member from EHSU, a member from CLIP and one member from each of the competing communities making a total of five (5) members. But the scores are taken from four panelists. For example, in Community 2 (C2) the member representing C2 cannot score for his or her own community. The scores for C2 came from (P1, P2, P4 and P5). The process goes like this on the same day and the scores are tallied to get a winner. The next stage is to monitor the community to ensure that sanitation best practices are complied with.

From the narrations of Mr. Nashiru Bawa, this is an innovative methodology that attempts to address issues that has to do with attitudinal change in sanitation. From the field, it was observed that one of the communities (D.C. Kura) in Yendi Municipality where this methodology was been implemented was relatively clean. Households were in the position to manage not only liquid waste but also solid waste. Approximately 78% of the respondents in this community also stated that even households without sanitary facilities resort to burying their fecal matter, a method to ensure that the community is free from open defecation. Based on the methodology, it can be seen that less time is used for implementation. A maximum of eight (8) months is used as compared to some projects that take more time.

Nonetheless, this methodology is not recognized as a measure of ensuring that people have access to sanitary facilities. From JMR (2013), certain facilities are even termed unimproved. Therefore a methodology that does not ensure physical construction of facilities to add to the number of facilities but rather on attitudinal change alone is not recognized as a solution to the problem of sanitation by the standards of this report. Notwithstanding, this methodology adds more weight to the CLTS policy that triggers communities to own their own sanitation facilities.

7.8 Functionality of WaS Facilities and Services

The world is on course to achieve MDG target on improved drinking-water. Globally, drinking-water coverage in 2011 remains at 89% which is 1% above the MDG drinking-water target and sanitation coverage in 2011 was 64% (JMR, 2013). By implication, drinking-water targets would be met while that on sanitation remains off track in meeting the sanitation targets of 75% if current trends continue into 2015. Consequently, providing physical water and sanitation systems that extend beyond coverage at a particular period without the necessary ingredients to power and sustain these systems would remain a nine day wonder even if the MDG targets are met.

Global statistics show that, at any point in time, about 30% of compound water facilities do not work or are performing sub-optimally. For instance, functionality of drinking-water systems in Timor Leste in Eastern Timor is reported to be between 10-70% depending on the data source (WaterAid Australia, 2010).

This study acknowledged functionality of facilities and service as the building rock to ensure sustainability of these facilities and services after construction. This is because, for more than 35 years, the sector has been talking about ways to enhance sustainability of service, however, too little emphasis has been given to the wider institutional setting in which “community management” takes place (SNV, 2013). Against this background, I was not only interested in physical number of facilities and services provided in communities, but how these were managed and as to whether the facilities that were provided were functional. The issues were put into the following headings.

Functionality

For this study, functionality basically was to unearth whether facilities that were provided were function at the time of field activities. Table 7.6 summaries WaS facilities functionality levels in the communities.

Table 7.6: Water and Sanitation Facilities Functionality Levels

Districts	Community	No of Water facilities	No. functioning	Sanitation facilities	Functioning
CGDA	Kusawgu	Only a dam	Functioning	2 household pit latrines	Functioning
	Mankpang	1 borehole	Functioning but low patronage	1 household pit latrine	Functioning
SNMA	Damdo	2 boreholes	All functioning	No facility	0
	Nyoglu	3 boreholes and a dam	All functioning	10 household pit latrines	2 collapsed 8 Functioning
YMA	D. C. Kura	1 hand dugout with pump 3 boreholes	All functioning	20 household pit latrines	5 without doors, and roofs
	Wambong	2 boreholes 1 seasonal borehole 2 Community Rain harvesting tanks	1 functioning 1 seasonal None functional at the time of data collection	10 Household pit latrines	3 collapsed and not repaired

Source: Field data, 2012

As presented in table 7.6, apart from Kusawgu that had no improved drinking-water facility, the other five (5) communities all had improved drinking-water facility. Out of the five communities, Nyoglu in SNM and D.C Kura in YM had about three water systems. At the time of the survey, the facilities in Damdo, Nyoglu, D.C Kura and Wambong were all functional except one borehole that was non functional during the dry season in Wambong. Again, when asked whether the rain harvesting tanks observed in Wambong were functional, the answer was positive. It was told that these were only functional during the rainy season. These 2 rain harvesting tanks were sited at the teacher's quarters and the chief house respectively. It was explained that it takes only one to two weeks for water in the tank to serve the community. There was however, a different story in Mankpang in Central Gonja District. Mankpang has a total of 32 housing units according to the guided walk records (2012). The community has one borehole constructed by Opportunities and Investment Center (OIC). The community members stated that the borehole was functioning but community members hardly patronize the water because it was very salty.

On the part of sanitation, D.C Kura had the highest number (20) household pit latrines. Wambong and Nyoglu had 10 household latrines each whereas Kusawgu and Mankpang had the lowest with two (2) and one (1) respectively. In Damdo however, no household pit latrine was observed. In D.C Kura, five (5) facilities were observed not to have doors and roofs. They were constructed basically with zanamats and were opened. It was observed that these did not facilitate usage especially during the day time. However, when inquired from some of the women whether the sanitary structures were in used they said "we use our clothes to cover when we are inside but for the men, they do not use them in the day time". Aside these, it was also observed that 3 household pit latrines had collapsed and had since not been re-constructed. In Wambong and Nyoglu three (3) and two (2) had collapsed respectively and were not in use. A response from a question to these households explained that they had collapsed since 2011 a year before the field activities.

Based on these findings from the field, it was evident that at the time of field activities water and sanitation facilities in these communities were supplying water and were basically functional. This finding refutes global statistics that suggest that at any point in time, about 30% of compound water facilities do not work or are performing sub-optimally.

Despite the functionality, other variables with regards to water such as quality, quantity, reliability and coverage were also assessed. These were also observed alongside functionality. CWSA has standards measuring these variables. In the Revised Design Guidelines for Small Towns (2010), it is stated that pumping time for water facilities should be 16 hours maximum for (Boreholes) and 20 hours maximum (Treatment Plant). One of the officers at CWSA also explained the other variables. He said, for reliability of the facility, facilities should work 95% of the time. Coverage, on one hand, is that, the borehole should serve not more than 300 people and for a hand dugout well, but should rather serve 150 people. With the distance, people are expected not to walk more than 500 meters to be able to access the facility.

Going by these standards, it was observed that the water facilities that were functioning met the standards of CWSA apart from few. These variables are summarized in table 7.7.

Table 7.7: Water Variables Measured

Community	Variables						
	Quantifiable			None-quantifiable			
	Housing Units	Households sampled	Distance to facility	Water facility	Reliability of facility	Water Quality	Coverage
Kusawgu (Kootito)	53	20	100 m from nearest household -400 m	Dam (Unimproved) facility	No	No	No
Mankpang	32	15	50 m from the nearest to 600 mm	Borehole	Yes	No	No
Damdo	33	16	Between 20 m and 300 m	2 Boreholes	Yes	Yes	Yes
Nyoglu	66	23	Between 5 m to 100 m	3 Boreholes	Yes	Yes	Yes
D. C. Kura	36	23	Between 2 m to 50 m	3 Boreholes	Yes	Yes	Yes
Wambong	43	26	20 m to 600 m	1 Borehole	Yes	Yes	No

Source: Field data, 2012/13

From table 7.7 the variables are grouped under quantifiable and none quantifiable. The quantifiable variables are housing units, sampled households and distance to facility. None quantifiable variables are reliability of the facility, quality of the water and coverage. From the six (6) communities sampled, the total populations were not readily available but I used data from the records of the guided walks and the Community Surveillance Volunteers.

From table 7.7, Kusawgu (Kootito) and Mankpang did not meet the standards in water quality and coverage. This is because there were no improved water systems in Kusawgu (Kootito). In the case of Mankpang, there was a borehole but the quality of the water hindered patronage. As a result, most of the households indicated that they prefer water from dugouts instead of the borehole water. On the aspect of coverage, these two communities did not also meet the standards of this variable because in the first place, the facility is not an improved source to be considered for analysis. However, in Kusawgu it was observed that coverage was not met because the dam water was serving all purposes in the community. It was observed that domestic animals were competing with humans for this water (See figure 3.4). The Assembly man (Mr. Jebuni Mohammed) hinted that, the dam water also serve other neighbouring communities such as Kadigbanto, Bulamposo, Galimzegu, and Jiramoape. Apart from this, the capacity of water in the dry season is woefully inadequate to meet the demands of the township. Based on these narrations, coverage with regards to the dam in Kusawgu and that of the one borehole in Mankpang was not met. Besides, it was observed that the closest house to the facility takes a walking distance of 100 meters while the farthest house takes close to 600 meters to the dam. In Mankpang the closest house to the borehole was 50 meters walking distance while the farthest house takes 600 meters to the facility. The farthest houses in Kusawgu and Mankpang did not however meet the standards on distance to the facility as outlined by CWSA guidelines for facilities under this category.

Facilities in Damdo and Nyoglu however, met all the variables of reliability, quality, coverage and distance to the facility. An interview with the pump care taker in Nyoglu explained that the water facilities in the community are among the best in the region.

You know we have 3 boreholes and a dam. We have been taught also to do water disaggregation. We use the dam water for other things like washing, building and the boreholes are mainly for drinking and cooking. You can see for yourself that we are blessed to also have the facilities disturbed around the community. In some communities it is not like that with water facilities. For breakdowns it is once in a while and the 3 would not just break down at the same time (Ahmed Issifu, Nyoglu, December 15, 2012).

From the narration of Mr. Ahmed Issifu and from observations, it became convincing that Nyoglu had met all the indicators in table 7.7. This was also the case in Damdo. Apart from the two boreholes that were in Damdo, community members also explained that, there were other water facilities in Chalam, Botenli and Nantonkurugu that are accessible to them. They did not therefore see any problem with

their water facilities.

There were similar observations in D.C Kura and Wambong in Yendi Municipality. Apart from Wambong that had only one functional borehole, D.C Kura had three (3) boreholes and these met all the indicators. The chief of D. C Kura (Naa Mbakidi Jegma) explained that the community shares their water facilities with Puriya, Kanimo, Kulgaduli and Yipilnaya but they were still satisfied with the performance of the systems. “The women as you can see for yourself do not walk long distance to get water like before”. Nonetheless, in Wambong, there were complains of coverage of water and distance to water facilities. The Assembly man (Mr. Chendow Stephen) narrated that they walk many miles to get improved water from neighbouring communities Kpangih, Timukandor and Nyankpani. He however explained that, the one (1) borehole which is functional had good quality water and does not dry up like the other borehole. These narrations indicate that Wambong had water quality and reliability from the 1 borehole highlighted in table 7.7 but did not meet the other indicators of coverage and distance to the facility.

From these, it can be deduced that, CGD had the worst conditions in meeting the variables in table 7.7 while SNM had good conditions follow by that of YM. These findings are consistent with the (PHCR, 2013) on the region that, the commonest sources of drinking water in the region are boreholes and that 16.7% of the population in CGDA uses these sources while 45.4% and 39.6% of the population in YM and SNM uses these sources respectively. These findings also had a link to responses on community needs. When asked what the households would consider pressing needs at the time, communities with water did not regard water facilities as pressing while communities without water considered these water facilities as very pressing. These responses are tabulated in 7.8.

Table 7.8: Community Needs According to Priority

Districts	Communities	Ranking and community needs				
		1 st	2 nd	3 rd	4 th	5 th
	Kusawgu (Kootito)	Water	Roads	Sanitary facilities	Social centre	Educational facilities
CGD	Mankpang	Water	Sanitary facilities	Electricity	Educational facilities	Roads
	Damdo	Roads	Educational facilities	Social centre	Jobs	Irrigation dam
SNM	Nyoglu	Health center	Roads	Jobs	Fertilizer	Schools
YM	D.C Kura	Electricity	Jobs	Health center	Education	Market sheds
	Wambong	Roads	Electricity	Water	Sanitation	Schools

Source: Field data. 2012/13

As shown in table 7.8, communities that had no water facilities ardently expressed the need for these facilities in the case of Kusawgu and Mankpang. D.C Kura that had met the variables in water had no electricity and households expressed their desire to have electricity. In Wambong, 80% of respondents indicated that they needed roads. I was startled to this finding because the main road from Yendi to Wambong to Saboba was awful yet respondent stressed on roads. A further inquiry revealed that there were no roads to their farms and the need for road network.

Secondly, about 53% of respondents in Mankpang stated that they prefer to have sanitation facilities. This came second after water facilities. While this was conflicting because in table 7.4, 5 respondents indicated that they had no use for the facility because they were mostly in their farms, and 3 respondents indicated that there was availability of open spaces, the difference came from other interviews and discussions from opinion leaders outside the sampled households. Besides, 10 respondents gave good reasons such as; we are aware of health hazards associated with open defecation, the house fly and the shame in doing this act openly were given in subsequent questions related to bad sanitary practices and health hazards. These were also expressed in Kusawgu where there was dearth in facilities.

7.9 Sustainability Arrangements

Sustainability of infrastructure is a general problem in all sectors of the Ghanaian economy. The current WaS policy arrangements are basically to address the challenges that normally come with sustainability of these facilities. From the interview with one of the field officers of CWSA, the

demand-driven approach where communities manage the facilities are very vital for sustainability. Based on these, this study was to unravel how sustainability arrangements were been handled at the community level. Consequently, two basic institutions were observed to be very vital in sustainability arrangements. These are the service providers and DAs. The observations on the service providers are presented in table 7.9.

Table 7.9: Service Providers in WASH

Service providers	Variables				
	Knowledge of current policies in WASH	Record Keeping	Gender policy	Tender arrangements	Routine maintenance
WaS Management Teams (Water Boards)	Full knowledge	Formal	In balance	Sometimes	Yes
WATSANs	Partial	Informal	In balance	None	No

Source: Field data 2012/13

As can be seen in table 7.9, the major service providers in water delivery are the Water and Sanitation Management Teams which were initially referred to as Water Boards and WATSAN committees. These service providers were earlier described in details but this part seeks to unearth what these providers do to ensure sustainability of the facilities in their respective communities. A set of variables were used on the two service providers. These were the service providers' knowledge of current policies in the sector, how records are kept; gender policy that 30% of the membership should be females, tender arrangements and routine maintenance of the facilities. These indicators were used on the Savelugu Nanton WaS Management Team and D.C Kura WATSAN committee in Yendi Municipality.

On the part of the service providers' knowledge of current policies in WASH, interviews with the two teams revealed that WaS Management Teams had full knowledge of current policies in the sector than WATSANs who exhibited partial knowledge of the issues. Partial knowledge here explains that WATSANs did not know about 70% of the new issues in the sector. For instance, they did not know that tender arrangements should be done by the committees, routine maintenance of the facility not only when the facility is broken down, roles of each member in the committee and issues involving the activities of CWSA and that of the Assembly. The Water Board was however, conversant with these issues elaborated. The Water Board explained the roles and responsibilities of each member of the Board, the role of the DA and how routine maintenance processes were being carried out at the water system.

This finding was consistent with the narration of the CEO, NewEnergy that said the capacities of WATSANs are very low and as a result, the need for capacity building and refresher trainings. Another observation was that because the Water Board members were paid, the team comprised basically of professionals such as the system Accountant, system Manager and others. The WATSANs were volunteers and came from within the community with little educational background.

Secondly, this was very reflective on the variable on record keeping. The Water Board had formal way of keeping records. For instance, checks on files revealed dates that routine maintenance activities were carried out, tender processes, payments on equipment and what have you. There were also records on number of vendors water was supplied daily, meter readings,

how payments were made to GWC and staff remunerations. On the part of the WATSAN, this was described as informal. Apart from the treasurer who had a simple ledger book containing names of the houses and payments made, there were no other records on how routine maintenance were carried out. When asked whether receipts were available for works done in the past, the answer was negative.

The third variable was the gender policy. Under CWSA guidelines, 30% of the members of service providers should be women. It was observed from the composition of the two teams that the composition was in balance. For instance, the Water Board in Savelugu had nine (9) members at the time. Out of the nine (9) members two were females the rest males. The system team had eight (8) staff and all of them were males. The WATSAN committee in D. C. Kura exhibited similarities like the Water Board in Savelugu. Out of the six members, there was only one woman who was the treasurer. It was also observed that, women in these teams were assigned the treasurer position while Chairmen, Secretaries and System Managers were mostly men. This finding conforms to the general leadership positions in the country. In the assertions of Amu (unpublished report) female participation rates in Ghana's formal sector are generally low. When they are employed in the formal sector, they are mostly concentrated in the lower ranks and/or non-managerial positions and thus their voices are not heard at the decision-making levels. GLSS4 also presented that only 6.2% of females are formally employed in both the public (3.3%) and private (2.9%) sectors. The report presented the remarkable contrast with that of men which shows that 22.8% of men are employed in the formal sector in the country. The same picture is portrayed in the Ghana Time-Use Survey (GTUS) 2009 where 8.6% of females in urban centers are employed in the formal sector to their counterparts of 16.2% and in rural areas, only 3.2% of females as compared to 8.4% males in the formal sector. Nonetheless, it was expected that, since, WaS affects women more than males especially in these communities, their involvement and participation in decision-making in this sector would have been higher than that of the males.

The next variable was to assess the tender arrangements of the two service providers. From table 7.9, tender arrangements were sometimes made by Water Board but the WATSAN committee had no idea of tender arrangements. It was told that the processes of repairs are done mainly by the pump care taker and technical men that were introduced to them. This was similar with the narrations of the Director, CWSA and CEO, NewEnergy that the committees are linked to artisans and technical men who come to assess the faults of the systems and make repairs. This was however, not the case with the Water Board who had knowledge of tender processes and how procurements of parts are done. On the contrary, it was observed that the Water Systems were bigger and required heavy duty machines that cannot be purchased directly without the public procurement regulations guiding such purchases.

The last was on routine maintenance of the systems. While routine maintenance processes are carried out by Water Board on the systems, the WATSANs had no such exercises. According to the narration of the WATSANs, it is only when the system is broken down that they ask the artisans to come and repair. This finding on the WATSANs and maintenance are comparable to findings on maintenance of public infrastructure generally in the country. Mr. Kwesi Ahwoi, Minister for Food and Agriculture has said the lack of a maintenance culture in the country was causing the nation a great deal of money which could have been channeled into development projects. To him, the attitude of Ghanaians now is to "build, neglect and rehabilitate" instead of going by the axiom "a stitch in times saves nine" Tuesday, March 20, 2012 (www.ghananewsagency.org).

Aside these, there was also a look at availability of funds to solve immediate problems of the systems. While the Water Board had money in their accounts to undertake routine maintenance and other activities of the system, the WATSANs indicate that they rely on contributions of households in times of breakdowns. This was exactly what the six (6)

communities indicate in the survey. The households were charged based on the total cost of repairs of the system. When asked how long it takes to make contributions and repairs, the answers varied from a day to a maximum of a week. It was further explained that, in the case where contributions were ongoing, the community relies on other systems in other communities to access improved water.

Inter-community conflicts are common in most areas in Ghana. These are even wide spread during infrastructure development. For instance the construction of school facilities, health centers, and market centers among others normally heighten tensions between rivalry communities. Community A and B may be in conflict with each other over where a particular facility is to be sited. More recent is the tension between Mion and Sang over the creation of the new district. These were communities in the Yendi Municipality until 2012 when a district was created. The creation of this district heightens tension as to which community the district capital should be sited. In the field, it was told that D.C. Kura and Puriya were in conflict over the construction of a school building. These are neighbouring communities that share boundaries with each other. Since water was a common problem among the two communities, I wanted to know whether such tensions and conflicts extended to the use of water facilities by neighbouring communities. It was revealed that, there were no such conflicts in the sector. D.C Kura and Puriya were compromising to solve their water problems. On the contrary, it was disclosed that there were political conflicts and interference especially within the Water Boards.

Well, just like you know I have been in the system for 11 years now and this is because we started the system. So, when we started, you know when the New Patriotic Party came to power in 2000, we were still working. But 2003 there about, they messed up everything. People were insisting that they would also want their own men or their people to do the work. So, day in day out, there were disturbances and it came to the point that; some people came in, bills could not be paid, and so, it was just going that way (Salifu Fuseini, Savelugu Water System, Savelugu, November, 22. 2012).

From this comments, it affirmed the point that political interferences exist especially with the composition of Water Boards. This is because whenever there is change in government, party loyalist scramble for positions in the sector without the due diligence on qualifications. Similar reservations were made by the SNM Chief Executive (Honorable Prince Mohammed Askia) and the Director, CWSA. It was told that because of these

interferences, CWSA has re-named Water Boards with Water and Sanitation Management Teams to prevent political interference that comes with changes in government.

District Assemblies (DAs)

DAs play a vital role in water provision in communities. In the assertions of CWSA, the way the Act was conceptualized or promulgated does not really give CWSA much to do except to support DAs to provide communities with water. Generally, it is MLGRD who are constitutionally mandated to provide for rural communities with water and sanitation facilities. DAs take responsibility in sustainability arrangements for these facilities provided. On this premise, the effectiveness of DAs all things being equal, would ensure sustainability of these facilities. On this backdrop, the study delved into finding out how the three DAs were performing in respect to some variables in the sector. These are presented in table 7.10.

Table 7.10: District Assemblies in WASH

DAs	Variables						
	Existence of DWSTs	WASH Plans	Budgetary Allocations to WASH (Gh ₵)	Availability of WASH records	Coordination of NGOs in WASH	Supervisory roles to service providers	Implementation of WASH facilities
CGD	Yes	Yes	-	Very scanty	active	Not active	None
SNM	Yes	Yes	567,000.00	Documented	active	Not active	None
YM	Yes	Yes	-	Verbal	active	Not active	None

Source: Field data, 2012/13

From table 7.10, the variables measured under the three assemblies were existence of DWSTs, WASH Plans, budgetary allocations to WASH activities, availability of WASH records, coordination of NGOs in WASH, supervisory roles to service providers and implementation of WASH facilities. These were used because to effectively ensure that WASH is implemented and sustained, DAs should be performing optimal in these variables listed above. These variables ensure effective implementation and sustainability of the facilities.

As presented in table 7.10, all DAs namely CGD, SNM and YM had offices and DWSTs. DWSTs are the link between the communities and the assemblies. They coordinate the activities of WaS in the various assemblies. While these offices and personnel existed in all the assemblies, it was found that, their activities were limited because of logistical challenges. The three officers interviewed all expressed dismay on financial challenges of the unit. They all said that, activities of their unit require field activities where they go into the communities to collect up to date records. This was however, not possible because of the constant paucity of funds to the unit. This was very evident in the quest for up to date data on the various communities in their respective assemblies. Apart from Savelugu Nanton that data from CSV was obtained, the other two assemblies had difficulties providing up to date data on the number of existing facilities, their functionality status, quality of facilities and the like about their communities.

Another area was to ascertain whether WASH Plans were drawn alongside MTDPs. From table 7.10, all the three assemblies had up to date WASH plans. These were drawn for a period of four years just like MTDPs. It was observed that while these plans were drawn separately, they had no link to the MTDP of the various assemblies. These plans were standing in isolation from the mother plan (MTDP). For example, the WASH Plan for SNM showed disparities in the activities with the MTDP (2010-14). Details are discussed in chapter 9.

On the part of budgetary allocations, only SNM WASH Plan had the amount in the plan, but CGD and YM budgets were not readily available. From the WASH Plan of SNM, a total of Gh ₵ 567,000.00 was to come from DACF while a total of Gh ₵ 2,339,910 was to come from external sources. This is a confirmation of Agyenim (2011) that water provision is reserved for NGOs and donors.

As indicated by the DWST leaders, WASH records were hardly available for reference. Apart from SNM where records were documented at the EHSU on WASH, CGDA had very scanty records on WASH. Yendi Municipality only gave a verbal account of their WASH activities. For instance, it was expected that, past WASH plans would be available to refer to see what has been implemented, who implemented what and at what amount. These were however, not available. Another observation was that there were no effective coordination between the

DWSTs and M/DPCUs in terms of records. While DWSTs were involved with records on water, the plans were with the DPCUs. There were instance where the leaders could not answer questions and referred me to the planning unit and vice versa.

DAs coordinate development activities in their respective areas. Activities of NGOs in WASH are one such activities that DAs supervise and coordinate. From table 7.10, the three assemblies responded actively to the activities of NGOs in WASH. For instance, there were awareness of NGOs and their Coalition in WASH. Recommendations letters and other necessary documents of most NGOs were available at the assemblies. For instance, NewEnergy, CLIP, Tumakavi, WaterAid, World Vision, and many others were mentioned in minutes of meetings in the three assemblies. It was however, difficult to find which activity in their WASH plans, were implemented by which organization.

Consequently, DAs play the role of supervising the service providers (Water Boards and WATSANs). The findings on this variable indicate that, all the three assemblies were not active in supervising the activities of the service providers. Whereas the Water Boards acknowledged that tariffs on water were determined by the Board and the DAs approves of the tariffs, there were no other activities that the DAs were engaged in. On the part of WATSANs, the DAs were not even involved with water tariffs and the finances of their systems. Other areas such as monitoring and supervising to ensure that effective services were being provided by the service providers were left out.

Lastly, an assessment on implementation of WASH facilities in the just ended 2006-2009 WASH plan for the three assemblies proved otherwise. While WASH plans for the said period were available in all the three assemblies, an inventory into what had been implemented gave a gloomy picture. None of the assemblies had activities in WASH plans implemented within the said period. This finding again supports (Agyenim, 2011: 165) assertion that the DAs do not see water delivery/management as one of their core functions. They view it as an area reserved for NGOs, the central government and the donor community. This was further supported by a respondent that:

Yes! That is what we should be doing. But the problem is still there because; for instance, the Assembly plans that; we need this amount of money from the Common Fund Administrator to undertake this and that. The Administrator (DACF) would not consult us and decides that ok TaMA let us give them Gh ₵ 500,000. Meanwhile, in our budget, it is about Gh ₵ 2 million yet we are given only Gh ₵ 500,000. So, you can imagine what happens. When it comes (Gh ₵ 500,000.00) there is a lot of rush and in that situation, there would be misplaced priorities because most politicians would want to see things that are tangibles so that they can get support.

A politician would not see why he/she should use his money and go and extend pipe water to a community which is about 25 km from town. Who would go and see it? But he would prefer to construct a latrine in an urban market. He would prefer to tar the road in town, you see? He would prefer to build a school which already has rooms in town. He/she would not like to go to a rural setting and put up a school. Who would go there? Errhhe! but if, may be, in the plan we have said, we need Gh ₵ 2 million to do this project for this year and you give us all the Gh ₵ 2 million, definitely, we would do what is expected of us (Baba Amadu, MWST Leader, TaMA, July 9, 2012).

This narration is a clear indication that the WASH sector is sideline probably because of financial resources. However, from the explanations of Mr. Amadu Baba, the politicians play a role in deciding what should be implemented and in which community. Whereas the WASH plan is

available, ensuring that activities are strictly implemented rest on the decision of the political leadership.

In all, these findings on all the above variables are comparable to the findings of a pilot study being carried out by International Water and Sanitation Center (IWSC) in collaboration with CWSA. The officer involved in the exercised explained what the study had revealed in the sector.

You know DAs have ultimate responsibility for the water facilities. You know, CWSA does it on behalf of DAs. CWSA is a delegated authority. So, DAs alternate but they seize that responsibility to service providers who are in the communities (WATSANs and WBs). So, we were also looking at whether DAs have the appropriate unit to oversee the delivery of water in the district. Whether there is adequate budget allocation and its utilization in WASH. We were also looking at whether they have the appropriate plans to guide the service. To guide how they deliver water. You know, one of the requirements is the District WASH Plan more or less set the agenda on how the district wants to implement water projects. We were also looking at whether with that plan, is it properly aligned with DMTP. Is it expressed in DMTP? We were also looking at whether they had the appropriate bylaws in place to provide the legal framework for the services providers to operate. And we were also looking at coordination. Do they and are they able to bring together all the NGOs that operate in the WASH sector in the district? Do they have information on what they are doing? What is their relationship with CWSA? How often do they provide data for CWSA?

Generally, and again, DAs perform very poorly on all these indicators particularly in the area of the budget allocation. It is very, very, very small. It did not even hit the bench mark. Coordination was a challenge. Many of them had the WASH Plans but the plans were disconnected from the MTDPs which is the umbrella plan. The WASH Plan should be expressed in the MTDPs but if you pick the two, you will see that, they do not speak to each other. Generally, you would find for the service authority which is the DAs were also not performing well and that was finding expression in the way the service providers were also not performing. Because, they are suppose to regularly monitor the service providers and the service providers had indicated that they were not receiving any monitoring support from DAs. So, many of them even relax. Some of them even do not work because they feel no one is interested in what they do (Jerry Achmware Atendem, IWSC, CWSA, Tamale, January 20, 2013).

Clearly, this report is yet to be published but the findings of the study as narrated by Mr. Jerry Achmware Atendem are indication that, the pilot study findings are consistent to the findings discussed above. As much as the cases in this study purported that DAs were supported to prepare WASH plans, these plans were mere documents in the various assemblies. The plans were not translated onto the ground. Financial resources remain a major challenge as the planning officers explained that; DACF releases from central government are always in arrears making it impossible to go by the plans. Nonetheless, it was expected that even if financial resources remain a challenge for direct implementation, the two set of plans should have a strong linkage to each other. For example, one would have seen a strong linkage of WASH Plans reflective on MTDPs. This does not involve financial resources but human resources. What was not clear was whether the various assemblies have no expertise in this direction.

7.10 Summary and Conclusion

In this chapter, issues of water and sanitation facilities, services and sustainable management arrangements have been discussed. Data presented indicate two types of water supply systems in these communities. These were the STWSs and LRWSs. Underground water sources through the use of LRWSs remain the predominate channels for improved water supply in these areas. This finding supports (PHCR, 2013) that almost a third (32.0%) of households use boreholes/pumps/tube well water for other domestic activities in the region. Water facilities are provided for the entire community and managed by the community.

Most of the physical facilities under water were functioning in communities with the facilities except communities that did not have the facilities. The variables under improved water which include quality, quantity, the distance to facility, coverage and reliability of the facilities produced a positive result in these communities. This was also evident in the household responses on community needs where communities that were satisfied in water supply listed other priorities other than water. Further to this, water facilities were of higher priority an indication that suggested by most respondents that water had no alternative.

Currently, water facilities and service are community owned and managed with the DAs playing the role of a service authority and delegating some powers to service providers in the communities. However, DAs were generally weak in coordinating, supervising, implementing WASH activities in their various assemblies. Whereas there were units designed and assigned to WASH (DWSTs) their activities were as usual curtail due to inadequate financial allocation to the sector. Although all DAs indicate that WASH activities were a priority sector in their assemblies, this did not manifest in the variables of the service authority in the sector. It is worth concluding that based on the weak linkages between the service authority and the service providers, sustainability of these facilities could be a challenge now and in the near future.

Sanitation on one hand was an individual initiative with management and maintenance responsibilities on the household. The simply household pit latrine remains the predominate facility. Maintenance of sanitary facilities was however, observed to be of minimal interest and enthusiasm unlike the water facilities that attracts patronage and with management structures like WATSAN. This manifested in the observations on the sanitation facilities in the various communities. While the service provider in these communities is termed WATSAN committees, the name applies to only water with sanitation at the backdrop. Sanitation activities were mostly geared towards inculcating a behavioural change in sanitation practices. It was expected that these changes would gradually lead to the demand in the facilities. However, from the observations, this is taken too long to transform into actions where the global community relies on tangibles.

Chapter 8: Access to Potable Water and Sanitation Facilities, Services and Rural Poverty Reduction in the Northern Region

Chapter 7 drew attention to WaS facilities and services in the region and the activities of CBOs in the sector. According to (Sachs, 2005: 24), “everybody on Earth can and should enjoy basic standards of nutrition, health, WaS, shelter, and other minimum needs for survival, well-being and participation in society”. Sen (1999) in his book “*Development as Freedom*” affirmed that “poverty must be seen as the deprivation of basic capabilities rather than merely as lowness of incomes, which is the standard criterion of identification of poverty” (p. 87). Guided by (Sachs, 2005; Sen, 1999), I stated a hypothesis that; *Ho: A community with access to improved drinking water and basic sanitation will have no change in the status of poverty of its members.*

In this chapter, I analyze data from a survey based primarily on observed poverty variables. It was observed from the data, that while policies and professionals corroborate the strong link between access to improved WaS facilities and poverty reduction in communities, this was incongruent with observed data.

8.1 WaS and Poverty Perceptions

Poverty is a multifaceted, complex, social problem and with many variants and different roots all of which have validity depending on the situation (Blank, 2003; Shaw, 1996). There are several lenses to the theories of poverty reduction. Bradshaw (2006) indicates that “there are five main views of the theories of poverty”. Accordingly, some of the theories on the subject are poverty is perpetuated by the individual or family irresponsibility which should be stopped by stiff penalties. The second example addresses subcultures of poverty and tries to acculturate poor children in mainstream values. The third sees poverty not as an individual problem but a social one that needs to be addressed politically and structurally. The fourth addresses regional or geographic concentrations of poverty through spatially targeted benefits. Lastly, poverty is a comprehensive and cumulative way (Bradshaw, 2006: 4).

The strategies to reduce poverty are based on the lenses through which the concept of poverty is perceived. For instance, there is the school of thought that proposes that poverty reduction should center on micro-finance assistance to the rural poor to keep them in Small and Medium Enterprises development. Other schools focus on agricultural innovation to improve lives of the rural communities that are mostly engaged in subsistence agricultural activities. Yet, another school mull over improvement in education; a theory that would produce high quality human resources, a means towards poverty reduction.

Sachs (2005) advocates that “poverty reduction is possible and our generation can realistically envision a world without extreme poverty by the year 2025 because technological progress enables us to meet basic needs unprecedented in history” (p. 347). All these strategies are indications that the issue can be tackled from various sides based on one’s background.

From literature, the view is that poverty reduction strategies could be directed towards the provision of basic needs in the area of water and sanitation facilities and services to rural communities. This view was congruent with the views from experts in the sector.

I agree: But other components for livelihood are needed to go with WASH; specifically food security, hygiene education, nutrition (supply, practice/education), health services and education. WASH alone is not adequate. You need nutrition and food security as part of the package and gainful employment (Kabuka Mwatama Banda, UNICEF WASH Specialist, Tamale, October, 2012).

I strongly agree: Water is life and sanitation improves health. If people do not have access to potable water they will spend all their resources treating themselves of water borne diseases. If people do not live in improved sanitary environments, they will always be sick and cannot do any productive work. Besides, the lack of access to vital social facilities is by itself poverty, so, if people do not have access to water and sanitation facilities it means they are poor or in poverty. (Grant Officer, Christain Children Fund of Canada (CCFC) Tamale, October, 2012)

I strongly agree: Oh much time and efforts are used in collecting unwholesome water that causes paralyzing diseases, stagnant growth, reduce already low incomes. Ready access to water means more time freed and available for other profitable use, healthy families, less income on health issues etc (Senior Hydro geologist-WASH Water Supply, World Vision Ghana, Tamale, October, 2012).

I strongly agree: WaS can eliminate guinea worm and other water borne diseases. When communities are healthy and diseases freed, productivity increases as they can work more on their farms so that we all can be secured with food, potable water secured, secured shelter and national productivity increased. (Hydro geologist/Water Supply Specialist, Cowater International Incorporate, Tamale, October, 2012)

I strongly agree: Clean water leads to reduction in diarrhoea and other water borne diseases like typhoid, cholera etc; hence, children are healthy and attend school regular while their parents also go about their daily chores to earn money. Animals also drink from the troughs and do not stray far away into the bush to be stolen. In schools, waste water is used for school gardens in the dry season to provide vegetable (Programme Coordinator CIDA, Tamale, October, 2012)

The elaborations in the boxes are clear indication of perceptions of the relationship between WaS facilities and services provision and its effects on poverty alleviation from specialists who work in the sector. These responses were based on questions seeking to unveil their stand on the relationship between WaS and poverty reduction and reasons for their responses (see appendices 6). Apart from the WASH Specialist UNICEF, who agreed to the mammoth contribution of WaS infrastructure provision and poverty and went ahead to advocate for other components of livelihood such as food security, nutrition, health services and education, all professionals from the other organizations strongly agreed to the linkages. In further discussions with the Specialist, he acknowledges that, WaS infrastructure is not the only ingredient to poverty reduction but a component of a many lot. Nevertheless, he admonished that, WaS plays a major role in ensuring good health, high productivity especially now that the majority of the work force are in heavy duty activities in our part of the region. This explanation was however, different with the other officers who explained the direct linkages of WaS and poverty reduction.

The Grant Officer of CCFC explained the linkages of inaccessibility of water facilities and lost of productive hours which cannot be underemphasized. Many of the officers illustrated the relationship between poor sanitation, poor health, use of meager incomes on health and the continuous poverty trajectory. For instance, the officers at CCFC and SNV underpin the absence of good sanitation to the likelihood of members of the household falling sick from water and

sanitation related diseases. All things being equal, ill health would further result in the use of meager incomes that these households are already constraint with. It is not only the case that meager incomes could be spent on health care but again, productive hours are lost. This was linked to school children and how this affects school performance. This was also supported by the officers at SNV and WaterAid, Tamale.

I strongly agree: With potable water and good sanitation, community members and school children will not fall sick. Adults will be strong to work and put food on the table, pay school fees and so on. Children will be able to go to school and learn effectively. With these, they will do well and become responsible adults (WASH Programme Officer, SNV Tamale, October, 2012).

I strongly agree: Water is a basic need in life. It forms an integral part of life and improves or leads to good standards of living, good health, and livelihood. It is an essential part of developmental initiatives for example, education, health, agriculture and so on. With good health, people are able to work which reduces poverty. Closer access to water also helps to save time. From our works, it is proven that provision of water and sanitation in schools has improve enrollment of girls in schools (WASH Project Officer, WaterAid Tamale, October, 2012)

The officer at Water Research Institute also shared similar observations like the officers from Christian Children Fund of Canada and SNV.

Of course, if the water you are drinking is not good, you would fall sick and it is the small money that you earn that one would use to seek medical attention. Again, it is this water that is also used to prepare food and all other things in the house and the effect is multiple. In other words, if the food they are going to eat is going to be contaminated, it is going to affect you and all family members. So, one would have to spend ones savings (money) on medical bills. Water is again linked to sanitation.

For example, if it is surface water and people are just dumping refuse near the source; and it rains, the rains would collect these waste materials into the water which would be contaminated. This is what people are going to use and drink from. Secondly, some of the rural communities use underground water but with most of these sources, the water table is very high during the rainy season such that; just a small seepage and the water is contaminated. In this regard, any small rainfall where the surface of the soil is already contaminated with human excreta would all sink into the soil and that is what you are going to take into the body. All these are linked but how intense the relationship is, is what scientist can determine. (Gerald Quarcoo, WRI, Tamale, September 20, 12).

Health care in these areas are challenged. There are inadequate health care facilities, personnel and in areas that these are available, one has to pay. There is the National Health Insurance Scheme (NHIS) that is operational nationwide, but the scheme still demands registration, payment of premiums, and renewable charges. Most households are very poor to the extent that they are unable to meet the demands of NHIS which is even subsidized for such categories of people. In this regard, ill health would cause much more burden on poor households.

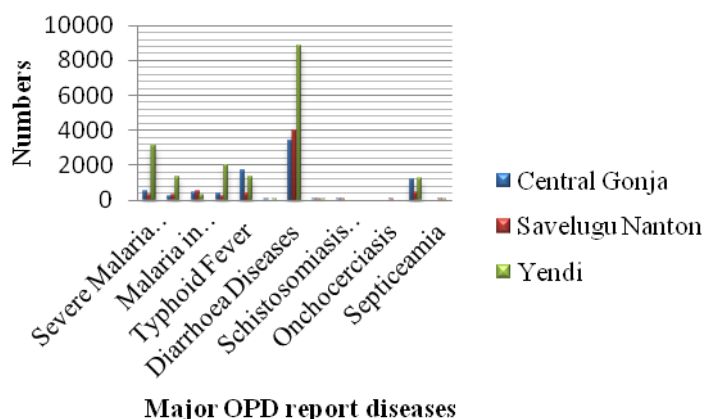
Other officers such as the WaS Programme Officer at WaterAid, demonstrated how the provision of WaS facilities in schools has improved enrollment especially on girls. Apart from high school enrollment statistics, the officer at CCFC explained in the questionnaire that the absence of these facilities is in itself poverty. That is probably the case when the officer at

WaterAid stated that they are an essential part of developmental initiatives where people are able to work in good health which in itself reduces poverty.

Aside these officers, the Programme Coordinator CIDA made a remarkable contribution that links water to other livelihood of the people that was rarely discovered in literature. About 240, 238 households were engaged in agriculture activities in the region. Out of this number, 30.1% are involved in livestock rearing (PHCR, 2013). From the survey data, all 122 households had livestock where sheep were the predominant animal in these communities. The livestock compete with humans for water especially in the dry season. Due to inadequate water accessibility, most animals move far from the communities to access water which at times exposes them to theft. The officer of CIDA linked the availability and accessibility of water to the protection of livestock which is an advantage to the households. This is because; these are the household assets they will rely on, to meet their income needs. Further to this, the officer explained the link between water and vegetable production through dry season gardening. This linkage is towards agriculture production which further appends additional income to households.

It posits that access to clean drinking water and a reliable supply at affordable cost reduces the number of working days lost due to sickness (Federal Ministry for Economic Cooperation and Development (FMECD, 2006). These findings above are common to literature that suggest that, WaS are among the most “powerful preventive medicines” available to governments to reduce infectious diseases. An investment in this area is to killer diseases like diarrhoea what immunization is to measles- a life-saver (UNDP, 2006: 6). Saravanan and Gondhalekar (2013) argued that development agencies have increased their investment in this “powerful preventive medicines” as cited in (UNDP, 2006) to address the growing threat from infectious diseases (867). Many of these infectious diseases, including malaria, diarrhoea, dengue and jaundice are transmitted through water. Emphases from UNDP on “powerful preventive medicines” are the linkages that these officers all spoke about in their submissions in the questionnaire with regard to WaS, good health and poverty reduction. While (Saravanan and Gondhalekar, 2013) further defined infectious diseases as including malaria, diarrhoea, dengue and jaundice all transmitted through water, statistics from the Regional Health Directorate (RHD) justifies that WaS borne related diseases are prevalent in the 3 assemblies where the household survey was conducted. The major WaS related diseases are presented in figure 8.1.

Figure 8.1: Major Water and Sanitation Related Diseases in the Three Districts



As shown in figure 8.1, diarrhoea diseases remain the major OPD reported disease in the three (3) assemblies. This is higher in Yendi Municipality fellow by SNM and CGD. From figure 8.1, YM tops in malaria (severe malaria lab-confirmed, severe malaria non-lab-confirmed, malaria in pregnancy lab –confirmed, and malaria in pregnancy non lab -confirmed). CGD however, tops in typhoid fever but is low in the malaria cases. The findings that YM leads in

diarrhoea diseases is inconsistent with the findings that this municipality is better supplied with WaS facilities and communities have access to water facilities discussed in chapter 7. There was however, consistency in the findings that CGD tops reported OPD cases in typhoid fever among the 3 assemblies. This was not surprising looking at the data that suggested that CGD had low

accessibility to improved water and sanitation facilities. It was however not confirmed whether there were cases in these districts that are not reported and recorded at health facilities that could undermine the statistics and the records; looking at the linkages in access to the facilities and the effects on WaS borne diseases.

Inquiring to ascertain the negative figures in cases of guinea worm in the three (3) assemblies, the Regional Health Directorate explained that guinea worm used to be one of the traumatized water borne diseases in the region, but this has since been eradicated. This was confirmed in an interview with SNM Chief Executive who narrated how people in various communities in the municipality were affected with this pandemic.

Yes! There was guinea worm outbreak in the area. Oh, it became so pandemic in our municipality. This was also because the numbers were so high in Ghana and the highest point was Savelugu Nanton. This impacted negatively so much in all sections of the economy. In terms of education, you know water sources were found in the dams which were infested with the larva. Children wasted a “hell of time” with the women going to draw water from the dams that took them time. On the part of school children going to school, it affected them. The same with the women who were doing other income generated activities. It affected their time. Now, when one is infected with this guinea worm, it became so serious that the children and the women could not even go to the dam side to fetch the water, left alone even go to school or do any other work. When it affects you, you don't know when you are going to be freed whether in one month time, two months time, and no infinite time until it goes out of you. So, it actually affected education. Agric was so serious; people couldn't go to their farms because “the thing is there” even footballers were affected. They could not play football. Again, there were some that thought that, it was a bad omen or it was from witchcraft or some other spiritual infestation (Prince Mohammed Askia, SNMA Chief Executive, Savelugu, October 22, 2012).

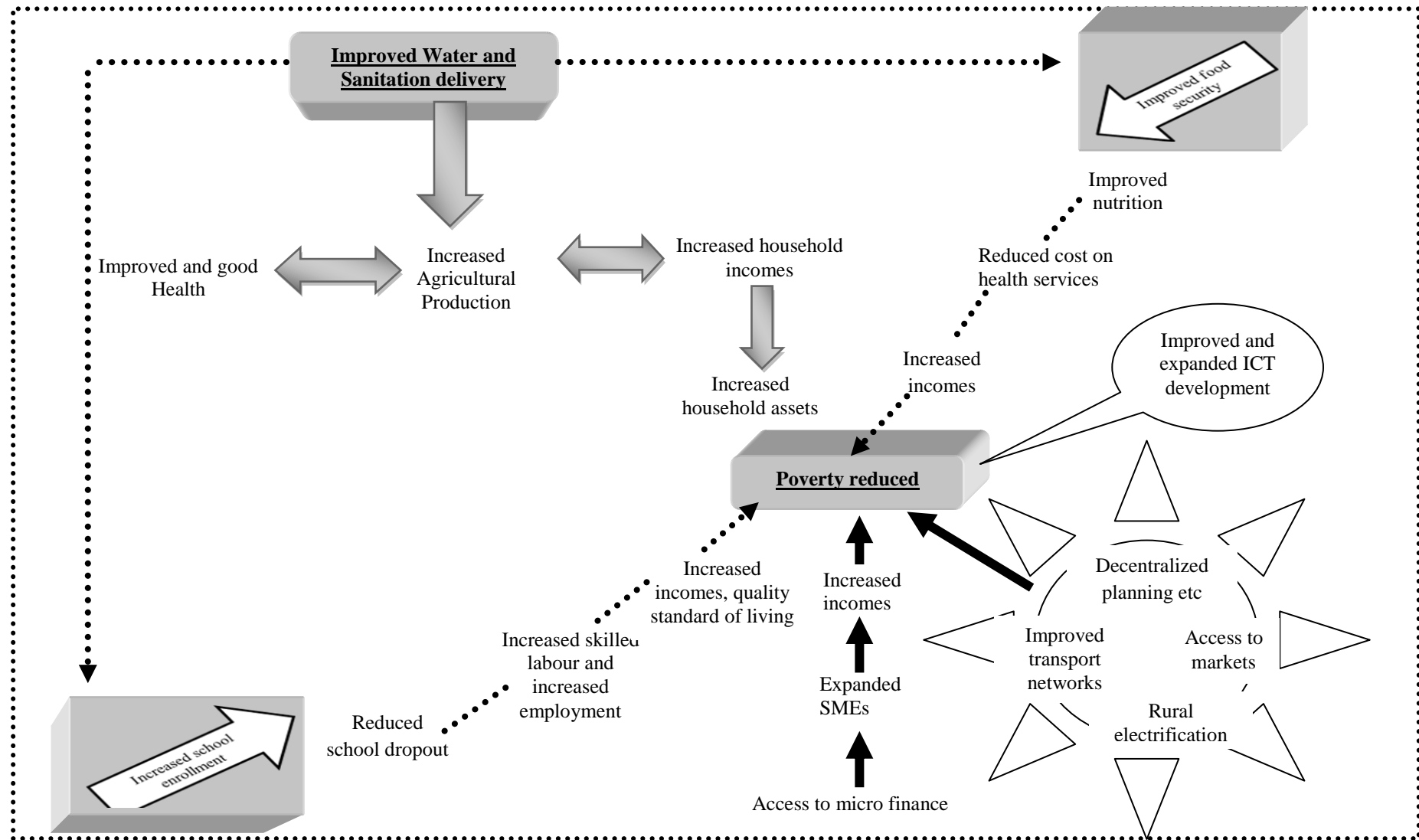
This is yet another narration that suggests the negative impact of water borne related diseases. From the narration of the Chief Executive (Hon. Prince Mohammed Askia) all sections of the economy in the municipality were affected. School children, who were not affected, nonetheless, spent time with the women trying to draw water. This was because; they were not allowed to fetch water from dam sources without filtering. They were filtering the water at the dam side before taken it away. “If you would not filter, you would not take it away” (SNMA Chief Executive, 2012). Even though, you filter at that point, when you take it home, you still had to heat it up before putting it to use. This explains how long it takes for a household to meet the daily consumption of 5 gallons of improved water that an average sub-Saharan African consumes according to (Salman, 2012).

Consequently, it was not only school children that were affected, women who were engaged in other economic activities, farmers and even footballers all suffered as a result of the pandemic. This probably confirms why government and other stakeholders fought for the eradication of the worm in the country and are working assiduously towards international certification for eradication. Ghana has had the status of a country in transition to eradicating the Guinea worm disease. With the last Guinea worm case being reported in Diare, a village in Northern Region, the country's Guinea Worm Eradication Programme (GWEP) is on course to achieving total eradication status in July 2014 (Sodzi-Tettey, 2014). These narrations and reviews from literature suggest the WaS and poverty reduction nexus. The nexus explains the interconnectivity of these two phenomena (WaS and poverty reduction).

8.2 WaS and Poverty Reduction Nexus

Based on the submissions from experts from the sector, political leadership and life histories from some community members, I present the WaS and poverty nexus. This discussion examines the inter-relatedness and interdependencies of WaS facilities to a cross section of other themes, facilities, and phenomena and the fluxes in spatial units instead of looking at a narrow window of the issue. Figure 8.2 illustrates the nexus analysis as examined by respondents.

Figure 8.2: WaS and Poverty Reduction Nexus



Source: Researcher's construct based on field data, 2012

As illustrated in figure 8.2, improved WaS delivery touches a wide spectrum of issues that I termed the “WaS and poverty reduction triangle”. As shown in figure 8.2, improved water and sanitation has an immediate impact on improved and quality health. Further to this, is the argument that quality health would result in productivity. Also, quality health and agriculture production are interdependent because; higher agriculture production could otherwise lead to an improved health. When there is higher production, the households might have a lot to eat and sell to meet health needs. These interdependencies are shown with the double arrows in figure 8.2. In addition, all things being equal, higher production would also lead to an increase in household incomes, acquisition of more household assets, high standards of living and a reduction in poverty.

Nevertheless, the other part of figure 8.2 moves further to illustrates how improved water and sanitation delivery increases school enrollment. Rural communities in the region rely on the support of their children to perform household chores and also in economic activities. The girls are mostly affected. With availability and accessibility to these facilities, children are able to still assist in household chores and still attend school. The analysis goes further to suggest that this results in low school dropout that is associated with absenteeism due to house activities (especially in water searching). Once school dropout rates are reduced, there would be an increase in skilled labour, employment and an increase in incomes. This line of analysis would also lead to the reduction in poverty.

The next corner of the triangle seeks to present how improved water and sanitation delivery further impacts on improved food security. From the interviews and observations, water from unimproved sources that otherwise could be used for other agricultural activities are normally used for domestic purposes. For example, the availability of improved sources of water in Nyoglu aided the community to use the dam water for dry season gardening. The opinion leader of the community (Mr. Adam Alhassan) explained that, all year round activities help us to increase the food basket. Aside, it was observed that most dry season farming was basically vegetables that could supplement the nutritional value of household members. All things being equal, this would lead to a reduction in the cost of health related services and an increase in household incomes.

Notwithstanding, there are other phenomena that plays positively towards poverty reduction that are not within the triangle as shown in figure 8.2. These are the other theories related to access to micro-finance to rural women which would lead to an expansion in SMEs development and an increase in incomes of households. The others are a mixture of improvement in other variables such as expansion in rural electrification, access to market centers, improved transportation networks, decentralized planning, improved and expansion of ICT development among a whole chain of other phenomena.

While asserting that the issue of poverty reduction is not a straight line determinant solution, the WaS and poverty nexus touches on many variables as presented in figure 8.2. Despite this nexus, it is worth assessing whether this nexus of inter-relatedness and interdependencies of WaS and poverty replicate in the quantitative data.

8.3. Access to Water Facilities and Health Awareness

This part seeks to present Bivariate analysis of the two variables (access to WaS and health awareness). Bivariate analysis seeks to establish patterns or relationships in the phenomena under investigation (Blaikie, 2008: 89). These measures would enable me tell the connections (association) between the two variables discussed in the WaS and health nexus. To do this, a nominal level data is used with an ordinal level data in a contingency table (see table 8.3).

Table 8.1: Relationship between Access to Water Facilities and Illnesses Awareness

Communities	Responses on level of agreement			Total
	Strongly agree 1	Agree 2	Disagree 3	
Communities with less WaS facilities	37 (43)	21 (15)	5 (3)	63
Communities with maximum WaS facilities	48 (41)	9 (14)	2 (2)	59
Total	85	30	7	122

Source: Field data, 2012

Table 8.1 presents a cross tabulation of two variables (access to potable water and illnesses). This process is to enable me make a chi-square test from this table. The respondents were put under two categories (communities with less access to improved water facilities and communities with maximum access to improved water facilities). The responses were in five categories of (strongly agreed, agreed, disagreed, strongly disagreed and no responses). The five by two table was however re-categorized into a three by two table because of the rule that: not more than 20 percent of the expected frequencies can be less than 5 and no expected frequency can be less than (1) (Blaikie, 2008: 98). From the earlier grouping, some of the columns did not agree to this rule and as such, necessitated the re-categorization. The responses were therefore re-categorized as (strongly agree, agree, and disagree).

Under the responses in table 8.1, there are two sets of numbers; these are the observed and the expected values. The expected values are in brackets while the observed values are not. The observed values are the response while the expected values are derived by multiplying the total row values and total column values and dividing these values by the overall total (total row values * total column values/ overall totals). For example, the first cell in table 8.1 was worked out as; $63 \times 85 = 5355$. This value (5355) is then divided by 122 (overall total) $(5355/122) = 43.89$. The 43 is the expected value for the cell. What this means is that; I expected 43 responses from the community with less facilities to strongly agree with the statement. However, the actual observed responses were 37 instead of the expected 43. The rest of the cells were worked out in this way to arrive at the expected values for all the cells in table 8.1. The observed and the expected values were therefore used to calculate the chi-square value.

I used the following formula to calculate the chi-square value:

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

Where: Σ denotes summation, O is the observed value, and E is the expected value. Calculating the chi-square value for table 8.1, the χ^2 would be:

$$\begin{aligned} \chi^2 &= \sum (O-E)^2/E \\ &= (37-43)^2/43 + (21-15)^2/15 + (5-3)^2/3 + (48-41)^2/41 + (9-14)^2/14 + (2-2)^2/2 \\ &= (0.8372093) + (2.4) + (1.33333333) + (1.19512195) + (2.571428571) + (0) \\ &= 8.337093158 \end{aligned}$$

The chi-square test was used to investigate whether there is an association between access to improve water and health awareness in 2 broad categorized communities (communities with maximum access to improved WaS facilities and communities with less access to improved WaS facilities) in the region. The investigation involved a 2 by 3 design where illness awareness was measured on three levels (strongly agree, agree, and disagree) and access to water was measured on two levels (communities with less access, and communities with maximum access). Table 8.1 presents the 2 by 3 contingency table showing the observed and expected counts.

From table 8.1, 43 were expected to strongly agree that intake of water from unimproved water sources cause illnesses in communities with less access to WaS facilities but the actual responses were 37. On the other hand, while 41 were expected to strongly agree to the same question under communities with maximum access 48 were observed. The observed count for strongly agree was therefore 37 for communities with less access and 48 for communities with maximum access.

The chi-square (χ^2) test was performed to ascertain whether these differences are enough to be significant. The level of significance is two tail and was set at 0.05. The chi-square calculations and results are summarized in table 8.2

Table 8.2: Calculated (χ^2) Value as against (χ^2) Table Values

	Value	Df	Asymp.Sig. (2-sided)	
Pearson Chi-square	8.337	2	0.05	0.01
			7.38	10.60
N of valid Cases	122			

Source: Calculated (χ^2) value and (χ^2) table values

As shown in table 8.2, the computed chi-square value is 8.337 ($\chi^2 = 8.337$). However, an examination of the value on a chi-square table gives a value of 7.38 at 0.05 level of significance. This means that the computed chi-square value is not significant at 0.05 level of significance. However, the (χ^2) value of 8.337 is significant at 0.01 (99%) level of significance because the calculated (χ^2) value of 8.337 is less than the table value of 10.60. The test therefore reveals that there is association between access to WaS facilities and awareness of illness.

Although there is an association with the variables, I wanted to establish further the strength of this relationship by using the formula below to calculate a contingency coefficient (C).

$$C = \sqrt{\frac{\chi^2}{n + \chi^2}}$$

Where: χ^2 is the chi-square, and (n) is the sample size (number of respondents in the study). Statistically, this measure of association produces a number between 0 and 1; where 0 indicates no association, while 1 indicates perfect association or relationship between the two variables (Blaikie, 2008: 96).

Based on this, a contingency coefficient (C) was calculated by substituting the χ^2 value calculated earlier in the C formula.

$$\begin{aligned} C &= \sqrt{8.337093158 / 122 + 8.337093158} \\ &= \sqrt{8.337093158 / 130.3370} \\ &= \sqrt{0.06395} \\ &= 0.25 \end{aligned}$$

The contingency coefficient (C) calculated is 0.25. This (C) value therefore shows that there is association between the two variables. This association is however weak, 0.25 on a scale of 0 to 1. In other words, other things being equal, an improvement in access to water and sanitation facilities will increase awareness of illness by 25% in the community. What this implies is that; the little association is due to the model used in arriving at this measure of association while the remaining 75% may probably be as a result of other factors other than WaS facilities. Furthermore, the test was based on a particular thinking that; communities would be aware of health hazards of drinking from unimproved sources however, other factors affected this assessment. Some circumstance accounting for the 75% in the model could be these.

Oh! My sister, I do not think there is an impact in drinking from the dam water. We have been drinking from this source all the time and I am very strong. My grandparents drank from this dam, my parents drank from this dam and I am drinking from this dam with my family. If you say, the water is not good for drinking and that I will fall sick Errhhhhm! It may be true, but those who drink from the borehole, don't they fall sick? It is not the dam water (Sumaila Bewuribe, resident Kusawgu (Kootito), December 14, 2012).

You see, I agree with you, but in our case, we have no alternative. We drink from these sources you call unimproved because where is the good source? If I am provided with good source of water, my household and I would use, but if you are confronted with none, what will you do or you do not understand what I am telling you? (Dramani Alhassan, resident Kusawgu (Kootito), December 14, 2012).

For this community the water is not tasty, so, I will not say because it is improved I would drink from a source that my mouth cannot swallow the water. I prefer to drink from the source that is appealing to my taste. This source would quench my thirst. Whether it is improved or not, once it would satisfy me, I do not have any reason to believe what you are saying (Abudu Bawa, resident Mankpang, December 15, 2012).

Yeah! During the time we had the guinea worm, I understood what the education was saying but the guinea worm is not there again. You see my woman; it was very difficult for my household and I. I have a big farm and it is far from here. Have you gone to Kulfo before? Yes! That is where my farm is and it is 20 kilometers from here and I rely on my wife and my four children to help me on this farm. We leave the house very early in the morning and this borehole water is not coming. That is your improved source. Again, we return very late in the night and it is the same thing. If you are me, what would you do? So, we fetch from the dugout on our way to the farm because we have to drink water or should we not drink water because it is not good? (Sanni Mahama, resident Kpabuso near Mankpang, December 15, 2012).

These were some of the reasons respondents gave for the use of water from unimproved water sources. While it was not anticipated that at this time, communities would not be aware of the health hazards of drinking from unimproved sources, two respondents from Kusawgu and Mankpang exhibited ignorance of any health hazard of drinking from unimproved water sources. The first respondent Mr. Sumaila Bewuribe related the issue of drinking from the dam to historic backgrounds where his parents drank from that source until their death. He did not see why he and his household cannot drink from the same source.

The third respondent also held similar views. For Mr. Abudu Bawa, drinking water should have taste. In the absence of good taste, illness related to unimproved sources is a secondary problem to him. The second respondent agrees with the statement but there are no alternative

sources for him. The household has relied on this source all these years and there is no problem drinking from this source. This is the same as the fourth respondent who pins improved water source with unreliability and as such the inability of his household to utilize water from improved sources.

These findings are clear manifestations of what communities still hold in the use of improved water. In the assertion of the SNM Chief Executive, during the guinea worm pandemic, many attributed the spread of the worm to bad omen, the spirits and witchcraft. With the intensification of education on these issues, it was expected that some of these responses would not resurface especially with the numerous campaigns and education programmes in the sector. It is clear from these that, the assertions from (Saravanan and Gondhalekar, 2013: 867), that the investment in “powerful preventive medicine” also gained momentum from the MDGs. In spite of these improvements, the incidence of water-and vector-borne diseases (WVDs) remain high. It is evident from these responses that investments in the sector could still face challenges if attitudes are not changed.

Likewise, these findings are also incomparable with the assertions of the Director, CWSA who narrated the understanding of communities in drinking from improved sources and the use of water disaggregation.

In Ghana today, they would not do that. What they would do is to disaggregate. They would drink or they would buy enough for them to drink and wash with unimproved water in the village. We have seen a lot where they disaggregate. During the rainy season, you will find them storing rain water for washing and bathing and all those things and when there is none in the dry season, they go to the main water source. So, because of the education and it is not just giving them water facility. We have a team that provides almost a year long education in hygiene practices. So, they turn to get the meaning of drinking not contaminated water. So, I do not think they would go unless the source is totally zero. If they do not have a choice but if there is a choice, that is expensive, they would only buy a limited amount of it and use the other uncontrolled water for bathing and washing (Offori MacCharty, CWSA Tamale, July 20, 2012).

The narration from the Director, CWSA Tamale seems to suggest that there is total understanding of drinking and cooking with water from improved sources by every member of the community. But some of the responses to why they drink from unimproved sources and their understanding of these sources to health hazards refuted the Director’s conclusion. These could probably be the remaining factors accounting for 75% from the (C) values calculated.

Nevertheless, some of the negative responses as outlined from respondents were not surprising looking at the context in which these people live. It is an undisputable fact that most of the people in rural communities are strongly bonded with culture, traditions and religious traits that are difficult to change overnight. Most of them have developed entrenched attitudes that mandate them to use phrases such as “we have been doing it this way” suggesting there are no other ways of doing what they are used to doing. It is these traits in majority of the rural people that most experts and officers referred in the interviews as “the problem is attitudinal”. “Getting people to change their behaviour is not easy” (Afele, 2009). This is probably one of the issues the Programme Coordinator of CLIP described as “catching them young”. The realization that, it is difficult to change the already pre-conceived attitudes of the elderly in society, the attention is to change the younger generation through positive attitudinal development.

From the responses on why the household resort to the use of water from unimproved sources, it is lucid that, most water and sanitation infrastructure fail to achieve the desired impact probably due to some of these obstinate attitudes. While policy and donors are optimistic that certain interventions are prudent measures for rural development, the beneficiaries may at times think otherwise. This realization could probably be the thinking behind policies such as

community participation, consensus building, decentralization and participatory rural appraisal techniques in infrastructural planning and implementation. Nonetheless, these might probably not achieve 100% success but would gradually reduce negative attitudes and thinking, one of the drivers of stagnant development.

8.4 Access to Sanitation Facilities and Health Awareness

The next level also established the pattern in health awareness and the use of unimproved sanitation facilities within communities with less access to improved WaS facilities and those communities with maximum access to improved WaS facilities. The process here is similar to the earlier presentation under access to water facilities and health awareness.

Table 8.3: Relationship Between Access to Sanitation Facilities and Illnesses Awareness

Communities	Responses			Total
	Strongly agree 1	Agree 2	Disagree 3	
Communities with less WaS facilities	16 (22)	39 (29)	8 (10)	63
Communities with maximum Water and Sanitation facilities	28 (21)	18 (27)	13 (10)	59
Total	44	57	21	122

Source: Researcher's construct, 2013

The calculation of the chi-square statistic used the same formula and procedures as in the earlier process under the association between water and health awareness within the two categorized communities. The chi-square (χ^2) test for table 8.3 as calculated (see appendix 9a) was performed to ascertain whether there is an association between the use of unimproved sanitation facilities and health awareness between the 2 categorized communities and whether this association is significant to report on. The level of significance in this calculation is also determined at 0.05% and is two tail (see appendices 9c). The chi-square calculation and statistic indicate that at 0.05 level of significance, the (χ^2) calculated value of (11,717) is not significant because the (χ^2) calculated value of 11.717 is more than chi-square table values of 11.07. The (χ^2) calculated value of 11.717 is however, significant at 0.01 (99%) level of significance because the table value of 15.09 is more than the calculated (χ^2) value of 11.717. The test therefore reveals that there is a significant association between use of unimproved sanitation facilities within the households and that of illnesses.

Furthermore, to establish the strength of the relationship, (C) statistics were calculated (see appendices 9b). Going by the contingency coefficient (C) calculated value of 0.29, it can be deduced that (C) (0.29), shows that there is some amount of association between the two variables, although it is weak. What this implies is; by improving access to sanitation facilities in the study communities, awareness on illness will increase by 29%. The remaining (unaccounted) 71% may be attributed probably to other factors and not sanitation facilities.

From this figure, it is unambiguous that, the awareness of water and health hazards (illness) and that of sanitation and health hazards are almost the same (25%) and (29%) respectively. What these numerical values indicate is that, there is a level of association between WaS facilities and health. The remaining unaccounted values in both water and sanitation may probably be attributed to other factors some of which could be linked to governmental policies in health and agriculture which are variables in the conceptual frame linked to health through to poverty reduction. Apart from the individual household responses, health and agriculture experts were contacted to explain interventions in these sectors.

From the Regional Health Directorate (RHD), it was disclosed that the Directorate is the immediate step to headquarters (Ministry of Health) and when it comes to disease control, basically, the Directorate does surveillance. The surveillance unit monitors the disease pattern with a check list. In times of any outbreak, RHD are called to curb the situation. This intervention could probably be one of the measures in the control of many diseases including the guinea worm in the region.

In agriculture, the officer Mr. Festus Aaron, explained the measures in the sector designed to increase production and food security. The interventions mentioned were Bunds Water Reservation methodology (land and water management projects), Block farms programme, Fertilizer and Seed subsidy programme and Buffer stock. In Mr. Festus Aaron submissions, the Bund Water Reservation method seeks to manage land and water use based on the soil composition. In this project, block farms in four crops (soyabean, sorghum, maize and rice) were established in 2009 in some selected districts in the region. But in 2011, all districts were covered with this initiative. The overall objectives of this intervention are: to support farmers to increase productivity/production, to generate employment especially among the youth in rural communities, to increase incomes of small holder farm households and enhance the application of science and technology among small scale farmers. In this programme, government provided funds for land preparation, inputs (seeds, weedicides and fertilizer) and technical support through AEAs to farmers, whereas, the farmers provided land and labour for all agronomic practices.

The National Buffer Stock Company (NAFCO) was set up as a governmental company in 2009/2010 to provide ready and reliable market to farmers who are willing to sell to the company at favourable guaranteed price where the company would ensure quality storage of the produce and re-sell to farmers during the lean seasons. The objective of the company as explained by the officer is to mop up all excesses of commodities from farmers as a buffer against food insecurity. On the other hand, the Fertilizer and Seed Subsidy programme is mainly to provide major fertilizers and seeds at subsidized prices to farmers.

The idea behind these interventions is to ensure a stable improvement in agricultural activities, increase food production and reduce poverty among majority of farm households in the country. These interventions have a gargantuan impact if effectively implemented. Nonetheless from an angle of a former worker at the assembly, most of these interventions benefit the urban farmers looking at the scale in which they are implemented. These interventions were designed to meet large scale production. For example, in the Bunds Water Reservation methodology, the farm sizes ranges 10 to 20 acres. The land size of the rural farmer with an average of 4 acres cannot meet the requirements of this intervention. It was also observed that most of the farmers in these communities worked at individual levels instead of groups to be able to utilize these opportunities. It would be argued that a group of farmers could be in the position to meet a farm size for the Bund Water Reservation methodology.

Besides, the Block farm programme was basically in four food crops. From observations, most of the farmers in these communities also farm tubes such as yam and cassava. Tubes were not covered by this intervention and as such, it was a challenge to farmers who were not cultivating the four crops under the programme. Again, it was also observed that most of these programmes arouse the interest of “party loyalist” who saw these as measures to enrich members of the party in government. Such people did not allow professionals to implement these interventions to benefit those who deserve the programmes.

These observations were further confirmed when Mr. Festus Aaron enumerated the challenges of the interventions. Under the Block farms, he mentioned that there were low returns from most beneficiaries of the programme. Some were not in the position to pay back to government on the investment. When asked why, it was not directly stated but the explanation suggested the political angle or interference in the implementation. Others challenges with regards to the Free Seed Subsidy revealed that some drivers refused to go to some districts to distribute

fertilizer and seeds because of bad road network to these districts. Secondly, he explained that because of low motivation for Fertilizer Desk Officers (FDO), monitoring the activities of the agents was equally low and as such the intervention was getting to wrong people.

All these go to buttress the points that most of the interventions in the agricultural sector hardly impact on the rural farmer. Notwithstanding, if these are held constant, what it means is that all communities would benefit from these interventions in health and agriculture. What is left is the difference emanating from WaS facilities. Could it then be the case that, if health and agriculture interventions remain constant in these communities, interventions in WaS could make the difference in poverty reduction in these communities?

8.5 Mixed Reactions to Poverty Reduction

Despite the quantitative data that suggested that there is an association in the two (2) variables in the conceptual framework, there was still a perplexed explanation to sequential linkages of WaS and poverty reduction especially at the community level. The issues were debated among opinion leaders, politicians, and members of households on the linkages of WaS infrastructure development and how these could contribute in reducing poverty in their communities. One such debate was recorded in Kusawgu (Kootito), CGDA.

I personally do not think there is significant change in the status of poverty in households when we have WaS facilities and services. Why am I saying so? Take Kusawgu for example. We do not have quality water and improved sanitation systems, but we are better in terms of poverty than others. For instance, the community has electricity, and a lot of people here are doing jobs with this source of energy. The women at the center here are all engaged in one activity or the other. These are increasing their incomes and their ability to meet other family needs. So, WaS to me is not the solution to poverty (Teacher Abudulia Napri, resident Kusawgu, December 17, 2012).

Yes! WaS might just be one of the issues but you know, if you have measures in place you can really curb poverty without relying solely on WaS. You see, we have a lot of facilities here, though, we will still ask for more from government “Oliver Twist asked for more” laughing... With the clinic the community is able to access health care, we also have schools and enrollment is now high. If we maintain these records, we will be able to reduce school dropout and the benefits associated with education. Though we will need water and sanitation, their impact is just minimal. This is my mind (Alhaji Zontuwura Iddrisu, resident Kusawgu, December 17, 2012).

For me, we will need water very badly here. This is election year and we do not know what this lady is going to do with these questions here and there. It is very important to have water and sanitation. Kusawgu is just in the hands of God. You said you are coming from the dam side. The dam is located downstream and the day epidemic will break, all what my colleagues are saying will be a long story. We have no cemetery here and we bury our people in the houses. Some do not dig deep before burying. In this case, heavy down pour sends a lot of debris into the dam, where we drink from. Again, when there was guinea worm, many people could not attend to their farming activities. This had a subsequent effect on food security during those years. Most household could no more sell their farm produce to buy household assets like bicycles and the rest. Madam, if you can help us with water, it is good (Mohammed Jebuni, Kusawgu Assembly man, December 17, 2012).

Please I beg to differ from all what you people are saying. I want to tell the Madam that I am a youth leader and I speak on behalf of the youth here. We think jobs are the solution to poverty reduction. If you have job you can buy good water. Look there, they are selling sachet water but I cannot buy because I have no job that is bring income. You say you are coming from Germany, look at how you are looking. There is no poverty in you because you have money. If we are able to get jobs that would give us incomes, we can afford good water, we can build good houses with sanitary facilities like the ones in the city, we can pay for good education and madam money can buy everything (Abdulai Ewura Kusawgu Youth leader, December 17, 2012)

I am not going to say much but to ask Madam to go out and compare for herself the two communities you said you are doing your studies. Go to Mankpan where they have a borehole from I think they say an NGO and compare with Kusawgu to see whether there are difference in the poverty levels of the communities. If I talk, it would not make difference but you need to check that out yourself (Sakawura Sulemana Jakpa, resident Kusawgu, December 17, 2012)

This group discussion revealed the mixed reactions to the poverty dimension. While others saw the WaS and poverty nexus, others refuted outright this association and linkages. The first respondent dilated on electricity poverty linkages where jobs are created through energy sources. The jobs would further enrich them with incomes apart from the agriculture activities these people are engaged in. The narrations from Teacher Abudulia Napri were consistent with the observations at the Kusawgu (Kootito) area. There were lots of activities at the center with

regards to selling and buying. There were electrical, cold shops, and others going on at the center. However, when one of the electrical works dealers Young Boy Adamu was confronted on electricity charges and profit margins the answer was negative. “Young Boy Adamu said, he pays a lot for electricity that he can hardly make profit to expand his business”.

The second respondent Alhaji Zontuwura Iddrisu’s reaction was on a mixture of measures such as having educational and health care facilities. Nonetheless, one of the group members, Mr. Mohammed Jebuni, (the Assembly man) explained the WaS and poverty nexus that links health, agriculture productivity and household incomes. His assertions on the guinea worm pandemic were also similar to the narrations of the SNM Chief Executive reservations on the matter. The youth leader however, had opposing view on the issue of poverty. He linked poverty to jobs. His narration was a reflection of the general ideologies of majority of the youth in Ghana. The ‘youth’ quest to make money very fast is growing. They also think money can buy everything. This perception is behind Abdulai Ewura’s narration on jobs and poverty. The narration of Abdulai Ewura on jobs however, questions the type of jobs that can be created looking at the low level of skills development of the people in these communities.

Lastly, Mr. Sakawura Sulemana Jakpa gave a suggestion instead of reacting to WaS and poverty nexus. His suggestion was for an in-depth comparative analysis. Mr. Sakawura Sulemana Jakpa did not see reasoning in talking about issues that can be compared. Under this backdrop, observations were used in this comparative analysis of the communities with maximum assess to facilities as against communities with less access to facilities and their poverty status.

8.6 Criteria for Assessing WaS and Poverty Levels in Communities

Household incomes have remained one of the means used in assessing the levels of poverty in households and communities. Sen (1999) expounded that “the perspective of capacity-poverty does not involve any denial of the sensible view that low income is one of the major causes if poverty, since lack of income can be a principal reason for a person’s capacity deprivation” (p. 87). It is a standard unit of exchange and is generally used to acquire almost all human needs. Income analysis in these communities is however, not easy to make because of the following reasons.

Majority of households in these communities do not have permanent incomes. They rely on menial jobs that are perhaps seasonal and temporary. Some of the sources of incomes are from the sale of farm produce, remittance from family members living in urban areas, or a temporal labour job from a family member. A discussion with Mr. Abdul Napari in Wambong, further supported temporal incomes among most households in these communities.

Madam, as you can see, I do not have any permanent job. I am a farmer and I rely on all the corn you see over there to meet the needs of everything in the household. We depend on the small farm produce to feed throughout the year. We sell some of these to buy clothing, pay school fees, pay health care, and do everything. Do you think I like to wear what I am wearing now? No! But I have no means to get new clothing. The years with poor yield, my household would not even mention these things....(Abdul Napari, resident Wambong, December 18, 2012).

The corn at Mr. Abdul Napari’s household was at a corner of the room. It was not bagged at the time but from the observations, when bagged it could fill up to about a minimum of 4 bags to a maximum of 7 bags. At the time of field activities (2012) a bag of corn in the market was sold at Gh C 65.00. There were 6 household members in Mr. Abdul Napari’s household (the head, his wife and

four (4) children). All the children were in school. Going by the narration of Mr. Abdul Napari, the household would depend on six (6) or seven (7) bags or less of corn for all household items. The household on one hand did not know how many bags they would exactly use for feeding and

how many would be sold for other items. It is therefore, difficult to convert these into real incomes to measure what a particular household income would be.

The second reason is simply to use two data collection techniques within the survey method. These are observations and questionnaires. Bryman (2012) expressed strong implications for using structured observation other than relying on only the questionnaire (p. 270). Bryman (2012) indicates that this technique allows behaviour to be observed directly, unlike in questionnaire, which allows behaviour only to be inferred. Structured observation constitutes a possible solution in that; it entails the direct observation of behaviour or features within a setting (Bryman, 2012). Based on these, I used observed data to triangulate with data from questionnaires and that of interviews at the household level.

From the background of (Sen, 1999), it is arguable that all things being equal, an increase in household income, would lead to a visible quality standard of living. When the households have an appreciable increase in incomes, this would propitiously lead to a quality of life especially in quality housing, energy type and the acquisition of other household assets. On the basis of these assertions, housing and other household assets were used to compare the levels of poverty in the two set of communities.

8.7 Communities and Socio-Economic Indicators Comparison

Housing and Materials for Construction

Housing is generally a basic problem in both urban and rural areas in Ghana. This basic need is provided by private individuals with little support from central government. In the rural areas, housing is the sole responsibility of household members. The housing types observed in communities in the region are categorized into 3 board units of compound, single structures, and detached round huts.

The compound structures had several rooms (undetached from one another) with a main entrance. The average number of living rooms observed and recorded was six (6), in addition to a kitchen and 2 or more rooms for livestock. Figure 8.3 shows a compound structure in the region.

Figure 8.3: A Compound Housing Unit in Kusawgu



Source: Field work, 2012

As can be seen in figure 8.3, this housing unit also has a built sanitary area but only for bathing. The individual rooms are a mixture of rectangular and round hut shapes. There are normally two or more households within this structure. Whereas there is an in-built kitchen unit, it was observed that cooking activities were mostly done in the main compound of the house except during rainy days.

Others are single structures and the round huts structures. There were variations in the housing types in the 6 communities however; the materials used were of significance.

There were observations on the materials used in constructing housing units in these communities. The description here has categorized the materials into; building materials (materials used in constructing the building), floor type and roofing type (See figure 8.4a and 8.4b).

Rural housing is constructed with less expert knowledge. In the views of (Adade, 1991: 3), poor construction technology and the use of local building materials, coupled with lack of routine maintenance led to majority of the rural housing stock being structurally weak and obsolete in

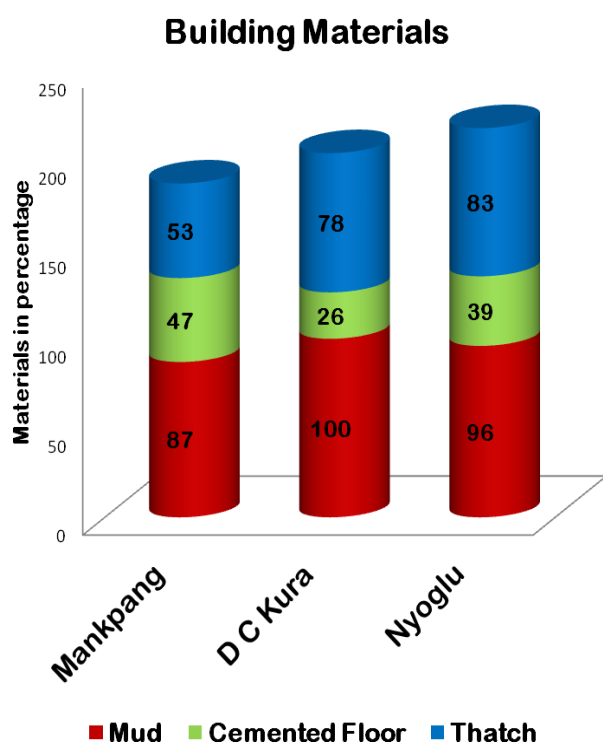
Ghana. The construction work is done through informal experts who have acquired the skills from parents and grandparents.

The building material(s) is/are normally mud and a mixture of gravel. The mud is first molded into mud blocks and these are used in constructing the individual rooms. Another method is the use of the mud directly to construct without making blocks. After the rooms are constructed, additional mud is used to plaster the building. This is to protect the building from weather conditions especially from rain.

Another material is cement. Cement is however, expensive in the Ghanaian market, hence the inability of many rural dwellers to use this material in constructing houses. A trend is developing in rural communities, where one or two rooms are constructed with cement and the rest with mud. This, I presented as, mud and cement units.

Figure 8.4a: Building Materials Used in the Housing Units

Communities with WaS Facilities

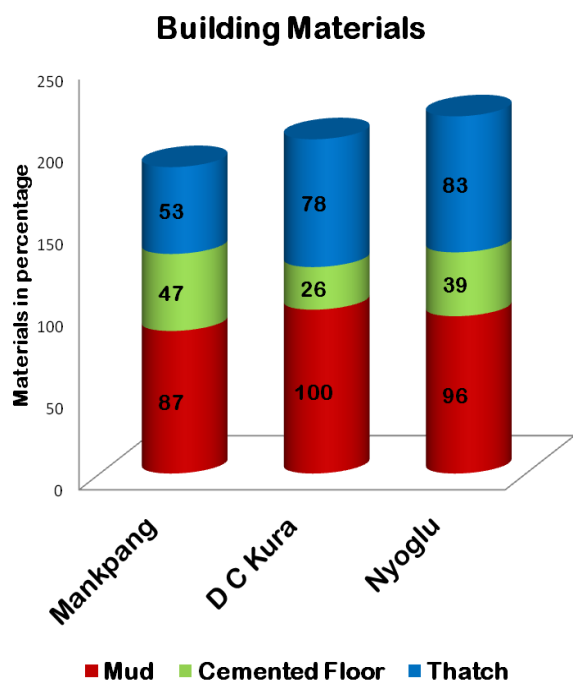


From the observations presented in figures 8.4a and 8.4b, mud was the most frequently used material for constructing buildings in all the 6 sampled communities. In communities with maximum access to improved WaS facilities, 87% of households' sampled used mud in constructing their houses in Mankpang, whereas 7% used mud and cement and only 6% used cement in their housing units. In D.C Kura, 100% of the housing units were constructed with mud while in Nyoglu 96% of the housing units used mud and 4% used a combination of mud with cement.

Under the communities with less access to improved WaS facilities, 100% of the households in Damdo also use mud in constructing their houses, whereas 92% of households used mud and 8% used a combination of mud and cement to construct their housing units in Wambong. In Kusawgu, 60% of the housing units were constructed with mud follow by 30% that utilized mud and cement and 5% using only cement in their housing units. From these, it is convincing from the building material that Kusawgu is the only community that used less of mud and rather used a mixture of mud and cement (30%). This is not the same as in D.C Kura and Nyoglu that basically depended on mud for the construction of houses. It could not however, be verified whether these were the basis for which Teacher Abudulia Napri in the group discussion in Kusawgu referred to as “we are better in terms of poverty than others”. This is because, from the building material it was obvious that Kusawgu uses quality building material (cement) but actually had no quality water whereas D. C. Kura, Mankpang and Nyoglu had maximum quality water but had less quality housing units built with low quality materials. It was also noticed that

constructing with cement involves the use of expertise than constructing with mud. In situations like this, the cost of constructing with cement is also higher than just constructing with mud.

**Figure 8.4b: Building Materials Used in the Housing Units
Communities with less WaS Facilities**



The floors of the buildings or houses were also observed and recorded. The materials ranged from sand floors which are not floored at all, to gravel, gravel with a mixture of cement, and cement. The gravel floors were similar to the sand floors but the differences were that, the graveled floors were more compact and allowed for drying of food stuffs than the sand floors that were loosed.

In communities with maximum access to improve WaS facilities, the predominant floor type was cement with 47%, 26% and 39% in Mankpang, D.C. Kura and Nyoglu respectively. Many households had high gravel floors of 61% in D.C Kura than the other communities. Cemented floors were also high in communities with less access to improved WaS facilities. Out of the total sampled households in Kusawgu

(Kootito), 65% of households had cemented floors while Wambong and Damdo had 70% and 69% cemented floors respectively. In these communities, few households had combined floor type of gravel and cement. For instance, 5% of households were observed in Kusawgu (Kootito) to have this type of combined gravel and cement floors while the other two communities had no such floor type. The floor types did not suggest major differences in the two categorized communities. This could probably be as a result of the predominant agricultural activities in all the six (6) communities and the need for decent floors to dry up farm produce. This assertion is been made because even in households that had sand floors, part of the floors were designed to facilitate drying of farm produce like pepper, groundnut, rice, and corn. This is an indication that though, they are unable to construct with expensive material like cement, smaller quantities are used to design the floors to be able to use to dry farm produce.

Consequently, the roofing component was also taken into consideration. The roofing materials were mostly grass (thatch), combination of aluminum and thatch, and only aluminum. The data on the 6 communities presented a high percentage of households that used combined thatch and aluminum sheets in roofing their rooms. This combined style suggests that few rooms in the compound were roofed with aluminum and the rest of the rooms roofed with thatch. With this style, Mankpang, D.C Kura and Nyoglu all recorded 53%, 78% and 83% respectively.

Similarly, in Kusawgu (Kootito), Wambong and Damdo, this roofing pattern was also dominant with 55%, 60% and 63% respectively. Within the communities with less access to improved WaS facilities, only two communities used aluminum to roof their rooms. These were Kusawgu (Kootito) and Wambong with 25% and 12% respectively. Households sampled in Damdo used thatch with a combination of aluminum to roof their buildings.

From the roofing type, it emerged that, Kusawgu (Kootito) and Wambong all communities with less access to improved WaS facilities had used quality roofing material such as aluminum than the other communities. This allowed for rain harvesting which was observed to be very common in these communities. The only observation was that most of the water containers where water was been collected into had no covers and as such compromised the quality of the water harvested.

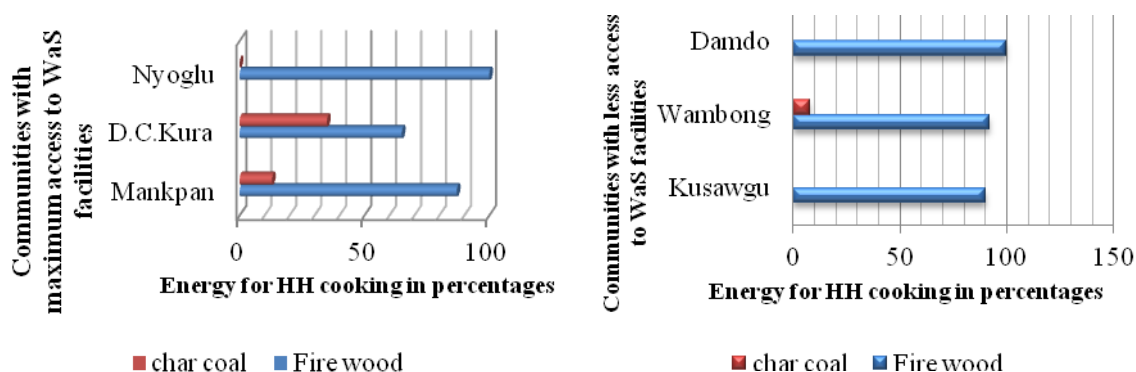
Generally, the findings on the materials used in constructing housing units in these communities are similar to the findings of the (PHCR, 2013) on the region as a whole. For instance, the main materials used in constructing outer walls in CGD, Yendi Municipality, and SNM were mud brick/earth with 75.6%, 75.6% and 77.8% respectively. Cement blocks/concrete were also fairly used 16.6%, 15.3% and 12.1% respectively. On the part of materials for floors, (PHCR, 2013) reported that cement/concrete and mud/earth are the main construction materials for floor of dwellings in the region. This is further broken down to CGD with 25.8% for earth/mud, and 72.7% for cement/concrete. In YMA, earth/mud accounted for 28.4% while cement/concrete floors accounted for 70.0%. For earth/mud floors in SNM, 28.9% of dwellings used this material while 69.0% dwellings used cement/concrete floors. On the roofing types, the report stated that, CGD used 53.4% thatch and 41.5% metal sheet. In Yendi Municipality, 41.5 housing units used thatch and 50.9% metal sheet while in SNM 50.9% used thatch and 42.3% used metal sheet. There was however mud/mud bricks/earth that were used in all the districts which accounted for a low percentage but which were not observed in the field in these communities.

Household’s Energy Needs and other Household Assets

Source of energy is one of the powerful weapon been displayed in international foreign policy and/or relations. The most recent observation is the crisis in Ukraine and Russia where Russia is threaten to stop gas supply to Ukraine and the impact on that economy. Energy needs were used in the survey to determine whether communities with maximum access to improved WaS facilities vary from communities with less or no access to improved WaS facilities with this variable. Under energy needs, two areas were examined; energy for cooking purposes and energy for other domestic use. These are presented in figures 8.5a and 8.5b below.

Figure 8.5a: Energy for Household

Figure 8.5b: Energy for Household



Source: Field Data 2012

As presented in figures 8.5a and 8.5b, all the 6 communities, basically use two forms of energy for cooking purposes. These were firewood and charcoal. In Nyoglu and Damdo, all households sampled used firewood for cooking. In the other communities, the predominant energy source was firewood with only a small percentage of the households using charcoal.

A pattern emerged from analyzing data from D.C Kura and Wambong; communities in Yendi Municipality. These are also communities along major trunk roads. For example, D.C Kura

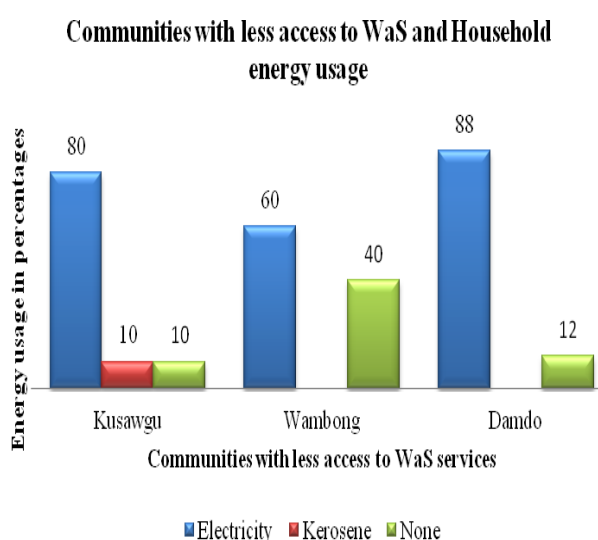
is on the major Yendi, Tamale trunk road and I could observe charcoal trading along the road side of these communities.

On the contrary, Kusawgu and Mankpang are also in the same district (CGD) but different observations emerged. Kusawgu is a community along the major Buipe -Tamale trunk road but no such observations with regards to trading in charcoal was observed along the road unlike the two communities in Yendi Municipality. It could however, not be clarified whether the trading activities in charcoal probably resulted to its use in the various households in communities that uses this form of energy. This is because Mankpang was observed not to have charcoal trading activities but households indicate its use.

The finding on energy for cooking in communities was relatively similar with the two categorized communities. Apart from the communities that use charcoal, an advance form, all the communities rely on firewood. Charcoal is referred here as advance because this method discharge less smoke than the use of firewood. This is also similar to findings on rural communities that rely on firewood for their cooking needs.

With regards to energy for other domestic purposes such as lighting, 3 communities under communities with less access to improved WaS facilities are all connected to the National Grid (NG) and had electricity supply for domestic purpose. The ability of a household to be connected to electricity depends on a household ability to pay a monthly bill to the utility provider. Though, a community may be connected to the National Grid, all households in this community may not be connected because of the monthly charges on energy consumption. From this, it was observed that between 60-88% of households in these 3 communities use electricity for other domestic purposes. Energy for household purposes is illustrated on figure 8.6.

Figure 8.6: Energy for Household Usage



Source: Field data, 2012

As shown in figure 8.6, majority of the households (80%) sampled use electricity. Out of the remaining households, 10% sampled, use kerosene as an alternative source to their domestic energy needs. A greater percent of households (40%) use no energy in Wambong although; the community is connected to the National Grid. This is also the same in Damdo but relatively low of 12.5%.

Although these communities were connected to the National Grid, and uses electricity, it was observed that, electricity was used basically for lighting, receiving radio and television services. This source was not used for cooking. There were little or no industrial activities with this energy source as well. Apart from Kusawgu that small businesses were

centered on electricity, there were no such observations in Wambong and Damdo. While it was expected that agro-processing activities could utilize this energy source, there were virtually none in these communities. It could not be established whether the absence of agro-processing activities in these communities were as a result of the inability to pay for cost of the energy or low technology or both.

On the contrary, the communities with maximum access to improved WaS facilities had no access and where not connected to the National Grid as seemed in the other three communities with less access to improved WaS facilities.

During the recognizance visit to the communities, it was observed that while there were variations in access to energy needs in the two categorized communities, there were commonalities in the use of physical assets such as mobile phones. This observation aroused my curiosity to investigate how household members were managing these gadgets with on electricity connection in their communities. The findings on mobile phone usage are elaborated in table 8.4.

Table 8.4: Communities and Their Use of Mobile Telephoning

No.	Communities	Category 1	Category 2	Mobile phone usage (%)	
				With phone	Without phone
1.	Mankpang	Communities with maximum access to improved water and sanitation facilities	Communities without connectivity to the NG	20	80
2.	D.C. Kura			52	48
3.	Nyoglu			96	4
4.	Kusawgu (Kootito)	Communities with less access to improved water and sanitation facilities	Communities with connectivity to the NG	60	30
5.	Wambong			40	60
6.	Damdo			87.5	12.5

Source: Field data 2012

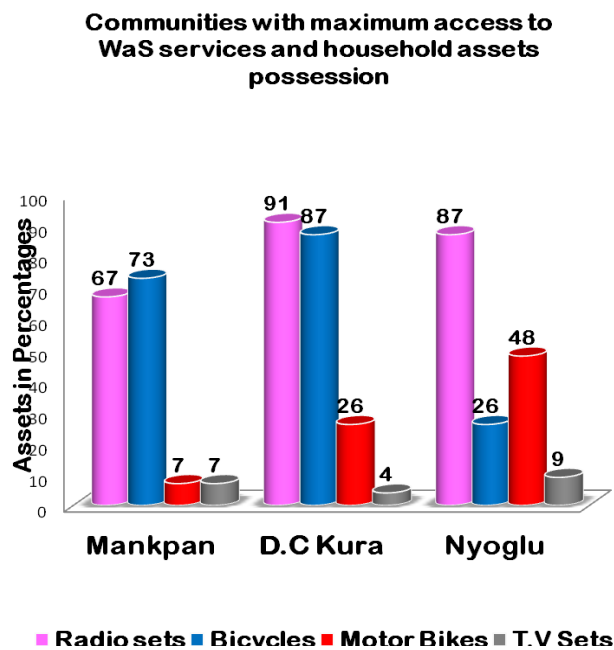
As can be seen in table 8.4, all the six (6) communities use mobile phones. The least community with mobile phone users is Mankpang with only 20% of households using this gadget. The rest of the communities had high phone users especially in Nyoglu and Kusawgu. Nyoglu on one hand is not connected to the National Grid and 100% of households indicated that they use kerosene for lighting. This discovery further aroused my curiosity to find out how batteries of phones were charged. From interviews with interviewees in Nyoglu, it became clearer that most of the households travel to nearby communities with energy sources to charge their phone batteries at a fee. For instance, the high mobile users in Nyoglu was probably as a result of its proximity to Nyashegu in the Tamale Metropolis which is connected to the National Grid and which serves as a charging dormitory for the mobile users in Nyoglu.

The discovery on the use of mobile phones and the determination with which household members put to get connected revealed the zeal to use this technology to the use of sanitary facilities.

Aside the use of mobile devices, there were other household assets that were considered. These were T.V and radio sets, bicycle, and motor bike. As stated by (Sen, 2009: 3), a person can exchange what he owns for another collection of commodities. This he said could be done through either trading, or production or both. The set of all the alternative bundles of commodities that he can acquire in exchange for what he/she owns may be called the “exchange entitlement of what he owns”. Based on this, I wanted to find out which households and communities respond to this definition of exchange entitlement.

Based on this proposition of exchange entitlements and how such exchanges could be used to address other household needs when the need arises, household assets were considered relevant. Household’s assets are presented in figure 8.7a and 8.7b.

Figure 8.7a: Household Assets in Communities with Maximum Access to WaS Services



Source: Field data, 2012

but the other two communities equally possessed high percentages of motor bikes (Wambong 48% and Damdo 31%).

These findings on household possession of bicycles and motor bikes suggest a relationship between these assets and the livelihood of the people. These are agrarian communities that depend on these types of transport to their farms. This is because; there are no public transportation systems and services in these areas. Aside, the road networks to some of these communities are in deplorable states. For instance, a field trip to Damdo with a pick-up truck was impossible at a point. The car was packed at a distant location and the field team resorted to walking to the individual households. This explains why household members resort to this transport type that are much easier to use under such circumstances.

On the other hand, it could not be established whether all the households purchase these assets at their newer state. This is because of price variation between a new item and a second hand¹² item. But the observation in the communities revealed that most of the bicycles and motor bikes were very old suggesting that they were probably not purchase as new ones. Nevertheless, a second hand bicycle at the time of field activities was selling between Gh ₵ 40 to 100 depending on the state and brand of the bicycle and a used motor bike depending on the brand and condition selling between Gh ₵ 500-1000.

Going by these, it could be argued that communities that had more motor bikes had more household incomes than communities with less motor bikes looking at the amount involve in acquiring such assets and maintaining them. On the contrary, it could not be ascertained when a particular asset was acquired personally or as a gift. It takes time for households to acquire these high cost assets but if the argument rest on what the household possesses without looking at other variables, it can be deduced that households with motor bikes and bicycles have more household incomes than households without these assets. These households will be able to withstanding poverty shocks than households without these.

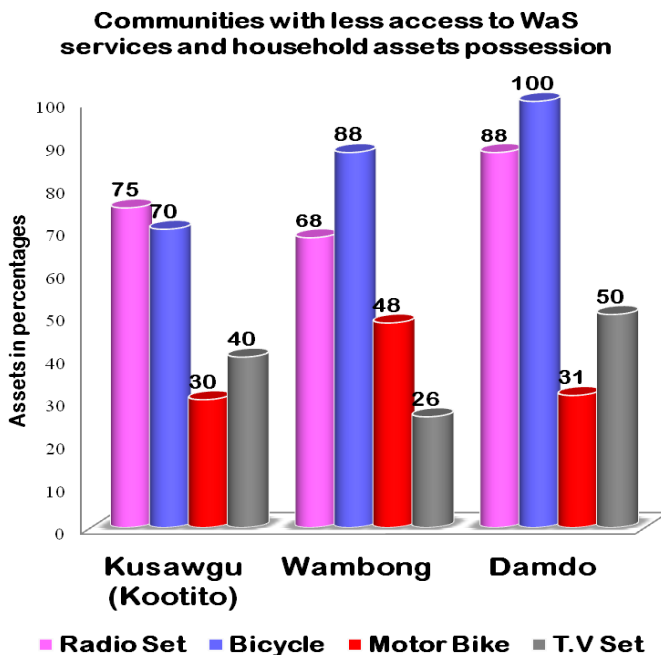
From figure 8.7a, the commonest household asset is a bicycle. This is the same with the two categorized communities. Almost all the households sampled had a bicycle.

For instance, in Mankpan, 73% of the households had bicycles. In D.C Kura and Nyoglu it was 87% and 96% respectively. As shown on figure 8.7b, communities with less access to improved WaS facilities also possessed high percentages of household bicycles. For example, in Kusawgu (Kootito) 70% of the households possessed bicycles. This is far less than the other two communities (Wambong and Damdo) that had 88% and 100% possession of this asset. However, in Kusawgu (Kootito) 30% of the households possessed motor bikes that could account for the low possession of bicycles

¹² The term “Second hand items” are used to mean goods that are not purchased in their newer state but were first used before. In Ghana, these are mostly import items ranging from bicycles, motor bikes, clothing, household utensils, T.V sets, radios and the list is endless. These are less expensive than the new items.

If this is to stand, communities with less access to improved WaS facilities are far better in terms of possession of these items than communities with maximum access to improved WaS facilities. This is because apart from Nyoglu that 48% of households possessed motor bikes next to D.C Kura with 26%, Mankpang had only 7% as compared to the communities with less access to improved WaS facilities

Figure 8.7b: Household Assets in Communities with Less Access to



The same could be said about the households' possession of television and radio sets. Radio was the commonest household gadget. Households' use of radio sets is high in all the six (6) communities but television usage was less in communities with maximum access to improved WaS facilities. As illustrated in figure 8.7a, only 7% of households use televisions in Mankpang, 4% of households use this gadget in D.C Kura and 9% in Nyoglu. These were lower than 40% of households who had television sets in Kusawgu (Kootito), 36% in Wambong and 50% in Damdo. I was not privy to the brands, quality and

conditions of these assets but going by the general picture in the country, most of these households rely on the use of second hand gadgets. Going by this, a second hand television set in the region capital, Tamale was selling between Gh C 150 to 500.

Again, it could not be found whether these were bought from the sales of farm produces or they were gifts from family members. This is because households who have family members in urban centers do have these gadgets sent to them from the city. Going by the same arguments as presented in the case of the motor bikes, a household with an asset worth Gh C 150 is better off than a household without such asset. If this holds, it can again be construed that households and communities that have more of these assets, all things being equal, are more robust to the shocks of poverty than households without these assets. In this instance, it can be concluded that communities that have less access to improved WaS facilities possess more of these assets than communities with maximum access to improved WaS facilities.

While on one hand this could hold, on the other hand, the communities with maximum access to improved WaS facilities have no access to electricity as in the case of the communities with less access to improved WaS facilities that were connected to the National Grid and have electricity supply. It could be argued that, why would a household go for an asset that cannot be used because its usage is dependent on energy that the household does not have access to. Despite all these, it could also be disputed that, Nyoglu had no electricity yet it was the community with the highest mobile phone users. Aside, the communities with access to electricity also pay for its usage and therefore a community without electricity is not a deterrent to possess a television set since, there are other sources of energy such as the use of car batteries and solar. These were however, found to be very expensive to run in these communities.

Nonetheless, the analysis here is to unveil which of the communities are better off in terms of poverty using what the household possess as assets. From this angel, it is evident that access to electricity is another component and variant that is appearing to hold weight in terms of household

possession of assets and poverty dynamics. Against this premise, I have tabulated the use of sanitary facilities and household assets. This is presented in table 8.5.

Table 8.5: Possession of Sanitary Facilities and Other Household Assets

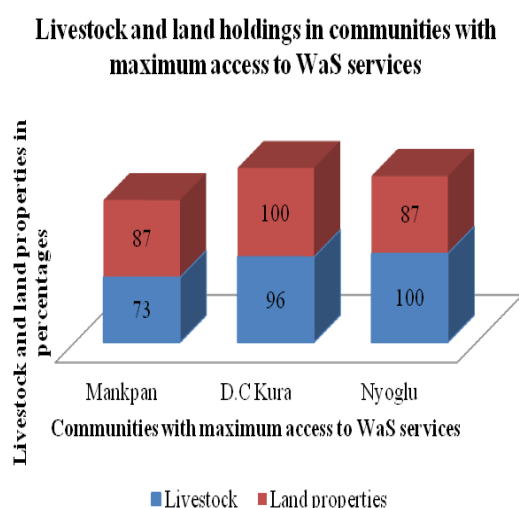
No.	Community	Households sampled	Households with				
			Sanitary facilities	T.V sets	Mobile phones	Bicycles	Motor bikes
			Percentages (%)				
1	Kusawgu (Kootito)	20	10	40	60	70	30
2	Mankpang	15	6	7	20	73	7
3	Wambong	16	62	36	40	88	48
4	D. C. Kura	23	86	4	52	87	26
5	Damdo	23	0	50	88	100	31
6	Nyoglu	25	40	9	96	96	48

Source: Field work, 2012

As illustrated on table 8.5, apart from D. C. Kura that had the highest sanitary facilities of 86%, Kusawgu (Kootito) had 10%, Mankpang 6% and Damdo had no sanitary facilities. However, Damdo had 88% of mobile phone users, 31% of motor bikes users and even 50% T.V usage. Though in Mankpang there was lower percent of T.V usage of 7%, lower possession of motor bikes of 7%, there were higher bicycles possession of 73% and even mobile phone usage of 20%. This clearly shows how households prefer other household assets to sanitary facilities. This is because it takes less money to construct a household pit latrine using local materials than to acquiring a motor bike, bicycle and mobile phone that needs constant servicing.

Aside the discussions on households' possession of bicycle, motor bike, radio and television sets, there were also household possession of land and livestock. Land is a prime resource in the literature of economies. It is used in almost all production purposes. However, its value varies within geographical locations. For instance, land in urban areas has more value than in rural communities. In the rural areas, land is mostly used for agricultural activities and/or in the construction of houses. One's ability to produce food is dependent on the person's ability to possess land. These holdings are however, without titles as pertains to the urban centers. The study focused on finding out whether the households have access to land for farming; the main livelihood of the people in these communities. The results are shown in figures 8.8a and 8.8b.

Figure 8.8a: Land and Livestock Holdings of Households



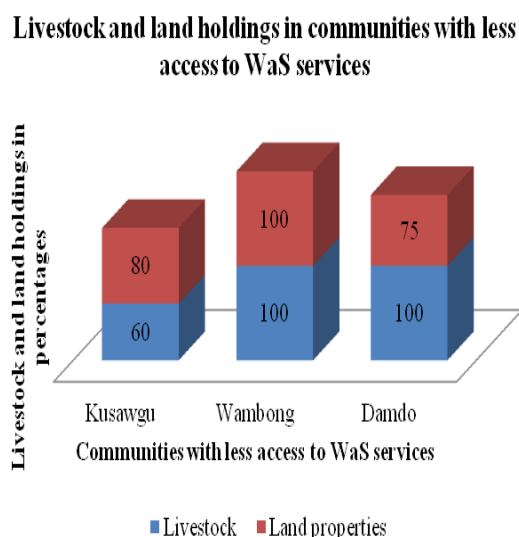
As illustrated in figure 8.8a, almost all the households sampled in the three (3) communities with maximum access to improved WaS facilities had land and livestock. From figure 8.8a, 87% of the households in Mankpang and Nyoglu had access to land while 100% of the households in D.C Kura indicated that they had access to land with an average land size of 4 acres for farming activities. A further discussion with one of the chiefs in these

Source: Field data, 2012

communities (D.C Kura) Naa Mbakidi Jegma revealed that land acquisition is not a problem. The land is readily available for use where a household only need to request from the chief. The households that indicated that they had no land in these communities however said, they had just migrated to the community and would need to request before land is made available to them. Data was not taken on the value an acre of land would produce and the multiple effects of dividing this value with household numbers to arrive at a unit value of land in these communities.

Similar findings were observed in communities with less access to improved WaS facilities and services. As presented in figure 8.8b, a higher percentage of households in the three (3) communities had access to land and possessed livestock.

Figure 8.8b: Land and Livestock Holdings of Households



Source: Field work, 2012

As can be seen in figure 8.8b, 100% of the households in Wambong had livestock and land. In Damdo, 100% of the households had livestock and 75% had land. From figure 8.8b only 60% of households in Kusawgu had livestock and 80% had land. Majority of the households in all six communities said they had sheep, goats, and fowls. An individual household analysis of the livestock indicates that, on average, the households with livestock had a minimum of 5 sheep, goats and fowls.

The finding on all six (6) communities that have access to land and livestock are indications of agricultural activities in these communities. The availability of land in itself is just one of the issues.

The ability to harness the land for productive gains is another. The findings from the survey complemented the figures from the Ministry of Food and Agriculture, Tamale that suggested that Yendi Municipality was the major food supplier among the three assemblies. This is evident from the land and livestock holdings in Wambong and D.C Kura in the Yendi Municipality.

However, the findings on the livestock were expected, since, majority of the people in these communities are Muslims who depend to a large extent on the use of sheep for religious festivals and activities. On one hand, it could not be established how much sheep and goats cost since the prices of these vary frequently in the market depending on the season. Another observation was that, cattle were the least livestock reared in these communities. Cattle are one of the livestock that have higher value and could bring much more income to the household. It could not also be found whether it is because of religious reasons or cost in rearing this type of livestock that most of these households did not rear cattle. It was however, observed that, most of the livestock were housed on the main roads in these communities. It could not be established whether these livestock left outside to the mercy of the weather and thieves were not stolen to the disadvantage of the households.

8.8 Discussions and Conclusion

Following literature on poverty and poverty reduction strategies in Ghana, there is the general understanding that Ghana had at a point developed a National Social Protection Strategy (NSPS) that attempted to provide a more targeted set of interventions for the chronic poor, and suggests

setting up new safety nets that can be used to cushion the most vulnerable groups from environmental and economic shocks (Sultan and Schrofer, 2008). Although this study was not designed to evaluate the performances of these interventions on poor households; the underlying principle was to understand whether the provision of maximum Basic Human Needs in the area of WaS facilities and services would have a bearing on the status of poverty in households in these communities.

This is built on the assertions most of the organizations in development attach to WaS and poverty reduction and the expected impact that these make especially in rural areas. This was evident from the responses of the various experts working in the WaS sector. All the officers dilated the WaS and poverty nexus in their explanations. They gave reasons why they agree or disagree with the WaS and poverty nexus. Again, other leaders in the communities also discussed this relationship and explained why there were linkages. Nonetheless, I wanted to go beyond these explanations which are common and regarded as “everyday talk” to either agree or refute these linkages. In other to do this, three communities with maximum access to improved WaS facilities were compared with three (3) communities with less access to improved WaS facilities.

Based on the presentations in this chapter, the major finding in this exercise suggest that, there are no significant differences in the statuses of poverty in communities with less access to improved WaS facilities to that of communities with maximum access to improved WaS facilities. This is because, housing units, energy use and household assets used in the study established otherwise. For instance, the housing units and the materials used did not vary at all in all the six (6) communities. The observation however, was that there were quality materials used in some of the communities (Kusawgu Kootito) with less access to improved WaS facilities as against communities with maximum access to improved WaS facilities. An observation emerged to suggest that quality of housing units come with modernity and technology. For example, rural communities that are closer to urban communities are beginning to use quality materials in their housing units as compared to communities farther from urban centers. Housing structures were similar because; most of the communities did not have sanitary facilities in their housing units.

Apart from housing, household assets possession indicate that communities with less access to improved WaS facilities but had electricity connectivity had even more household assets than communities with maximum access to improved WaS facilities but had no connectivity to electricity. This finding complements the group discussion in Kusawgu where respondents, discussed the issue in multi-dimensional angles. One of the respondent, Teacher Abdulia Napri explained how the community had no improved WaS systems but was better off in terms of wealth than other communities. This was seen in the household possession of assets in the various communities. On this premise, it could be concluded that electricity connectivity has a high bearing on poverty reduction. This is because; it is a motivational factor for households to aspire to acquire certain assets which could be used in times of poverty shocks as described by (Sen, 2009).

This argument could however, be refuted on the background that, the strategy used to draw this conclusion is unfounded. This is because possession of household assets alone those not say anything on poverty. This is partially true on the basis of the mobile phone usage observed in these communities. Most mobile phones used in these communities could be described as the less expensive and simple to use ones. An assessment of whether one has this gadget to judge one’s poverty level could be unfounded because; these are communities with no energy sources. They rely on other communities with energy to charge their phone batteries. This could be a limitation for persons to buy more complex and sophisticated phones that cost much money and frequent use of the battery. In this situation, users prefer to buy simple gadgets that last for days once the battery is charged. Based on this, a household member may decide to buy a less expensive phone that uses less energy. This decision is not based on the poverty level of the household but the inability to use a sophisticated phone that relies on all day energy.

Another argument could be that, these are not acquired by the household members themselves. There are situations where a phone, bicycle, radio or television set is sent from family members living in urban centers to family members back home. This is to enhance the family's social life. An assessment of these assets that were not directly acquired by the household could refute the poverty level of this family.

Further to the argument is the agriculture component that has a bearing on productivity and increases household income. From the policies in agriculture, it was also clear that, improvement in the agriculture sector could impact positively on household incomes. Notwithstanding, it was also expected that improvement in agriculture would generally impact on an entire region though some households could feel the impact more than others because of numerous factors. For instance, improvement in agriculture in the region should have a trickle down impact in all the districts and communities in the region. There are seemingly endless factors to the argument against the use of a strategy like household assets to draw conclusions on poverty levels in the communities.

Nevertheless, this strategy has set the basis and a stage for future in-depth analysis to linkages between Basic Human Needs provision and poverty reduction. It has moved one step ahead to provide a holistic view of how policy issues should be implemented. There are numerous linkages on how WaS impact on rural communities but these are normally invisible on the ground. This is a clear example of the six (6) communities in Northern Region. Again, this analysis is in congruent with (Sachs, 2007) that in the concept, there are the poverty of extreme or absolute, moderate poverty and that of relative. Though, the observed data suggested that some were better off than others, the difference is not significant. The observed data suggested that some were relative, moderate and extreme. Nonetheless, they were all still under poverty.

Though the chi-square test confirmed the association and relationship between in-take of water from unimproved sources and use of unimproved sanitation facilities and health awareness among the two categorized communities, the observed data concluded that; there is no significant difference in the poverty levels among the two categorized communities based on the criteria used. Where there were difference, these are not significant to report on. It was also observed that communities with less access to improved WaS facilities but had access to electricity connectivity had more household assets than communities with maximum access to improved WaS facilities but had no access to electricity.

Chapter 9: Theoretical Lens and the Realities in WaS Provision in Northern Region

Two major theoretical strategies were used in this study. These were Basic Human Needs and Decentralization strategies. These were used because other Regional Economic Development Theories failed to ensure development especially in rural communities. BHNs strategy advocated by ILO seeks to make BHNs available to communities that had no trickled-down effect from market economic theories. This was very much appreciated as many writers criticized how rural communities remained poorer under REDTs theories (Daves, 2004; Dixon, 1990; Willis, 2010 and El-Ghonemy, 1990).

Again, decentralization was conceived to bring planning, implementation of development initiatives closer to the people. Ghana started this strategy in 1988. Basic Human Needs and Decentralization are expected to make the difference that the earlier theories failed to.

From the field, it was observed that these (BHNs and Decentralization strategies) overlooked certain reservations. In this chapter, I bring to the fore these reservations.

9.1 Realities in Water Provision and Supply

Throughout the study, the discussion on water was centered on the issues that, access to improved water globally is a right for every human. Further discussions were also rooted on poor access to improved water sources and how this development can result in poverty, whereas poverty can also result in the inability to access improved water. This two sided development trajectory called for attention on the provision of water especially in poor communities.

At the community level, water was observed to be first in everything. This is because water is used in cooking food. Instances where one has food without water, poses a hindrance because of the inability to prepare meals without water. In the views of some of the interviewees, these are what some said with regards to water.

“The communities put preference on water because you must eat, you must drink before you go to toilet. So, like I said, if you go to the bush you can do it there but for water there is no alternative” (Sani Mahama, Yendi Municipal WSTL, September 24, 2012).

“We no more joke with our water facilities here. We are aware of the importance because it is not only the improved sources. This is because we do not have any source apart from the boreholes you see here. During the rainy season, yes we get water from the dugouts but for the dry season, all these sources dry up. In this situation, we have to maintain these facilities very well if not, we will go without water which no one here can do” (Mahama Amadu District Environmental Health Officer CGD, September 18, 2012).

“My daughter when you return from the farm, the first thing is to take in water, I cannot sit for the whole day without water but in the case of ‘easing myself’, I can manage and do it in the night” (Dakurugu Mahama resident, Damdo, November 15, 2012).

From the above interviews, it is evident that the communities place high premium on water. This utility has no alternative globally. While some communities have alternative water from unimproved sources, the EHO, CGD explained how these sources are not even available in their communities especially in the dry season. This could probably be the reason why much attention is on water than sanitation. What the communities hold and appreciate in the water sector is the

reverse in the sanitation area. These narrations above go to confirm (JMR, 2013) on meeting the target on water.

It was also observed that most of the organizations working in these communities work also in areas of agro-processing. One area that involves women in agriculture is to add value to agricultural produce such as groundnut, rice, neeri, Shea nuts and soyabeans and the list is seemingly endless. This would further boost the local economy and increase household incomes. Water and agro processing goes hand in hand and if the objective of an all year round agro-processing is to be achieved, improved water development is a necessity.

This was evident in the activities of NewEnergy where the organization implement activities in WaS and that of energy because the two themes actually addresses sustainable livelihood of the people in these communities especially for women.

In addition, all other agricultural activities depend to a large extent on water. One of the areas in agriculture that is adding additional household incomes is livestock farming. Livestock farming depends on water. Irrigation during the dry season depends on water. Due to the overreliance on water for everything in the community, there was greater attention on water as against others.

9.2 Veracity in Sanitation Concerns

Although there is a twin relationship between water and sanitation, on the ground there were varying attentions to these two issues. As seen in the case of water where the concern in access to water affects almost everyone in the community, the issue of sanitation was much less and different. Most of the issues had to do with planning of sanitation a key area that is lacking at all levels and not only in the rural areas. Sanitation planning is always an “after thought” idea in most cases. For instance, in the management committees, the name is WATSAN but this committee only manages water facilities to the neglect of the sanitation facilities. The issues also had to do with attitudes as 92% of the interviewees expressed this concern during field activities. Most of the communities really feel there are alternative solutions to the issue of sanitation than that of water.

Some are also aware of the importance of sanitation but their financial situation hinders their ability to obtain these facilities at the household level. One household head lamented this during the household survey in Yendi Municipality.

My sister, I am aware of the importance of sanitation because my religion even frowns on a man seeing the nakedness of his wife or any woman outside. Attending to “nature’s call” without sanitary facilities exposes us to see each other nakedness. I am aware of diseases attacking us as a result of bad sanitary practices, but the reality is that; I depend on only farming for life. The produce you see in my yard is all I depend on for feeding the household, selling and educating my children in school, using some of the money to pay medical bills when we are sick, clothing and many others. My sister, what do you think would be left for me to use to build a latrine that is not constructed like an ordinary room like this one”? (Abdul Napari, Resident Wambong, December 18, 2012).

The above lamentation from a subsistence farmer speaks for itself with regards to why the provision of household sanitary facilities is a challenge. Most of the households held similar views with that of Mr. Abdul Napari and went on to explained the importance of having simple household pit latrines such as convenience and privacy to nature’s call especially in the night. About 60% identified financial and technical challenges as obstacles hindering households’ ability to acquire these facilities. Some were challenged because it was not the simple technology that is used in building their ordinary rooms that is used in pit latrines.

Notwithstanding, it was observed that the issue of sanitation has to do also with the fact that there are alternative open fields where households can use. This accorded households' to pay little attention to sanitation. It was observed that if there are no alternatives like in the case of water, the households would eventually have to obtain these facilities regardless of financial and technical difficulties.

9.3 Factors Affecting Theory in WaS Planning and Implementation

Reviewing the two theories or strategies that modeled the theoretical and analytical conceptualization of the study, it was realized that the advocates of these theories underscore certain features that account for different reactions, inabilities, and variance in policy development in the proposed theoretical lens. These reactions, I acknowledged that all geographical locations are not the same and have different unique features accounting for reactions or inabilities for which theory cannot yield the same results in every geographical unit. Another factor is that, different issues in the case of WaS react different with regards to theory than other forms of infrastructural services. The ensuing discussions are based on factors identified from the field.

9.3.1 Assessment of Occupational Realities

One of the factors identified was the occupations of the people in the communities under discussion. From the survey, 79% of the workforce in these communities are subsistence farmers. About 70% of the people spent their time in their farms which are normally not within the community especially during the rainy season. These farms were observed to be at distant locations.

You are asking where our farms are? Yes! Most farmers in this community do not farm in the neighbourhood here. We farm far away; let's say about 8-15 kilometers from here. This is because the animals here would normally destroy our crops and also because there are high yielding fields out there. That is why, you are not seeing farms here but we are farming in the interior (Abdulia Abdul Yussif, resident D.C Kura, December 19, 2012.

My observation was confirmed by this narration from Mr. Abdulai Abdul Yussif a resident of D.C Kura who clarified that farming was done in the interior and far from the community. This was similar in Kusawgu, Mankpang, Damdo and Wambong. However, in Nyoglu there were farms in the community. A typical household workforce normally sets off between 5.00 am -

6.00 am for the farm. They would return after 6.00 pm in the evening. In this situation, it can be concluded that this group of people spend close to 12 working hours on their farms. This would further mean that they would attend to "nature's call" in their working places throughout the day, and six to seven (6-7) days in the week and many months in the year on their farms as seem in contingency defecation.

People who do not stay at home all day would probably not see the need or importance of a facility that would not be utilized at all and even if it would be used, only at a minimum level of utilization. It was also observed that the designs of these pit latrines were not children and aged friendly. The teaming children and aged that are left behind in the community may not use them either. In this case, would it be possible for stakeholders to provide pit latrines in farms in every community?

The same is applicable to water but in the case of water, it is a bit different from that of sanitation. Water facilities might not be possible to provide everywhere but there is flexibility here. Farmers in these communities carry water along with them to their farms. Carrying of water ensures accessibility at all times in every place than in the case of sanitation. Instances where

water facilities are not available at their farms but are available at the household level, water could be carried along with them to their farms.

9.3.2 Technicalities in Construction of Facilities (Sanitary Facilities)

The construction of household pit latrine is one simple technology to a technical person but this simple technology may not be simple to all persons especially in rural communities. Normally, the construction of a household pit latrine starts with the digging of the site (for the construction of the facility). When this is done, the pit is expected to be lined with cement before a slab is placed on the pit to allow for usage. Lining of the pit is to prevent the pit from “caving in” especially during the rainy season. In areas where the water table is very high especially during the rainy season; these pits turn to hold water. When they are not lined, they turn to cave in especially when the weight of the users adds additional pressure. After this stage, a super structure is then constructed to provide for private use as well as to ensure that rain water is not collected into the pit. This process involves financial resources. It was explained that lining of a pit (1.8 by 2 square meters) takes a minimum of 6 and a maximum of 8 bags of cement. A bag of cement in the market was selling at Gh ₵ 12.00 (2012). This means a household needs an amount of Gh ₵ 96 for the lining of the pit alone. An ordinary farmer who constructed his sleeping rooms with only mud may not be able to construct this facility with limited financial resources. This could probably be the reason why the EHO explained this.

R: For example in some communities that World Vision gave them toilets they were not using them

Q: Why?

R: They used them as stores and others used them as wells for fetching water

Q: As stores! They used them as stores for storing what?

R: Stores for storing food crops and other things

Q: You mean this?

R: Yes!

Q: What would they do with the pits?

R: It has a cover, they would just cover the pit and put their things inside and they are now using

Q: Why do you think they would do that? I want to know the reason.....

(Salam Samuel Laar EHO SNMA, October 22, 2012).

From this interview with Mr. Salam Laar, it was palpable that some constructed public sanitary facilities were not used for the purpose for which they were constructed. They rather used them for other purposes such as storage of food stuffs and in some cases as water reservoirs. This narration from the EHO corroborated with the observations in Wambong where a household turned their pit latrine into a dugout well and were fetching water from it. Mr. Salam Laar again explained that the communities hold and value these structures as too solid, beautiful and attractive to be used by a person to attend to nature’s call. Aside, these sanitary facilities constructed by organizations were more beautiful than their living rooms where they sleep in.

These narrations and observations could probably explain and justify why efforts are made to meet the target on sanitation but in vain. Sanitation coverage in 2011 was 64%. The world remains off track to meet the MDG sanitation target of 75% and if current trends continue, it is set to miss the target by more than half a billion people (JMR, 2013). If communities still hold perceptions like the narration from Mr. Salam Laar, organizations in the sector may put in all energies but would probably not meet the desired impact.

9.3.3 Geographical Locations

This point tries to explain that these areas have vast undeveloped lands that present an alternative avenue for “free range”¹³ activities. In the case of the urban areas, almost all open spaces are normally developed and as such, alternative avenues for “free range” activities may become difficult. The geographical area present free bushes and open fields that members can easily rely on to attend to “nature’s call”. When these avail themselves, members see the construction of these facilities as a waste of financial resources, and energy in relationship to other basic needs. This observation was consistent with the views of the WSTL of TaMA.

“You have come from Sandema to work in Tamale. You need a room to rent. Do you care whether there is a latrine or no latrine in the house? People would also go and rent such apartments, but where are you going to be defecating? You would do it anywhere and one cannot do anything about it because; that is not your house. So, that is how it happens and it goes round and even, those who have built their own houses and staying with only their families, also live like that and do it anywhere. For me, I think because there are still spaces for them to “shit” that is why, people are still doing that. If there are no more open spaces like we have in Accra or Kumasi they would definitely have to get a place” (Adam Baba WSTL TaMA, July 9, 2012).

This narration from Mr. Adams Baba also suggested how open spaces were used as alternative sources for defecating even in urban communities. If open spaces are developed, and do not serve as grounds for defecating, households would definitely acquire sanitary facilities. This might be possible in urban centers like Mr. Adams Baba rightly mentioned Accra, Kumasi and gradually Tamale and many other cities, but how would the development of open spaces be possible in every rural community with vast land?

In the case of government support in the provision of alternative KVIP structures for community use, these structures may not be patronized again because communities have to raise money for the maintenance of these facilities which they are not able to do because community members may not use them, let alone pay for their use. Consequently, the alternative avenues facilitate their low patronage even if government and other stakeholders make efforts to provide them for free.

9.3.4 Facilities as Disincentives

Another observation in the field was that, the household sanitary facilities turned out to be disincentive in the community. This is because; the physical structure was unattractive in the community. Most of the structures had no doors and one could see the inside of the facility which were mostly not cleaned. Apart from this, the pits were very shallow (1 meter deep) resulting in the emission of bad odor from the facilities. This observation was supported by Mr. Abdul Mohamed, resident of D. C Kura, who lamented that they were just constructing these facilities to satisfy the interest of the authorities, but in reality, the facilities were uncomfortable to use because of the odor. Aside, the sewers of the facilities were not channeled to a central point source where alternative resources such as compost, gas could be generated for use by the households.

From the ongoing discussion, it can be observed that the issues here had to do with sanitation provision in the absence of the twin issue (water). This is because; even in the application of the theory of BHNs, there are some needs that should be heeded to differently with regards to the planning and implementation for sustainable use and development. This is where the theory failed. BHNs applied a leveled playing ground for all needs. Aside, the theory holds the issues as if all geographical areas possess uniformed features and characteristics. This is evident

¹³ Free range explains the act of open defecation. This is defecation in open spaces of fields, parks, market centers, open drains and so on. It is indiscriminate act where culprits resort to an available space to attend to “nature’s call”

in the case of sanitation where alternative avenues (the use of open spaces) facilitate low patronage in the use of sanitary facilities in rural communities. It is probably against this background that the following measures are being implemented in the WaS sector.

9.4 Measures to Realities

From the discussion of factors such as occupational and livelihood strategies of the people in rural communities, there are availability of vast open spaces in these communities that serve as alternative avenues resulting in low patronage of sanitation facilities. Technicalities involved in constructing simple household pit latrines were also another factor. It was observed that numerous measures are being taken by various stakeholders especially in the WaS sector probably in an attempt to address some of the theoretical gaps in BHNS and Decentralization. Some of these measures are highlighted.

9.4.1 Localized Planning and Local Needs Achievements

In 1988, Ghana adopted the decentralization policy of local government. One of the objectives of this policy among others is to give the local units (metropolitan, municipal and district assemblies) the opportunity to plan, implement and coordinate their own development programmes that are of priority concerns to beneficiaries (Ahwoi, 2010). The main idea behind this was that every geographical area has its own unique features, cultural traits and developmental needs different from others. Under the localized planning system, every assembly in the region is to plan and implement programmes and projects relevant to the people with guidelines from NDPC where RCPUs coordinate and harmonize the plans.

Since 1988 to date, the oldest assemblies in the country have prepared a total of 4 Medium Term Development Plans. MTDPs are prepared and implemented for a period of four (4) years. As part of the planning team (TaMA) for the 2010-2014 MTDP, it was observed that this system has boosted and motivated most stakeholders to as well focus on community action plans. One such was in Changli (Tamale North-sub Metro) where the community was assisted to draw their own Community Action Plans (CAPs) for implementation by the TaMA.

Furthermore, the process of preparing CAPs involved community members who at a point appreciated the planning processes of the assembly. Communities were made aware why some of their needs could not be addressed immediately. This opened process involving the communities and the assembly drew the communities closer to the assembly. Communities also became aware of their roles and responsibilities and were ready to support the process.

Nonetheless, it was also observed that there were difficulties in relationship to the staffing needs of TaMA. The MPCU at the time was under staffed. There were two planning officers and a budget officer. Most schedules were unattended to because there were no officers to the many schedules. For example, it was expected that an officer could be assigned to ensure project coordination from stakeholders especially in the NGO sector. This was absent before I left the assembly in 2011. It was also observed that most assemblies where these officers were available lacked the requisite planning qualification to address the planning needs of the assemblies. Aside, the planning of the MTDP took time to prepare. Little time was left for the implementation of the plan. For example, it took more than a year to prepare the MTDP (2010-2014) for TaMA. The plan preparation started during the last quarter of 2009 and ended in the first quarter of 2011. This does not give the assembly ample time to implement the plan before the next planning period.

Notwithstanding, this policy is still regarded most appropriate, since, it involves the beneficiaries in the process. Beneficiaries' involvement in decision-making enhances to a large extent sustainability of programmes and projects. These are the tenants of RRDT where beneficiaries are the actors of their own development. In the words of Abazaami (2013) under such circumstances, what people decide and plan themselves determines the course of development.

9.4.2 CLTS in Sanitation Management

In the area of sanitation, stakeholders have identified that the issue of sanitation is not about the provision of physical facilities but the issue of education and sensitization. From the field data, these communities have over 71% illiterate population. One of the features of illiterate population is their inability to analyze issues from an educational perspective. This was evident in the interview with the MCE (SNMA). From the words of the MCE, it took communities time to comprehend that the spread of the guinea worm was as a result of drinking water from polluted sources with larva of the worm. Communities attributed the spread of the guinea worm to superstition. Currently, the spread of Ebola in West Africa is attributed to superstitious beliefs resulting in high deaths in the region. Instances where the population lacks basic educational analyses of issues, the provision of physical structures may not necessarily solve the problem.

The concept of CLTS triggers community reaction to their own problems. For details refer to chapter 7. What is important is the education that leads to a change in attitude. In one of the discussion with the Assembly man of Wambong, Mr. Chendow Stephen revealed that his household had no pit latrine but he ensures that household members dig and bury their fecal matter. He further explains that with this action, at any place and any given time, household members rely on dig and bury. This narration confirms the impact of CLTS that triggers a change in attitude in community members. From the narration of Mr. Chendow Stephen, it could be concluded that when attitudes are changed, community members that spend long hours in the farm could as well address their sanitation problems through “dig and bury” where the fecal matter is no longer exposed. CLTS is one way that is addressing both occupational and geographical factors relating to sanitation.

9.4.3 Community Operation and Maintenance (COM) in Water Development

COM is another measure that has been adopted to address the challenges in rural water supply and delivery in the region. COM is a demand-driven approach where communities demand for facilities and show readiness to manage these facilities. It was obvious that COM is yielding results in the water sector because functionality of water facilities in the communities was higher than global figures. All facilities in the communities sampled were functional except the challenges that had to do with supervision and coordination from the District Assembly. This is also so because of the attention that is given to water.

9.4.4 Water Disaggregation Use

One of the ways adopted by institutions and organizations in water provision in the region is to educate communities on water disaggregation. This is the sensitization of the communities to use water from different sources for different activities. For instance, when water is available from the boreholes and other mechanized sources, the households use this for all domestic activities because of availability of water. So, in water use, the household considers first the availability of water from potable sources where this is used for direct consumption such as drinking and cooking. In instances where there are shortages of potable water for all household activities, what is available would be used for direct consumption and other sources such as water from dams, dugouts used for washing, bathing and other activities. This was observed in the field.

Figure 9.1: *Water from Different Sources in the Household*



As can be seen in figure 9.1, water was drawn from different sources and was to be used for different purposes in the house. According to Madam Salamatu Salifu, resident in D.C Kura, the water from the dugout in the bucket was going to be used for washing of bowls, clothing, bathing and for the livestock in the house. The other source from the borehole was going to be used for cooking and drinking.

Another activity is the education on filtration of water before use. From the household discussions, communities without potable water from improved sources indicate that they were aware of filtration of water and even used this process during the guinea worm pandemic period, but the process has been relaxed because of the feelings that the guinea worm is gone for now. Other measures are through boiling before use if the water is taking from unimproved sources.

9.4.5 WaS Planning

WASH Plans is another measure used in the the WaS sector. These plans are prepared separately from the MTDP. The aims of WASH Plan as presented by officers are to:

1. Concentrate in the implementation of activities outlined in the plan whenever funds are available for WASH in the various assemblies
2. To reduce duplication of activities in the sector so as to utilizes limited resources in the individual assemblies
3. To ensure effective distribution of facilities across communities in demand

According to the WSTL, TaMA, the move in this plan allows for swift implementation of activities in communities because WaS activities in MTDP are normally over shadowed by huge and heavy capital intensive projects in education and health. There was the realization that most WaS activities never get attention from the general assembly's approved projects to be implemented.

Nevertheless, these plans unlike MTDP are prepared with little substance on the issues on the ground. For example, there was no review of the past plan (WASH plan 2009-2012) of the Savelugu Nanton Municipal Assembly. It was expected that the planning process preceding the 2009-2012 plan would have been reviewed. This will indicate what that plan did, could not do and for which activities in the old plan is to be carried forwarded onto the new plan.

Again, the WASH Plan of SNMA for 2009-2012 did not outlined projected population in communities and the corresponding facilities that will be needed. The number of communities served with facilities was presented but there were no data on the facilities that are functional and those that are not. Observation of the WASH Plan, SNMA suggests that the plan was drawn without reference to CWSA guidelines for WaS supply and delivery. This is because, it was expected that the assembly would have taken holistic steps to inform readers of the plan, the population of communities, distance of households to facilities, functionality levels of facilities, management strategies and so on. Another observation was that, majority of the planned actions centered on water activities (26) as against sanitation (16). While CLTS was mentioned by the Planning Officer in his interview, this was absent in the plan. There was a broad activity that read

“Sensitize communities to use and manage existing toilet facilities”. This is not the same as CLTS which was explained to me. Still on sanitation, another activity suggested that the assembly would “provide a total of 2,715 lined household VIP latrine for 2,717 households in 11 communities”. This was also a contraction of CLTS that triggers the communities and only facilitates them to acquire the facilities. It was also doubtful whether the assembly would have the financial resources to implement this activity knowing the sources of funds to DAs in Ghana.

Aside these, most of the activities in the plan were centered on forming and training of WATSAN committees. For example, it was stated that “Form and train 26 No. water & sanitation (WATSAN) committees for effective operations, management and maintenance of potable water facilities for sustainability”. This was again inconsistent with the guidelines of CWSA. It is CWSA that facilitate formation and training of WATSAN committees and not DAs. DAs inform communities to demand for facilities. The request is forwarded to CWSA that takes the process of sensitization of the communities and the formation of the WATSANs.

Nevertheless, even if the assembly is to form and train, the communities that were listed in the plan already had facilities and it was expected that by the policy, a community is to have these committees before a facility is provided. Why should the assembly now be planning to form and train committees that exist? It was however not possible to find answers to these observations from the plan because the Planning Officer was not available during the second field work. It could not be confirmed whether some of these gaps in the WASH Plan was as a result of unprofessional staffing in the assembly.

Regardless of these, a good WASH Plan attracts investment that is needed in the sector. This is because; the plan talks to the issues and probably motivates donors and other stakeholders on the need to invest in the sector.

9.5 Reflections and Conclusions

This chapter basically reflected on the theories that guided and informed me in the theoretical conceptualization of the study. These are BHNs and RRDT (Decentralization strategy). BHNs proposed by the ILO and other bodies advocated for the provision of basic needs in poor communities to enhance quality life of the poor in these communities. Some of these needs include WaS facilities which the study revolves around.

While the objectives of the theory are implicitly important in addressing basic needs of the poor, it was observed from the field that the theory overlooked some factors such as occupations and geographical areas that could pose a challenge to stakeholders to fully utilize the theory. This was evident in the area of sanitation and the occupation of the people as farmers. While stakeholders make efforts to provide these facilities in communities, most members spend their time in their farms. Beside, vast undeveloped open spaces facilitate the low patronage of some of the facilities even if they are available. It was observed that these factors posed a challenge if the theory is to be applied in these communities. It is impossible to provide facilities in communities and also in individual farms. It is again impossible to fully develop vast open spaces in these communities that could probably prevent the use of such spaces as alternative avenues to sanitary facilities. While this was the case in sanitation, the picture was however, different with water that has no alternative and was highly patronized and effectively managed by the communities.

In spite of these, measures such as localized planning, implementation and management of facilities are on-going in the communities. The use of the CLTS policy is fully operational where there were evidence of some altitudinal change in some community members. This was because some members now decide to dig and bury their fecal matter instead of leaving this in the open. Aside, water disaggregation where the communities use water from different sources for different purposes are also advocated and prominently used. There were evidences of such practices in some households. WASH Plans are very prominent where the various assemblies prepare plans in WaS aside MTDPs. There were observations that suggested that issues in some of these plans

contradict issues observed in the field. Nonetheless, WASH Plans still present an effective avenue for the challenges in the WaS sector to be addressed if properly prepared.

Chapter 10: Lessons, Recommendations and Conclusion

In this final chapter, summaries of findings and lessons drawn from the study are presented. Reflections on the major findings and their implications for effective planning especially with CBOs activities in general are presented. Secondly, recommendations on how to incorporate these organizations into the main stream of the decentralized structures are as a result of the findings and interpretation of the findings.

10.1 Major Lessons

CBOs Environment

Sustainable Growth of these Organizations

From the study, it uncovered that CBOs are smaller organizations with very few number of human and little financial resources. This finding reconciles with what (Riddell and Robinson, 1995) said about these groups of organizations. It however, became evident that most of these organizations start on a relatively smaller level with few manpower, but gradually grow in scope (geographical areas and themes). NewEnergy started in one district in 1994 in the region and has grown and expanded activities to the 3 Northern Regions in the country. Though CLIP is still working in 3 districts since its establishment, the organization has expanded its activities into other themes. The realization is that they may maintain a smaller working force, but they attempt to broaden their scope to address the most pressing needs in communities. By this, they are empowering themselves and growing to become sustainable (national and international).

Infrastructural Facilities and Services Provision

It became obvious from the activities of these organizations, the efforts and contributions put into WaS infrastructural facilities and services provision in rural communities. It was observed that if these communities were relying on the support of central government alone, provision of these facilities might have come but probably too late. CBOs are contributing in their little way to provide facilities and services which government alone cannot do. Aside, these organizations are introducing innovations (SZFM) to address challenges in the sector. Government could as well learn and adopt some of these innovations.

Networking Mechanisms

Partnership and networking mechanisms that these organizations apply in their working environments support a broader frame for sustainable exchange of skills, resources and support from national and international organizations. The observation that CBOs rely on the support of international and donor organizations and vice versa allows each entity to operate at individual level but work together to shape policy in the WaS sector. Furthermore, these mechanisms assist to a larger extent to reduce duplication of resources. For example international organizations utilize the staff of CBOs and in turn provide financial resources for physical project implementation. In the absence of these mechanisms, all the organizations would probably be recruiting and implementing the same projects that involve more resources.

Employment

Although their staff strength is relatively smaller than the private and other sectors in the economy, it was observed that these organizations add to the numbers in employment. On an individual organization's statistics on employment, it could be argued that, these organizations employ few staff (20-25 staff on row); the total numbers within their environment is worthy making a difference.

Advocacy and Research

Research and advocacy is one of the areas that supports and shapes policy. Research aids the discovery of new ideas as well as addresses research problems. It is reported that most developing countries lack behind in research related activities. While research seeks to discover, advocacy attempts to disseminate the discoveries to a wide range of stakeholders who positively shape policies. From the study, it uncovered that, these organizations through individual and networking groupings undertake research and advocacy activities. Their findings form a formidable voice for sustainable policies in the sector. One such examples is the Mole Conference series where research issues dominate policy debate in WaS.

Support to Decentralized Agencies

Ghana embarked on decentralization under the PNDC regime in 1988 with a “strong hope to render governments truly responsive and accountable to the governed” (Ahwoi, 2010: 1). By this policy, the assumption was that power by the people cannot be complete unless a truly decentralized government system with its machinery that is introduced. This should encompass initiation, coordination, management and execution of policies in all matters affecting them within their localities Ahwoi (2010). This policy on one hand has challenges with adequate qualified professionals in the various assemblies. It was observed that CBOs render unpaid services to assemblies especially during plan preparation stages. For example, during the WASH Plan preparation (2010-2014), NewEnergy and her partners supported some assemblies (TaMA, CGDA) with consultancy services. Apart from these, others including capacity building workshops to upgrade workers mainly in M/DPCUs are organized with resources from CBOs and their partners.

10.2 Summaries of findings

10.2.1 CBOs

From the study, CBOs or local NGOs are established through a legal frame known as the Companies Code (Act 179). Act 179 mandate organizations registered as companies limited by guarantee to provide social and humanitarian services that are non-profit making.

Their formation goes through a process where DSW and DAs play a role in recommending their activities and monitoring to ensure compliance with the law. With these, the entity can operate within the law to plan and implement projects in needy communities. It was observed that the Department of Community Development that coordinates Community Development in Ghana was unfortunately left out of the process. However, it was established that CBOs activities were shaped by the policy under Act 546 that WaS facilities and services provision should be demand-driven and community owned and managed.

It became evident that WaS issues are key and important to communities especially in the region. NewEnergy explained that they got involved in the sector because they wanted the communities to participate and embrace their activities. They saw that communities were willing to participate in their activities when one begins addressing their pressing needs which was water. Again, they saw that water had a bearing many other sectors in the region. CLIP on the other hand, expressed similar views that suggested that their first attempt was on school enrollment. This attempt failed because education was linked to water and sanitation. The shift in focus and attention was to address the core issue of water which directly led to school enrollment and retention.

These findings were all consistent with literature that suggest the linkages of WaS to education, health, agricultural activities and poverty reduction in general. It was however, observed that these organizations work in partnership with other donors and governmental

organizations to implement their activities. The partnerships aided in financial transfer of funds from international organizations and/or donors to CBOs for implementation of activities. Agyemin (2011) also confirmed the sector's overreliance on the activities of these organizations. Their partnership arrangements were within a short to a medium term contracts which hinder effective long term planning of CBOs.

Nonetheless, the partnerships to a large extent help to reduce duplication of resources as both partners rely on each other for financial and human resources. The partnership arrangements varied from one organization to another and this was also in conformity with what Gage (2004) highlighted that "no two set of partners will have the same arrangements. No two Partnership charters will look the same" (p. xii). While these were agreements that provided financial resources to CBOs, collaborative arrangements were used within governmental entities that mostly dealt with policy compliance in the sector.

Aside, it was observed that the partnerships arrangements involving CBOs and other stakeholders influenced networking arrangements. Depending on their involvement, networking relations were termed compelling, ardent and enervated network relations. Nevertheless, whether compelling, ardent or enervated network relations, it was observed that these networks help to shape one activity or the other within CBOs in the WaS sector. Consequently, it can be concluded that CBOs do not work in isolation to implement these projects but work as a team. However, their sustainability especially on financial resources are still an issue that deserves critical analysis since they cannot operate without assistance from external organizations.

Nonetheless, these organizations have contributed in their small way not only in the provision of WaS facilities and services, but support the decentralized agencies especially in the preparation of the assemblies' WASH Plans. Apart from that, their existence has facilitated the exchange of financial resources from donors and other international organizations while the latter relies on CBOs staff for project implementation. Employment, research and advocacy are not left out.

10.2.2 Water

The major findings on water are that water facilities provided in these communities are through Limited Reticulated Water Systems. The facilities under LRWS are boreholes and mechanized boreholes. These facilities are from underground water sources which were explained to be cheaper than surface treated water systems. This finding were also consistent with (Ocloo, 2011; Agyenim, 2011 and Gyau-Boakye, 2001) who wrote also on how expensive it involves to treat surface water for domestic use. Rain harvesting was at household levels as this was also very expensive to implement at the community level. The type of roofs in these communities however, hindered many households from utilizing rain water. Based on these, it was observed that, water facilities were provided at the community instead of household levels.

The provision of WaS facilities in the communities were based on a "demand-driven approach" were the communities demand for water facilities through their local representatives at DAs level. CBOs then work with DAs and CWSA to identify and carryout baseline studies before facilities are provided.

As part of the demand-driven approach, water facilities were community owned and managed. Again, this arrangement positioned CBOs to provide services such as training WATSAN committees that manage these facilities. Apart from these trainings, community animation was sine qua non to maintenance of the facilities by all members in the community. It was observed that through these activities, communities maintenance of water facilities were higher than that of sanitation facilities. This was because functionality of water facilities were more than 30% as compared to global statistic that suggest that at any given time, less than 30% of water facilities actually function.

Though it was observed that functionality of water facilities were higher; the service providers (WATSAN) were not performing some of the services that were expected of them. For example, there were no routine maintenance exercises of facilities from time to time. Women representations in the committees were low. There were weak monitoring activities of the DAs on the activities of WATSANs. These findings suggest that if affirmative action is not taken in the sector, sustainability of the facilities could be compromised in the near future.

10.2.3 Sanitation

In the area of sanitation, the simple household pit latrine was the main sanitary facility in these communities. Though CWSA provides guidelines for the construction of simple household pit latrines with dimensions (a pit of 1.8 to 2 meters diameter either square or rectangular); the pits were mostly circular in nature. The facilities were individually owned and managed. Unlike the water facilities that were demand-driven, the sanitation facilities were similar only the households were supplied with vent pipes and slabs from CBOs and donors. Digging the pit and the construction of the superstructure were mostly the responsibility of households.

From the observations, most of the structures were not built but rather ‘zanamats’ were used to cover the pits. Most of these structures had no doors and roofs. There were some that contained two pits that suggested for separate use by males and females but these were however, not partitioned for this purpose. The findings on the type of materials used in the construction of the pit latrines conformed to what Mr. Kabuka Mwatama Banda (WASH Specialist, UNICEF, 2012) said. According to Mr. Kabuka Mwatama, I-WASH programme also advocates for the use of local technology to meet the rural sanitation needs. These technologies include housing for latrines (zanamats, poles and mats), slabs/platform and wood, pit lining by curved clay pots, drums among others.

While majority of the households agreed that they maintain their facilities, it was observed that, materials used were in dilapidated stages. Hygiene facilities such as containers for washing hands after using the facility were absent. This finding defeated the community animation exercise that suggested that communities were taken through hygiene practices. Aside this, observation around the facilities again suggested that there were lukewarm attitude toward cleanness of the facilities. There were grasses, papers and poly bags around the facilities. It was also observed that some of the pits constructed were abandoned (see figures 7.12 and 7.13) and one was used as a water reservoir (figure 7.10). This finding suggested that sanitation is not a priority of the people as that observed in water. This observation corroborates with the teaming interviews that suggested that sanitation is attitudinal and not the construction of facilities.

Notwithstanding, CLIP introduced the SZFM to counteract these attitudinal habits and behaviours that are a challenge in the quest to achieve the sanitation target outlined in MDGs. SZFM is a four tier stage sanitation competition among communities on sanitary practices. This methodology assists the communities to identify rules and work towards achieving these at the end of the competition. The competition is expected to also trigger a change in attitude and a subsequent demand for sanitation facilities. It was observed that this methodology was working especially in Yendi Municipality where this innovation was implemented. Two of the communities (Wambong had 10 household pit latrines and D. C. Kura had 20 household pit latrines). One challenge was that the demands for sanitation facilities, at other communities were still low. It was expected that with this, all households would have obtained pit latrines.

The general findings on sanitation confirm that only in sub-Saharan Africa is the number of people defecation in the open still increasing (JMR, 2013). This is because 31% of households in six (6) communities had household facilities. Out of the 31%, those that met the CWSA guidelines and criteria were less than 6%. This suggests that these households resort to open defecation. This led to the identification of a pattern of defecation which I termed as normal and contingency. Normal defecation is at the household level, at community designated places like

market centers, schools, health facilities and the like. Contingency defecation occurs mostly on the way to the market, farm and in the farm in these communities where sanitation facilities are not readily available.

While acknowledging that sanitation is a challenge especially in the developing world where houses are constructed without these facilities, the theoretical background of the study that revolves around BHNs advocated that these needs should be provided to the poor because they are not in the position to provide these by themselves. This was confirmed to be the case with WaS which the people in these communities cannot provide for themselves. However, the theory underscores difference with regards to the different needs and procedures. For instance, water supply and delivery was observed to be in conformity with the theory whereas sanitation was not. Issues like the occupation of the people, the geographical location and technicalities involved in constructing sanitary facilities, attitudes of the people were not in agreement with what the theory said. It was however, observed that with the technicalities in the construction of sanitary facilities, organizations have the professionals to assist communities but the general mind-set of the communities remained unchanged.

This observation is linked with the institutional arrangements that deal with these issues. For example, CWSA was established to be responsible for rural water and sanitation supply and delivery. From the interviews, CWSA stated that general sanitation is not the mandate of CWSA but rather the responsibility of MLGRD (Jerry Achmware Atendem IWSC CWSA, Tamale, March 20, 2014). This contradicts the agency responsibility for water and sanitation supply and delivery. It was observed that the service provider was WATSAN yet it was only a matter of name. This committee was only in charge of rural water. Moreover, Environmental Health and Sanitation Unit was effectively engaged in rural sanitation yet this unit is under MoH. The institutional arrangements responsible for WaS is entirely a mixed up with no clear line objectives.

10.2.4 Poverty Reduction

In the words of some writers, poverty is a multifaceted, complex, social problem and with many variants and different roots all of which have validity depending on the situation (Blank, 2003; Shaw, 1996, p. 28). In this study, poverty reduction was linked to the provision of WaS facilities. The interviews suggested WaS and poverty reduction nexus. This was again confirmed in the chi square test values that revealed that an improvement in access to water and sanitation facilities will increase awareness of illness by 25% in communities. This awareness would further lead to patronage in improved WaS facilities. By implication, this improves health conditions and production where household incomes would increase.

The above assertions were refuted by the observations on the two categorized communities. From the household assets that were used as baseline to determine which households are vulnerable to poverty, communities that had less access to improved WaS facilities exhibited resilience to poverty from the household assets they possessed.

Though this is debatable, looking at the arguments on poverty, the findings were to see whether there were differences in terms of these measurable socio-economic assets. While it could be argued that household assets are acquired based on taste and priorities, the findings looked at what (Sen, 2010) holds on exchange entitlements where a person can exchange his or her assets either through trading, production or a combination of the two. This was also because the study communities rely on this assertion of (Sen, 2010) on exchange entitlements where livestock and agriculture produce are traded to obtain other household assets as well as solve pressing issues.

Based on this, it was expected that there would be quality housing units in communities where poverty levels are reduced. This is because, as households begin to earn more incomes, all things being equal, they begin to invest on quality housing units and the acquisition of other

modern technology. It was however, observed that materials used in building houses were the same in the two categorized communities. The same was recorded in the use of energy for cooking. The unexpected observation was that the communities that had less access to improved WaS facilities, but, had access to electricity had more household assets than the communities that had access to improve WaS facilities but had no access to electricity.

Although it could be argued that the household acquisition of assets depends of a number of factors such as tradition and cultural backgrounds, priorities, modernity of household members among others, some of these factors could probably be relevant in times of options available. For instance, an acquisition of a car could be based on priorities where there are options such as a reliable public transport system. In the case of these communities, there were no such options. An acquisition of a bicycle or motor bike could be regarded as a need and not based on priorities. Notwithstanding these, access to electricity emerged as a factor motivating the acquisition of most of the household assets that could be used as exchange entitlements and a means to withstand poverty shocks.

10.3 Recommendations

The recommendations presented here are based on the findings and the reflections on the findings. The discussions are under the themes of:

10.3.1 Water Facilities Improvement

For the water sector, I recommend development and utilization of surface water to supplement underground water in rural communities. This is because; some of the communities are still not served with improved water because of low underground water table. A typical example is Kusawgu where the source of water is a dam. However, in the same district there is availability of surface water from the White Volta River. If additional water treatment plants are established, improved water could be extended to such communities through pipe lines.

While recommending this, it was observed that budgetary allocations to the sector were very low. In some instances, funds for the sector were reported to have been diverted into other sectors because of donor presence, influence and assistance to the sector. Government rely on the international community to develop the WaS sector because of inadequate internal generated funds. This has resulted in overreliance on donor support. While agreeing to an extent the unavailability of internal funds, it was again observed that there is inadequate internal generated funds because government in the past have failed to adequately source internal avenues that could increase internal funds. This could be done effectively with an introduction of spot fines for all caliber of lawlessness in society. For example, it was observed that people break all kinds of traffic and sanitation laws especially in the region. These people are left to go freely without being punished. If such fines are introduced, it could add money for central government to embark on some of these capital intensive projects. It could be argued that how much financial resources would be realized from such fines? But the little that is gotten from such fines could be supplement with donor funds instead of relinquishing the sector to international and donors alone.

If there are no laws on spot fines, the institutions responsible such as Parliament could begin enacting such laws. These laws when enforced would not only increase internal generated funds but would add sanity and reduce indiscipline in the country in general.

It was also observed that Public Private Partnerships (PPPs) are some of the measures taken by government to improve general infrastructural development in the country. This is however, absent in the water sector. While there are such partnerships (ZOOMLION) in waste management nationwide, the water sector had no such arrangements. I suggest such partnerships with the private sector for water infrastructural development. It could be argued that such partnerships are directed at making profit and for which rural communities would be at a disadvantage, but such partnerships would develop and expand the infrastructural base of urban

water development. Government would then take up the availability and reliability of these infrastructure facilities to tax the urban rich and subsidized for the rural poor.

Another recommendation is for DAs to prepare action oriented WASH Plans that would attract the interest of private, internal stakeholders, donor and international organizations to invest in the sector. There are existing WASH Plans prepared by the DAs but these were found to be less detailed, and with less “SMART” activities in the plans. While admitting that most DAs are challenged with the requisite professionals in the planning sector, I recommend DAs to partner with the Department of Planning (KNUST) and that of University for Development Studies (UDS) for planning students to assist in this direction.

Still on DAs, I recommend intensive monitoring and supervision activities of WATSANs to be intensified. There should be a link between DWSTLs and these service providers. Complains from DWSTLs were that of lack of logistics that hinder their activities. Nonetheless, it was observed that if these officers are employed to work to achieve results, inadequate logistic allocation to the sector should not prevent them from doing the work they were employed and paid to do. For example, at DAs, records of plans and data were not filed. This activity involves qualification and not logistics. Plans, minutes, memos, workshop reports among the lot should be filed for easy reference. This was also lacking in the name of logistic.

The above point brings another suggestion that there should be a second look at the entire employment procedure in all sectors of the Ghanaian economy. For instance, people are recruited for a life time on their jobs. Some of the jobs especially service delivery demands results, yet, officers are paid whether objectives and goals are achieved or not. I recommend that some of the workers at the DAs should be employed based on performance contracts. For example, the DCE should be appointed to save for a period of 1 year and if results are achieved, his/her contract could be extended for another year. This arrangement would further allow the political head to monitor the activities of other officers working directly under him or her. This again would also reduce the political interferences in changing qualified personnel who work to achieve results especially the complaints from the Water Boards.

Again, I recommend affirmative action to be used to get women representation into the service providers. The water sector is a women sector. Women are mostly affected by water and sanitation issues. Women should form part of the decision that affects them. They should take part in planning the decisions that affects them. Since government has overall control of the appointment of members of these boards and committees, an affirmative action that gives the Chairperson, System Manager, Secretary, System Accountant positions to women would increase women involvement and participation in service provision in the sector.

10.3.2 Sanitation Development

The issue of sanitation has now received wider coverage from national to the grassroots levels. This was observed in both the print and electronic media. One such is when the “Daily Graphic” reported on how open defecation nationwide seems to be gaining roots rather than diminishing.

How difficult is it to outlaw open defecation, urinating and indiscriminate littering of the environment, for example? Yet, everybody knows that they are the worst forms of environmental pollution. We see people doing the acts unashamedly and with impunity because no one is committed to pushing the agenda to curb the wrongs (Daily Graphic, Wednesday, January 23, 2013).

This is even worst in the region especially the regional capital, Tamale. It is unbelievable to see people drive in cars and ride on motor bikes to the NOBISCO forest reserve and other forest reserves in Tamale to attend to “nature’s call”. NOBISCO forest reserve is located close to the seat of the MCE office. No one seems to bother about the implications of such acts. Why are such persons left to go

free? I recommend that spot fines on persons caught in these acts to pay to the assemblies. Constant fines would deter persons from using the forest for these acts.

I would also recommend that areas such as forest reserves, parks that are under the Department of Forestry be developed to serve other recreational needs. For example, while NOBISCO Forest reserve is used by some section of the public as a sanitary field, redevelopment of the forest could serve as grounds for religious festivities such as the annual Easter picnic in Tamale. This would increase internal generated funds for further infrastructural development in the region.

While observing that open space development is possible in urban centers, it is rather difficult to develop open spaces in rural areas. What I suggest is an alternative in rural communities for the utilization of human fecal matter for compost and energy needs. If rural communities are made to see the importance of the matter as serving their energy needs, all things being equal, they would prefer to preserve it rather than discard it in open fields. It could be argued that these communities are aware of the use of the matter for compost yet, they still discard it in fields. I agree to an extent this assertion but the difference in human fecal matter is difficult to handle than that of animals. Animal's fecal matter is preserved because it is less difficult to handle than that of humans. In this case, if a technology is used where direct benefits are emanating from human fecal matter; it could reduce the rate of open defecation.

Furthermore, it would be appropriate if the CLTS policy is complement with monthly fines on households without sanitary facilities. Punishments would ensure that people and households comply with the efforts and laws of the land. A monthly charge of Gh ₵ 5 paid to DAs could compel households to acquire and maintain their sanitary facilities. This fine would increase internal generated funds at the various DAs. This recommendation further draws the attention of authorities to bring back what used to be "Samasama"¹⁴.

10.3.3 CBOs

From the lessons enumerated, it is evident that, CBOs play a role in infrastructural facilities and services provision especially in the WaS sector in the region. It is also clear that these organizations depend on international organizations and donors to implement their programmes and projects. What this implies is that, they are unable to operate without these organizations. This is reflective on the assertion of Riddell and Robinson (1995) that the rapid growth of grassroots organizations has been spurred by the more positive attitude on the part of donors and many host governments towards the NGO sector, and by the increased availability of funds from foreign donors, both NGOs and governments (p. 32). This is again supported by Willis (2010) that the number of NGOs throughout the world has increased very rapidly, partly because of the availability of funding, but also because of the lack of alternative support mechanisms for communities in need (p. 100). All these confirmed the study findings on external support to grassroots organizations in the region.

While this is very positive, pragmatic measures should be adopted in the sector to as well secure local resources for these organizations. For instance, a percentage from the consolidated fund should be given for grassroots activities. This would complement the donor support that these organizations rely mostly on.

SADA is currently implementing development initiatives in the northern part of the country. I recommend that SADA should use these existing stakeholders in WaS to implement projects in this sector.

A member from M/DPCU of the various assemblies should be assigned to the activities of CBOs in the region. This would enhance effective planning and implementation in all the activities of these organizations.

¹⁴ Samasama used to be EHOs who went round houses to inspect sanitation practices. Punishments were meted out to recalcitrant behaviours on poor sanitation

10.3.4 Poverty Reduction

On the part of poverty, I recommend for the intensification of rural electrification projects. This study has uncovered that access to electricity serves as a motivation for households to possess assets that could be used as exchange entitlements. With these assets, households are probably able to withstand shocks normally emanating from poverty.

It is also recommended that all sectors that have influence in reducing poverty be tackled. For instance, while implementing policies in the WaS sector, others such as agro-processing, energy, feeder roads development, access to market centers, and other sectors should be developed using a holistic approach. Based on these recommendations, I have designed an action plan to serve as a guide to the authorities handling these issues from national to local level.

10.3.5 Recommended Action Plan

Just like medical doctors recommend theater operations to alleviate a medical condition from deteriorating, the planner recommends action plans to address urgent issues on the ground. The limitation however, is that action plans come with estimated financial components. This component is difficult for me because financial resources are not available and attached to this plan. Nonetheless, the essence is to create the awareness to whosoever is responsible to solicit funds to implement these actions. The recommended action plan is presented in table 10.1.

Table 10.1: Recommended Action Plan

No.	Recommendation	Activity	Location	Start Time	End Time	Source of funding	Responsible Agency
CBOs							
1.	Pilot activities of CBOs into SADA initiative and District Assemblies	Appoint Desk officer at SADA and DAs	Central Gonja District, Yendi & Savelugu Nanton Municipal Assemblies	1 st quarter 2015	4 th quarter 2015	Government of Ghana & Donors	SADA Authority, Ministry of Local Government and Rural Development, select CBOs in Water and Sanitation, Community Water and Sanitation Agency, Donors (UNICEF, WaterAid, World Vision Ghana etc)
		Collate CBOs register with DSW and DAs		3 rd quarter 2015	3 rd quarter 2015		
		Joint Planning		4 th quarter 2016	2 nd quarter 2016		
		Administrative Network		3 rd quarter 2016	1 st quarter 2016		
		Joint Implementation of planned projects		2017	2018		
		Evaluation	3 rd quarter 2018	1 st quarter 2019	All agencies		
Water sector							
2.	Rehabilitation of Kootito Dam and Small Town Water System project	Dam Expansion	Kusawgu	2015	2016	Government of Ghana And Donors	Government of Ghana (GoG)
		Construct a treatment plant and Small Town Water Reservoir		2015	2016		Community Water and Sanitation Agency
		Construct 2 standing pipes connected to Water Reservoir		1 st quarter 2016	2 nd quarter 2016		Community Water and Sanitation Agency
		Form and train Water Board		1 st quarter 2016	2 nd quarter 2016		CWSA, CBOs and DA
Sanitation							
3.	Biogas digester pilot project	Construct a central sewer system (digester)	D.C Kura	2015	2016	Government of Ghana and Donors	Waste Management Unit (DAs), University for Development Studies, Private sector
		Empty waste into system		2015	All times		
		Train management staff		1 st quarter 2016	3 rd quarter 2016		
		Install street lights to use energy from digester		2016	2017		

Source: Researcher's construct, 2014

As shown in table 10.1 overleaf, the Action Plan covers three major projects. These are to pilot activities of CBOs into SADA initiative and that of the District Assemblies, Rehabilitation of Kootito Dam and Small Town Water System project and a Biogas digester pilot project.

The first recommendation is a pilot project that incorporates the activities of CBOs into the SADA initiative in three districts in the region. These are Central Gonja District, Yendi and Savelugu Nanton Municipalities. The major activities under this pilot project will include the appointment of a desk officer at SADA office at the regional level to work with selected CBOs in WaS. This officer will also work with the Municipal and District Planning Coordinating Units. The project proposes a working team where a register of all CBOs or local NGOs and other organizations in WaS are collated and filed. This is important because data on activities of these organizations are mostly in scattered documents and offices. From here, the team will embark on joint planning of activities; joint administrative networks where activity reports, minutes, memos among others on activities are transparently shared. From here, joint implementations of activities will be done. This project will achieve better results because CBOs would feel part of the entire system. It will also reduce duplication of limited resources. It was observed that while Community Water and Sanitation Agency carries out community animation exercises, the same activity was also being implemented by CBOs. This pilot project will share responsibilities to achieve a common goal. The entire project is proposed to commence in 2015 and end in 2018. After implementation, an evaluation exercise is proposed to assess the effects and impact of joint implementation. After this exercise, further planning could be done to roll out this initiative to other districts in the region.

The second recommended action is the rehabilitation of Kootito Dam and Small Town Water System project. The inhabitants of Kusawgu rely on this dam for all domestic activities. The dam covers an area of 50m². I propose a rehabilitation and expansion of the dam. This will store more water during the rainy season. Part of the dam water will then be channeled into a treatment plant and a small town water reservoir. Because the dam is located downstream, two (2) stand pipes should further be constructed and connected to the reservoir to serve the township. This project would serve the community with potable water while reserving some water in the dam for livestock and irrigation activities. The project is proposed to commence in 2015 and by 2016 the necessary infrastructure should be available to facilitate the formation of a Water Board to manage and maintain this facility. The source of funding is expected to come from the Government of Ghana and that of donors in the sector. The Community Water and Sanitation Agency is to work on this project with support from the Central Gonja district assembly. As indicated in table 10.1 the responsible agency in CWSA. It is expected that CWSA carries out all feasibility studies on this project. Budgeting for the entire project would come from the Regional level through to the national level. From the national level, CWSA submits a budget to the Ministry of Finance and Economic Planning for approval and the commencement of the project. Funding comes through from the Ministry to CWSA national and through to the region for the implementation of this project.

The last recommended project is a Biogas digester pilot project to be located in D.C Kura in the Yendi Municipality. D.C Kura is chosen because this community has the highest number of household pit latrines in the three assemblies where the research was carried out. A central biogas digester should be constructed in the community where individual household fecal matter is collected and emptied into this system to produce energy. The first priority project from this digester is to connect the energy to a street lighting project to serve the community. When this happens, it would be the first of its kind in the Municipality. This community benefiting from this project would begin to appreciate and recognize that fecal matter is a “resource” that should not

be thrown away in open fields. This would also encourage more households to acquire the facilities. When many communities get this awareness, attitudes to sanitation would gradually change and many more of these facilities rolled out in other communities. The project is to be funded by the GoG and donors as well. The Waste Management unit of the Yendi Municipality is expected to budget for the entire cost of the project with support from feasibility studies from the University for Development Studies. The Yendi Municipal Assembly should as a matter of urgency include this project in the 2015 Annual Action Plan for funds to be released from central government for the commencement of this project.

10.4 Revised Conceptual Framework

From the findings especially on the issues that emerged from poverty reduction strategies, the conceptual framework is revised. In concluding the study, I have deemed it fit to revise this frame because of the following reasons.

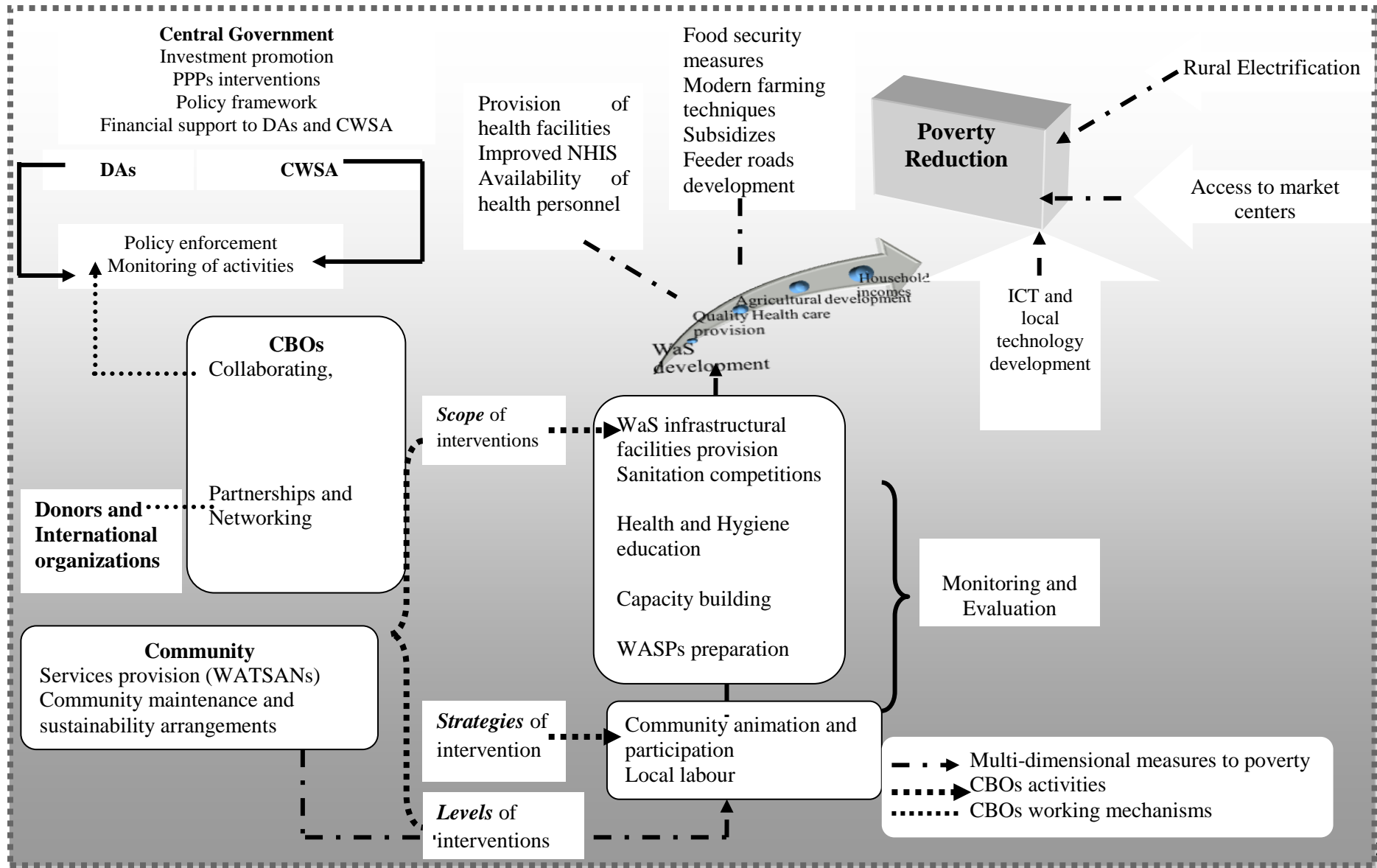
I was not privy to all the issues on the ground but only discovered some of these during the fieldwork and after data analysis.

With the issues that were known but which were not included, this was as a result of the time frame for the study. The research work had a time period of 3 years and as such, I was not in the position to work on many themes under the topic.

The last reason was financial. Working on many themes demanded more time on the field. The length of time spent on the field requires more financial resources which were not readily available to me.

Notwithstanding these reasons, the revised framework captures similarities of the old frame. Many of the themes were addressed by the data collected. The revised conceptual framework is presented in figure 10.1.

Figure 10.1: Revised Conceptual Framework after the Study



Source: Researcher's construct

As shown in figure 10.1 overleaf, the revised conceptual framework captures additional areas that contribute to reduce poverty. These are rural electrification, access to marketing centers, and ICT and local technology development

10.5 Recommended Areas for Future Studies

This research piece was very intensive in the direction of how WaS infrastructural facilities and services are provided in rural communities but not exhaustive in terms of covering all the themes that calls for a comprehensive and concise framework for addressing poverty reduction. A good number of issues and areas are still open for further investigations. These, I allude, will contribute to a holistic approach to tackling the persistent poverty cancan which is and has remain a problem to government and other development partners. The list includes but not limited to the following:

Since poverty has a bearing on many factors, there is need to investigate and evaluate how micro-finance projects have contributed in addressing poverty in rural communities in the region.

During the study, it came to light that the Ministry of Food and Agriculture rolled out a lot of programmes in the sector nationwide. Some of these programmes are to address food security and market needs of the farmers in the country. It would be interesting to evaluate how such programmes have impacted on rural farmer and rural livelihood in general.

CBOs or local NGOs are organizations that augment government efforts to address some of the needs of rural communities in the country. The main body responsible is the DAs. Another study that could be of interest is to; assess the working arrangements of the Assemblies, outline activities that are being implemented from internal generated funds (IGF) that have a general bearing in reducing poverty in rural communities.

Last but not the least; poverty is not manifested only in the rural areas. There are the urban poor who also have challenges in accessing BHNs. WaS facilities and services in these areas are; “pay as you access”. A comparative study into how these two groups (urban and rural poor) access WaS infrastructural facilities and services would unravel practical recommendations especially for planning purposes in urban communities.

CWSA was established in 1998 and responsible for WaS supply to small towns and rural communities. This agency has been working for 16 years. It is not a misplace exertion to investigate and evaluate their activities in the region.

Water and Sanitation issues affect mostly women and girls. An attempt was made to analyze some components of women involvement in WaS planning and management. This was however done in broad thematic themes that over shadowed gender roles in general. I propose studies on gender coping strategies in WaS programmes in rural communities.

In the field, it was observed that most organizations in development now embark on PRA in project planning and implementation. Community sensitization exercises and activities are one of the priority areas in these organizations’ agenda. For the planning profession, it would be interesting to assess and evaluate the impact of community sensitization exercises and services on project ownership and sustainability in rural communities in Ghana. This would inform the usage of these activities especially for planning.

10.6 Conclusion

This is the final and concluding chapter of the study. The chapter is very brief and presented summaries of findings. Among the findings, water which is community owned and managed is very much patronized than sanitation which is individually owned and managed. This is rather the reverse in Ghana, where community owned facilities are not managed instead of individual facilities. On the part of poverty it was observed that rural electrification plays a role is motivating households to work and possess assets that could be used as exchange entitlements. On the CBOs environment, it was again observed that these organizations are able to implement their programmes through partnership arrangements with international and donor organizations. Overall, the study revealed that these organizations have contributed not only in physical infrastructural facilities and services provision in these communities but also in employment, research and advocacy and support to the decentralized governmental institutions.

Based on these findings, I outlined some recommendations that would further improve and sustain activities in the sector. Some of the key recommendations are for government to consider surface water development. On the part of how government could do this, looking at the financial challenges, I recommended spot fines and PPPs arrangements. Other recommendations include partnership arrangements with planning departments of the country's universities and DAs to effectively prepare SMART plans for the WaS sector. Again, it was recommended that human fecal matter should be used to address household energy needs. This would probably lead to a change in attitude to preserve the matter rather than discard it in the open.

Further to these, an action plan was drawn to give specific time frames for recommendations to be addressed. Among these were for SADA to incorporate CBOs activities into SADA initiative starting 2015. Affirmative action for women should be considered for women to serve in committees in the sector. Monthly fines on households without sanitary facilities and intensification of rural electrification projects are all recommended. Besides, a revised conceptual framework has been re-developed. The revised frame captured issues of rural electrification, key issues of agriculture and DAs performing the role of a collaborator in all these. The revised conceptual framework also aid in recommending new themes for future investigations. Most of these are centered on poverty reduction.

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Appendices

Appendix 1: List of Key Informants

Information on Key Informant Interviews							
No.	Interviewee	Place	Type of Interview	Language	Remarks	Date	Time
1	Thomas Sayibu Imoro	NewEnergy, Tamale	Key informant and In-depth	English	Recorded and transcribe with f4	09.07.12	11.05 am
2	Charles Nachinab	NewEnergy, Tamale	"	"	"	20.01.14	8.00 pm
3	Adam Iliasu	CLIP Office, Tamale	"	"	"	20.07.12	8.40 am
4	Nashiru Bawa	CLIP Office, Tamale	"	"	"	15.12.13	10.00 am
5	Baba Amadu	WSTL,(TaMA)	"	"	"	09.07.12	2.15pm
6	Akwetey Sampson	Head of Waste Management Unit (TaMA)	"	"	"	20.07.12	10.30am
7	Agyekum K. Edward	GWC, Tamale	"	"	"	09.07.12	4.30pm
8	Offori MacCharty	CWSA, Tamale	"	"	"	10.07.12	11.00am
9	Jerry Achmware Atengdem	International Water and Sanitation Center (CWSA), Tamale	"	"	"	20.01.14	9.00 am
10	Patricia Gyamfi	CWSA, Tamale	"	"	"	20.01.14	11.00 am
11	Mahamoud Osman	Planning Officer, CGDA	"	"	"	18.09.12	9.30 am
12	Abukari Baba	Planning Officer, SNMA	"	"	"	06.08. 12	11.30 am
13	Alhaji Mohammed Shaibu	Senior Planning Officer, YMA	"	"	"	24.09. 12	11.45 am
14	Abdulai Abdul-Mumin	Buipe Water Board Chairman	"	"	"	18.09.12	1.38 pm
15	Mahama Amadu	EHO, CGDA	"	"	"	18.09.12	11.15 am

16	Sani Mahama	MWSTL, YMA	"	"	"	24.09.12	10.34 am
17	Salisu Be-Awuribe	DCE, CGDA	"	"	"	18.09.12	3.00 pm
18	Prince Mohammed Askia	MCE, SNMA, Savelugu	"	"	"	22.10.12	1.50 pm
19	John Ankrah	DSW, Tamale	"	"	Note taking	15.10.12	10.35 am
20	Salam Samuel Laar	EHO, SNMA, Savelugu	"	"	Recorded	21.10.12	9.00 am
21	Amanbey Akanpabada	RPCU, Tamale	"	"	"	19.09.12	10.30 am
22	Adam Abdulai Square	Assembly man Mpaha, CGDA	"	"	"	18.09.12	1.00 pm
23	Jebuni Mohammed	Assembly man Kusawgu, CGDA	"	"	"	18.09.12	2.00 pm
24	Stephen Chendow	Assembly man, Wambong	"	"	"		
25	Ajei Ofusu	NDPC	"	"	"	24. 03. 14	11.35 am
26	Fredrick Odio	CWSA, Accra	"	"	"	25. 03. 14	10.15 am
27	Daniel Agyeman-Dual	GWC, Accra	"	"	"	10. 12. 13	9.45 am
	Names	Place	Experts and In-depth Interviews	Language	Remarks	Date	Time
1.	Gerald Quarcoo	Research Scientist, Water Research Institute, Tamale	"	English	Recorded	20.09.12	9.45 am
2.	Kabuka Mwatama Banda	WASH Specialist, UNICEF Office, Tamale	"	"	Note taking	20.07.12	4.00pm
3.	Ebenezer Awuku	Regional Health Directorate, Tamale	"	"	Recorded and note taking	25.10.12	9.00 am
4.	Mr. Lartey Issac	Regional Health Directorate, Tamale	"	"	Recorded	27.10.12	10.30 am
5.	Samson Tettey	World Vision, Ghana	"	"	"	18.12.12	4.00 pm
6.	Rita Ambadire	WaS Programme Officer,	"	"	"	14.12.12	11.00 am

		SNV, Tamale					
7.	Festus Aaron	Ministry of Food and Agriculture, Tamale	"	"	"	07.01.13	9.30.am
8.	Iddrisu Adams	WASH Programme Coordinator ,CIDA, Tamale	"	"	"	23.11.12	11.05 am
No.	Name	Place	Interview type	Language	Remarks	Date	Time
1.	Ellis Ekekpi Rashida Mohammed Habib Shahadu	Regional Planning Coordinating Unit, Tamale	Group Interviews	English	Recorded and transcribed	19.09.12	2.00 am
2.	Vincent Asluadl Salifu Fuseini Abdulai Waa Napari Adam Yussif Mohammed	Savelugu Water System	"	English	"	22.10.12	11.50 am
3.	Abdulai Tando Salamatu Adamu Chendo Sulemana Sulley Puridow Mohammed Sahri	WATSAN Committee members, D.C.Kura	"	Dagbane	Translated into English	23.01.14	10.20 am
4.	Teacher Abudulai Napri Sakawura Sulemana Jakpa Alhaji Zontuwura Iddrisu Jebuni Mohammed Abdulai Ewura	Community Group Interview, Kusawgu (CGDA)	"	Gonja	"	17.12.12	4.00 pm
5.	Amina Awudu Madam Ajara Yakubu	Group interview with women and girls in Damdo	"	Dagbane	"	15.11.12	

	Madam Sala Abdul Dokurugu Madam Lamisi Mohammed Hajia Sadia Damba Lardi Bila						
No	Name	Place (Nyoglu)	Research tool	Language	Remarks	Date	Time
1	Naa Shaban Mumuni	Chief, Nyoglu	Community Meeting	Dagbane	Translated into English	21.01.14	2.00 pm
2	Abdulai Salifu	Opinion Leader, Nyoglu					
3	Abdulai Issahaku	WATSAN Committee					
4	Amadu Zakaria						
5	Abibata Sumani						
6	Ashetu Sumani						
No.	Name	Place	Interview type	Language	Remarks	Date	
1.	Naa Mbakidi Jegma	Chief, D. C. Kura	Discussions	Dagbane	Translated into English		
2.	Abdul Mohammed	Resident, D. C. Kura	"	Dagbane	"	12. 11. 12	
3.	Ahmed Issifu	Resident, Nyoglu	"	Dagbane	"	15. 12. 12	
4.	Sumaila Bewuribe	Resident, Kootito	"	Gonja	"	14. 12. 12	
5.	Dramani Alhassan	Resident, Kootito	"	Gonja	"	14. 12. 12	
6.	Abudu Bawa	Resident, Mankpang	"	Gonja	"	15. 12. 12	
7.	Dakurugu Mahama	Resident, Damdo	"	Dagbane	"	15. 11. 12	
8.	Young Boy Adamu	Resident, Kootito	"	English	"	17. 12. 12	
9.	Sanni Mahamadu	Resident, Kpabuso	"	Gonja	"	15. 12. 12	
10.	Abdul Napri	Resident, Wambong	"	Dagbane	"	18. 12. 12	

Appendix 2: Observation Guide

Observation Guide

General community facilities: road network, schools, health facilities, market centers, community centers

Housing type and materials

Type of buildings

- i. Single rooms
- ii. Round huts
- iii. Compound structures
- iv. Self contain apartments

Building materials

- a. Cement/block buildings
- b. Mud
- c. Stones
- d. Number of rooms

Floor type (What materials are used on the floor mainly the compound?)

- a. Gravel
- b. Cement
- c. Sand floors
- d. Not floored at all

Roofing materials (What materials are used to roof the rooms?)

- ❖ Aluminum
- ❖ Grass
- ❖ Wood from tree branches

Cooking energy for the household

- i. Fire wood
- ii. Charcoal
- iii. Gas
- iv. Electricity

Water and sanitation facilities: Walking distances to water sources, functionality of the facilities, sanitation around the water facility, type of sanitation facilities, materials used, functionality of the facilities, sanitation within sanitary facilities....

Energy needs: Energy for other domestic activities

1. Solar
2. Electricity
3. Kerosene
4. None

Other HH socio-economic indicators

- A. Communication gargets
- B. TV/Radios
- C. Bicycle/ motorcycle

Additional Household assets: availability of livestock, land assets

Appendix 3: Household survey Instrument

Household survey questionnaire

Q. No.....

Region: Northern Region

Introduction:

Access to WaS facilities is a primary concern in every society. These infrastructural facilities are provided mainly by the government. However, it is observed that other organizations are also into the provision of these services. This is observed mostly in rural areas. I would like to ask your household some questions about your views on WaS infrastructural facilities and services and how these can help to improve your lives. I would appreciate you answering all these questions as the information you provide will be very useful to the research process. However, if you feel that you do not want to answer a particular question, I will gladly accept your decision. I would also like to assure you that your responses will be completely anonymous and will not be used for any other purpose.

Please take NOTE: HH = Household

(A Household in this survey is defined by: people who sleep under the same roof/compound and eat from the same kitchen).

(CBO is a local non-governmental organization that evolves from the grassroots or community level and operating within the geographical area that it evolves from)

Time started:.....

Basic Household Profile

Section A

District:..... Name of town/village

Household code.....

Q. No	Question	Coding Responses (Please tick)
1.	Head of household	1 = Male 2 = Female
2.	Sex of respondent	1 = Male 2 = Female
3.	Length of stay in the community	1 = between 1 to 5 years 2 = between 6 to 10 years 3 = between 11-25 years 4 = all my life
4.	Is your household or any member of your household part of the WATSAN Committee in your community?	1 = Yes 2 = No
4.	How many members do you have in your household?	1 = 1-5 members 2 = 6-10 members 3 = 11-15 members 4 = 16-20 members 5 = 21 above
5.	What is the respondent's marital status?	1 = single; 2 = married 3 = divorced 4 = widowed 5 = polygamous relationship
6.	What is the respondent's educational level?	1 = Primary education

		and JHS 2 = SHS and Tertiary Education 3 = no education
7.	What is the respondent's occupation?	1= farmer 2= government employed worker 3= privately employed worker
8.	If you are a farmer what type of farming do you do?	1 = Subsistence farmer 2 = Commercial 3 = Aquaculture 4 = Livestock Farmer 5 = Any other type please indicate

Section B

Water

Q. No	Question	Coding Responses
1.	Source of water: What is your source of water for drinking and cooking?	1 = Pure water (bottled) 2 = Pure water (sachet) 3 = water from the mechanised borehole, pump, piped into dwelling, public standpipe (improved sources) 4 = water from the unprotected well, dugout, stream, rainwater collection (unimproved sources)
2.	Do you use the same source for other domestic activities?	1= Yes 2 = No
3.	Where do you get this source of water from?	1 = water from the mechanised borehole, pump, piped into dwelling, public standpipe 2 = water bought from tankers 3 = protected wells 4 = water from the unprotected well, dugout, stream, rainwater collection 5 = dams
4.	Since when have you been using water from the answer in Q.3?	1 = Past 1-4yr 2 = Past 5-9 yrs 3 = Past 10-14 yrs 4 = Past 15-19 yrs 5 = All my life
5.	If your household is using water from code 3 in question B1, how did the community obtain this water infrastructure?	1= from government 2=from a community organization 3= from external organizations 4= from others (please state)
6.	Did your household contribute to the provision of this water facility?	1= Yes 2= No 3= No idea
7.	If Yes, what was your household's contribution?	1= money 2= labour 3= local materials (sand, stones, gravel etc) 4= all the above 5= others (please state)
8.	Is your household contributing to the maintenance of this facility?	1= Yes 2= No
9.	If Yes, how is your household doing this?	1= paying of a monthly fee or when there is a

		break down 2 = cleaning round the facility 3 = both 1 and 2 4 = others (please state)
10	Where did you use to get your water from before this facility was constructed?	1 = unprotected well 2 = Dugout 3 = Stream or river 4 = Rainwater
11	Does your household agree that drinking water from unimproved sources can cause illness?	1 = Strongly agree 2 = Agree 3 = Disagree 4 = Strongly disagree 5 = No response
12	Do you agree that CBOs have contributed to provide some of these water facilities in your community?	1 = Strongly agree 2 = Agree 3 = Disagree 4 = Strongly disagree

14. If your household is not using water from code 01-04, in question B1 why?.....

Section C
Sanitation

Q. No	Question	Coding Responses
1.	Sanitary facilities Has your household a sanitary facility?	1 = Yes 2 = No
2.	If Yes, what type of facility is it?	1 = own pit latrine 2 = water closet 3 = soak away pit 4 = others (please state)
3.	If No, where do you and your household attend to “nature’s call”?	1= Public latrine 2 = Neighbors/relative latrine 3 = Forest/field/open place 4 = Dig and bury 5 = others (please state)
4.	Do you feel comfortable attending to ‘nature’s call’ in this place stated in Q.3?	1= Yes, 2= No, 3= No idea
5.	If you have a sanitary facility for your household, how did you acquire it?	1= from personal savings 2= from government programme 3= support from a community organization 4=others (please state)
6.	If your household had this facility from government or an organization, what was your household contribution? State the process in the space at the end of this section	1= cash amount 2= local material support 3=others (please state)
7.	Was every household in the community supported to have this facility?	1=Yes 2=No, 3=No idea
8.	If No, why was your household chosen?	1= ability to provide other support(s) 2= active participation in community activities 3= both 4= others (please state)
9.	Do you maintain this facility?	1=Yes 2=No

		3=Not all times
10.	How are you maintaining this facility?	1= regular cleaning 2= changing old materials 3= both 4= others (please state)
11.	If you are using a community facility, do you pay for the usage of the facility?	1=Yes 2=No 3= No idea
12.	If you are paying how much are you or any member of your household paying for its usage at a time?	Gh C...
13.	Do you agree that this sanitary facility has improved your life?	1= Strongly agree 2= Agree 3= Disagree 4= Strongly disagree
14.	Do you also agree that a household without sanitary facility can be infected with diseases if they use open spaces to attend to nature's call	1= Strongly agree 2= Agree 3= Disagree 4= Strongly disagree
15.	If your household has no sanitary facility do you know how you can be supported to get one?	1= Yes 2= No

16. Why is your household not using any sanitary facility?.....

Section D

CBOs

For the past decades, government has been the sole player in the provision of infrastructure especially water and sanitation facilities. Today, other organizations such as INGOs, donors and CBOs are implementing these facilities and services especially in rural communities. I would like to find out from you and your household whether you find these organizations valuable. You are again assured that your responses will be completely anonymous and will not be used for any other purpose.

1. Is your household aware of the operations of any Community Based Organization(s) in this community? 01=Yes, 02= No, 03= No idea 04= others (please state)

2. If a CBO has contributed in providing a WaS facility in your community, do you agree that this organization's activity has impacted on your household and the community?

01= Strongly agree

02= Agree

03= Disagree

04= Strongly disagree

3. Do you and your household anything to say to improve the activities of these organizations? Please state response

.....
.....

4. Which other social and economic facilities are so important to you and your community that you would like these facilities to be provided to you? List 4 of these in their order of priority

01=.....

02=.....

03=.....

04=.....

Thank you so much for your responses. The team would get back to you if I need to clarify any issue.

Appendix 4: List of Research Assistants and Translators

No.	Name	Assignment	District of work	Phone Number
1	Abdulai Abdul-Mumin	Interpreter and Translator	CGDA	0245373145
2	Abdul-Mumin A Latif	Administering of questionnaire	same	0544612688
3	Yakubu Abdul Soumad	same	same	0260666660
4	Amidu Salifu	same	same	0276000599
5.	Sani Mahama	Interpreter and Translator	YMA	0244545928
6.	Ibrahim Eliyasu	Administering of questionnaire	same	0247072181
7.	Braimah Dawson Hussein	same	same	0246484091
8.	Fusheini Mohammed	same	same	0246935714
9.	Salam Sameul Laar	Interpreter and Translator	Savelugu Nanton Municipal Assembly	0244375648
10.	Abdul Mahama	Administering of questionnaire	same	-

Appendix 5a: Interview Guide (CBOs)

Interview guide for CBOs

Interviews were conducted with the aid of these guided themes.

Theme 1: General formation arrangements and requirements

- ❖ How the organization was formed
- ❖ Legislative Instruments guiding the formation of the organization
- ❖ Other requirements
- ❖ Year of formation and initial working conditions
- ❖ others

Theme 2: The organization and general activities

- √ Organizational structure
- √ Projects and programmes
- √ Why water and sanitation provision
- √ Initial situation in the WaS sector of the region and districts
- √ Reporting and decision-making arrangements

Theme 3: Working relations in the districts and other governmental agencies

- ✚ General activities in the districts
- ✚ How activities are carried out
- ✚ What are the roles of the DAs, CWSA, EHU, DWSUs etc?

Theme 4: Your organization, other NGOs and donors in the planning and implementation process

- The role of donors and other NGOs in your activities
- Planning and implementation processes
- Working mechanisms with other NGOs
- others

Theme 5: Budgetary Issues

- ❖ Source of budgets and other financial arrangements
- ❖ Specific cost of facilities
- ❖ Challenges in meeting demands
- ❖ Financial reporting processes

Theme 6: Facility M and E and maintenance

- Monitoring and Evaluation plans and arrangements
- Maintenance plans

Theme 7: WaS and Poverty nexus

- Views and explanations on relationship between WaS and poverty
- Assessment of activities
- Suggestions for policy reforms in the sector

Theme 8: Other issues

- ❖ Coverage in WaS infrastructure and the MDGs
- ❖ The way forward in meeting the target towards access to WaS

Appendix 5b: Interview Guide (DAs, DWSTLs)

Interviews were conducted with the aid of these guided themes.

Theme 1: Assembly's role in CBOs or local NGOs formation

- ❖ How is the assembly involved in CBOs formation
- ❖ Awareness of CBOs activities
- ❖ Requirements and expectations from the CBOs
- ❖ Role of CBOs activities
- ❖ others

Theme 2: General activities of Water and Sanitation and CBOs

- √ Who does what in the Water and Sanitation sector in the Assembly
- √ Assembly's projects and programmes and CBOs involvement
- √ WASPs and CBOs
- √ Coverage in the sector
- √ Others

Theme 3: Benefits and Contribution of CBOs

- ✚ Reporting procedures regarding these organizations
- ✚ Projects and programme impacts

Theme 4: Challenges in the sector

- Challenges in the two sectors (water and sanitation)
- Joint programmes and challenges
- Assemblies components (financial, meeting targets in the WASPs etc)
-

Theme 5: Way forward and other issues

- ❖ Policy reforms
- ❖ MDGs targets
- ❖ The way forward in meeting the target towards access to WaS in rural communities

Appendix 5c: Interview Guide (CWSA)

Interviews were conducted with the aid of these guided themes.

Theme 1: General information about CWSA

- ❖ Act
- ❖ Why CWSA
- ❖ What existed before CWSA
- ❖ What are the general activities of CWSA
- ❖ Who does what and at what time (CWSA, DAs, Donors, NGOs, Community etc)

Theme 2: General activities in Water and Sanitation

- √ Planning processes in Water delivery
- √ Planning processes for Sanitation delivery

Theme 3: Facilities and services by CWSA

- ✚ Facilities and services offered by CWSA (Water and Sanitation)
- ✚ Components of the facilities and services

Theme 4: Reporting processes

- √ Who report to who? (DAs, CWSA, NGOs Communities)
- √ Awareness of CBOs activities in the sector
- √ CWSA involvement in their activities

Theme 4: Challenges in the sector

- Challenges in the two sectors (water and sanitation)
- Budgetary allocations and targets in the WASPs of the Assemblies)

Theme 5: Way forward and other issues

- ❖ Water and Sanitation and poverty issues
- ❖ Policy reforms
- ❖ MDGs targets
- ❖ The way forward in meeting the target towards access to WaS in rural communities

Appendix 5d: Discussion Guide

Theme 1: General observation (activities in WaS sector)

- ❖ There are active activities in the sector. Is it because of stakeholder involve or what is facilitating activities in the sector?
- ❖ What is the relationship between governmental and non-governmental agencies in the sector?
- ❖ What are the impacts of partnerships, collaborative mechanisms in the sector?
- ❖ Should government be made to contribute towards the activities of NGOs in WaS? How and why should government do that?

Theme 2: Activities of DAs and CWSA

- ❖ What are the roles of DAs and CWSA in the activities of your organizations?
- ❖ How do you appraise the activities of these institutions (DAs and CWSA)?
- ❖ What is missing in the activities of these institutions?
- ❖ How should it be done?

Theme 3: Sustainability of activities (poor sanitation)

- ❖ From the field water facilities are do well whereas the sanitation component is still lagging behind. What is accounting for this?
- ❖ Some communities still complain about technical know-how in constructing pit latrines. What are your organizations doing about such complains?
- ❖ From the animation exercises, you include activities of hygiene. Why are households not using hygiene facilities?
- ❖ What do you do to households that have abandoned vent pipes and slabs?
- ❖ Do you monitor to see that communities use these materials given to them?
- ❖ Do you have experience where households have turned facilities for other uses other than what they are meant for?
- ❖ What should be done to households or communities engaging in these acts?

Theme 4: Impact of Mole Conference series

- ❖ What is the background of the Mole Conference?
- ❖ Who does what?
- ❖ What is the impact of this conference since its establishment in the region and the sector?

Theme 5: The way forward

- ❖ What should be done in the sector?
- ❖ Who should do what?

- ❖ What are your expectations from donors and INGOs?
- ❖ What should this research capture?

Thank you for coming and contributing.

Appendix 5e: FGD Attendees

No.	Name of Participant	Organization	Role
1.	Atiskiyuk Stephen	CWSA	Participant
2.	Charles Nachinab	NewEnergy	Participant
3.	Nashiru Bawa	CLIP	"
4.	Rashida Osman	WaterAid	"
5.	Tahiru Dauda	AFORD Foundation	"
6.	Mahamound Osman	Planning Officer, CGDA	"
7.	Salisu Be-Awuribe	DCE, CGDA	"
8.	Joseph Akanpatulisi	Former Regional Economic Planner	"

Others

Eva Azengapo Akanchalabey	Moderator
Benjamin Akumanue	Assistant Moderator
Paul Asugbang	Secretary
Georgina Akanchalabey	Time keeper

Appendix 6: Questionnaire for National and International NGOs in Water and Sanitation Development

Questionnaire for NGOs and donors

Q. No.....

Introduction

The WaS sector concerns many actors. These infrastructural facilities and services are also provided by other organizations especially in rural communities in Northern Region. I would like to ask your organization some questions on your views on WaS infrastructural facilities and services and how these are being planned and implemented. I would appreciate you answering all the questions as the information you provide will be very useful to the research process. However, if you feel that you do not want to answer a particular question, I will gladly accept your decision. I will also like to assure you that your responses will be completely anonymous and will not be used for any other purpose.

A. General Organizational information

1. Name of your organization.....
2. What is your position in the organization
3. What type of organization are you? Please tick (✓)
 - i. Non-Governmental (international)
 - ii. Non-Governmental (national)
 - iii. Non-Governmental (local)
 - iv. Others please state.....
4. Please state or list the districts you operate in NR
.....

5. How long has your organization been working in this region and the districts you stated in Q 4 above?.....
6. Which sector(s) do you operate in?
- a. Water and Sanitation
 - b. Education
 - c. Health
 - d. Advocacy
 - e. Agriculture
- f. Others please state.....

Please answer the next questions if your organization is into Water and Sanitation services delivery
Service and facility planning and implementation

7. If your organization is into Water and Sanitation service delivery what informed your choice?.....

8. What facilities and services does your organization provide in this sector (Water and Sanitation)? Please list them in order of priority

No.	Water	Sanitation
1.		
2.		
3.		
4.		
5.		
6.		
7.		

9. Does your organization provide these facilities and services listed in Q.8 alone or with support from other organizations?

- a. Alone
- b. With other organizations

10. If you are working with another organization(s) who are these? Are they also NGOs? Please indicate

- i. NGO (International)
- ii. NGOs (National)
- iii. NGOs (Local)
- iv. District Assemblies

11. Please list the names of the organizations you provide the facilities and services with under their right headings provided in Q.10

No.	NGO (International)	NGOs (National)	NGOs (Local)
1.			
2.			
3.			
4.			
5.			

12. If you work with other organizations what role(s) is/are your organization playing in providing these facilities?

.....

.....

13. What role(s) is/are the other organizations playing?

.....
 .

Q. No	Question	Water	Sanitation
14.	Roughly how many of these facilities have you (organization) provided in the region?		
15.	Roughly how many of these facilities have your (organization) provided in the districts you have stated earlier in Q 3?		
16.	Roughly how many of these are joint facilities and services provided by your organization with support from other organization(s)?		

17 a. How is your organization planning and implementing these services and facilities in terms of decision making?

.....

17 b. In terms of beneficiary involvement?

17c. In terms of management of the facilities?

18. What is the role of governmental organizations in providing these services with your support if you involve them?

.....

19. Why did your organization decide to work with other organizations to provide these facilities or services?

.....

20. What type of cooperating mechanisms is your organization using to work with these other organizations if your organization is working with one or more organization(s)?

Please indicate

- a. Partnership
- b. Collaboration
- c. Lobbying
- d. Negotiating
- e. Others please state.....

21. What type of cooperating mechanisms is your organization using to work with governmental organization? Please state

.....

22. If you are working with another organization towards facilities and services delivery how did you enter into this working arrangement?

.....

23. What problems is your organization facing in the provision of these services and facilities in these areas? Please state your responses according to their importance

- a).....
- b).....
- c).....
- d).....

24. Do you agree that local organizations such as CBOs are playing a vital role in the provision of these facilities to communities?

- a) Strongly agree
- b) Agree
- c) Not agree
- d) Strongly not agree



25. Our organization that water and sanitation delivery can lead to poverty reduction?

- a) Strongly agree
- b) Agree
- c) Not agree
- d) Strongly not agree



26. Please justify your choice of answer in Q. 25

Thank you so much for your support to this research process. You will be contacted again if the need arises.

**Appendix 7: List of NGOs Operating in the WaS Sector in Northern Region,
Ghana**

Type of organization:		International NGO	
No.	Name of organization	Operational areas (Metropolitan, Municipal and District)	Main activities
1.	CARE		
2.	Catholic Relief Services (CRS)	Nationwide but water and sanitation programmes in Northern, Upper East and Upper West Regions	Hygiene promotion, water and sanitation facility delivery, advocacy, gender and vulnerability, capacity building, research, water resource management, trans-boundary issues in water basin management, sanitation marketing, information dissemination on WASH.
3.	WaterAid	Nationwide	Water and sanitation facility delivery and promotion, advocacy, research and knowledge management, gender and vulnerability, Integrated water resource management, hygiene promotion.
4.			
5.	World Vision	Nationwide	Capacity building, Research & knowledge management, Gender & vulnerability, Hygiene promotion, Water facility delivery, sanitation facility delivery
6.			
National NGO			
7.	EnterpriseWorks/VITA – Ghana (EWV)	Nationwide	Capacity building, research, hygiene promotion, water facility delivery
8.	Green Cross Ghana	Nationwide	Access to Water Services, Right to Water Campaign, Capacity Building, Sanitation and Hygiene Education
9.	Water in Africa (W.A.T.E.R)	Northern, Ashanti, and Brong Ahafo Regions	Water and sanitation facility delivery including rain catchment systems
10.	SIMLI AID	six districts	Sanitation facility delivery
Local NGO or CBO			
11.	AFORD Foundation	NR	Hygiene promotion, Water and Sanitation facility delivery
12.	Africa Advancement Campaign		Hygiene and sanitation promotion in schools, provision of water and sanitation infrastructure, protection and conservation of water resources, capacity building for youth, women groups and prisoners.
13.	Alternative Initiative for Development	NR	Water and sanitation facility delivery, hygiene promotion, rope pump installation, community mobilization and training
14.	Chera Biisi Fari Program	NR	Tubewell construction & installation of Rope Pumps
15.	Church of Christ Rural Water Dev't Project (COCRWDP)		Hydrological studies & siting, Drilling, Rehabilitation of Borehole, Construction of Limited Mechanized Systems,

			Disinfection of Borehole & Hand Dug Wells, Hand pump spare parts distribution, Training of area pump mechanics & Pump Caretakers, Sanitation Promotion, Health & Hygiene Education, WATSAN Committee formation and training
16.	Community Life Improvement Programme (CLIP)	NR	Capacity building, hygiene promotion, water and sanitation facility delivery, advocacy, IWRM
17.	Dinkugari Integrated Development Organization (DIDO)	NR	Advocacy, hygiene promotion
18.	Gub-Katimali Society	NG	Boreholes, Hand-dug wells, Dams, Formation of WATSAN Committees
19.	Integrated Action for Community Development (INTAGRAD)	NG	Hygiene promotion, water and sanitation facility delivery
20.	Integrated Development Centre (IDC)	NG	Hygiene promotion, community mobilization
21.	Integrated Social Development Centre (ISODEC)	NG	Capacity building, research and knowledge management, advocacy and policy influence, gender and vulnerability
22.	Juxtapose Integrated Development Association (JIDA)	NR (Salaga and Kpandai)	Formation and training of Water and Sanitation Committees, hygiene and sanitation promotion
23.	Kachito Community Development Centre (KCODEC)	NR	Advocacy, community mobilization and animation, facilitation and training
24.	NewEnergy	NR	Capacity building, Advocacy and policy influence, Gender mainstreaming, hygiene promotion, Water facility delivery, Sanitation facility delivery
25.	Partners in Participatory Development (PAPADEV)	NR	Capacity building (Training of Watsan Committees), community animation for water and sanitation management
26.	ProNet North		Hygiene Promotion, Water and Sanitation facility delivery, advocacy, capacity building, research and knowledge management, gender and vulnerability
27.	Savannah Integrated Rural Development Aid (SIRDA)	NR	Water and Sanitation Committee training, Hygiene and promotion, School Health Education in schools
28.	SONGSIM Integrated Development Association	NR Gushegu	Hygiene promotion, water and sanitation service delivery, gender, capacity building
29.	TIYUMTABA Integrated Development Association (TIDA)	NR	Hygiene promotion, water and sanitation facility delivery, advocacy and capacity building, community animation on maintenance and promotion of community ownership
30.	Tuma Kavi	NR	Capacity building, Hygiene Promotion, Water and sanitation facility delivery

Appendix 8a: Districts in Northern Region

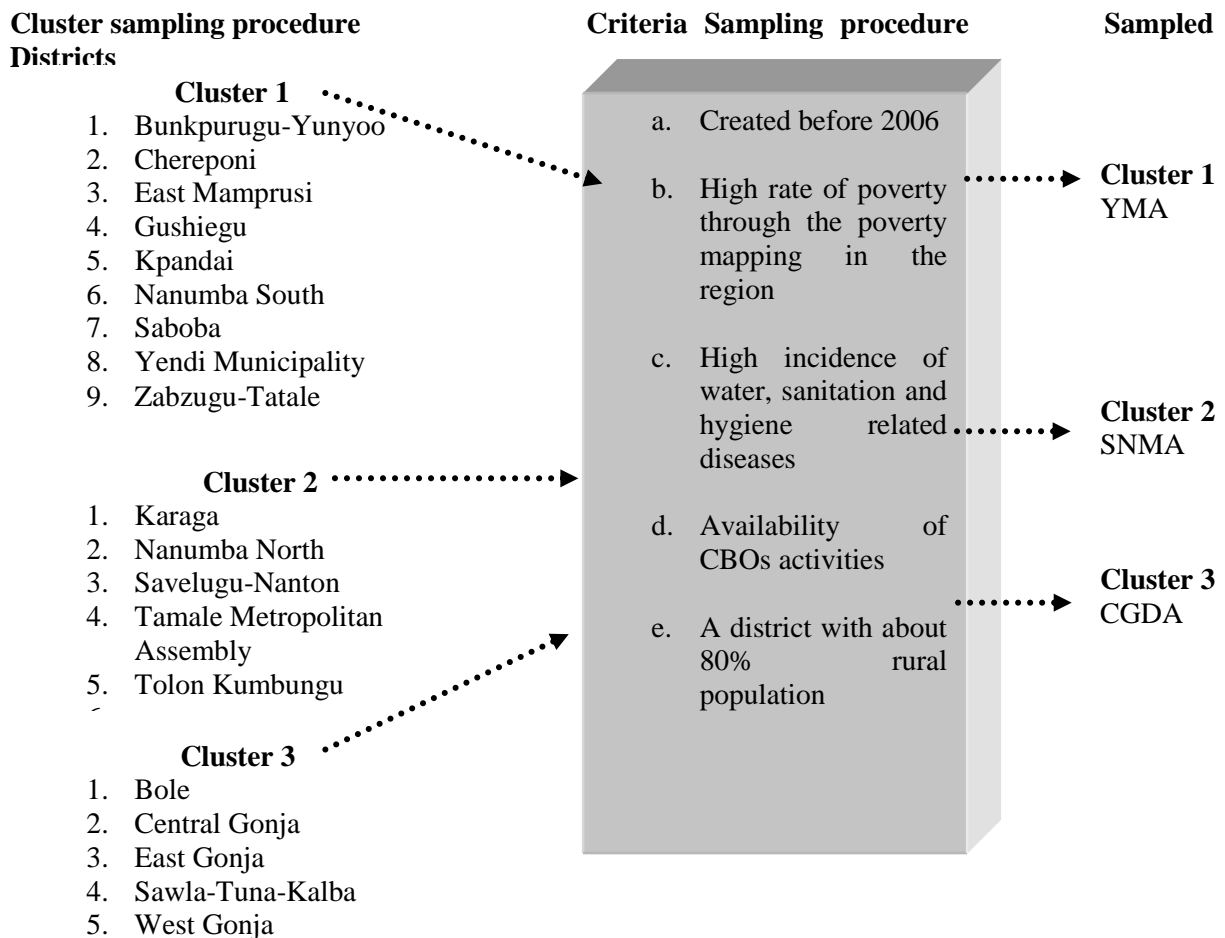
No.	Name of District	District Capital	LI Creating the district	Year
1.	Bole	Bole	1786	2004
2.	Bunkpurugu-Yunyoo	Bunkpurugu	1748	2004
3.	Central Gonja	Buipe	1750	2004
4.	Chereponi	Chereponi	1854	2007
5.	East Gonja	Salaga	1451	1989
6.	East Mamprusi	Gambaga	1776	2004
7.	Gushiegu	Gushiegu	1783	2004
8.	Karaga	Karaga	1787	2004
9.	Kpandai	Kpandai	1845	2007
10.	Nanumba North	Bimbilla	1764	2004
11.	Nanumba South	Wulensi	1763	2004
12.	Saboba	Saboba	1904	2007
13.	Savelugu-Nanton	Savelugu	1450	1988
14.	Sawla-Tuna-Kalba	Sawla	1768	2004
15.	Tamale Metropolitan	Tamale	1801	2004
16.	Tolon-Kumbungu	Tolon	1457	1988
17.	West Gonja	Damongo	1775	2004
18.	West Mamprusi	Waleawle	1448	1988
19.	Yendi Municipal	Yendi	1905	2007
20.	Zabzugu-Tatale	Zabzugu	1449	1988

Newly created districts that were not used in the sampling process

No.	Name of District	District Capital	District from which it was carved	LI	Year
1.	Kumbungu	Kumbungu	Tolon Kumbungu	1457	2012
2.	Mamprugu Moaduri	Yagba	West Mamprusi	-	2012
3.	Mion	Sang	Yendi Municipality	-	2012
4.	North Gonja	Daboya	West Gonja	2065	2012
5.	Sagnarigu	Sagnarigu	Tamale Metro	2066	2012
6.	Tatale Sanguli	Tatale	Zabzugu Tatale	2053	2012

Appendix 8b: Sampling Procedure of the Districts

Two sampling procedures were used. Cluster and criteria sampling methods



Appendix 8c: Questionnaire for Selection of CBOs

As part of PhD studies into WaS in Northern Region, your organization has been identified as offering facilities and services in this sector. Please fill the following questionnaire if your scope of operation in the region is into WaS.

1. Name of organization:
2. Years in establishment:
3. Districts of operation:.....
4. Scope of operation: (Which areas do you offer services and facilities in?).....
5. Location of headquarters:.....
6. Title of the head of the organization:.....
7. Contact address and phone numbers if there are any.....
8. What are your working mechanisms with other organisations? Please state.....
9. Do you involve governmental organizations and agencies in your activities? Yes or No.....
10. How do you do that? Please state:.....
11. What about other NGOs? Yes or No.....
12. How do you do this?.....

Thank you for this exercise.

Appendix 9a: Chi Square and Tables Values for Sanitation and Health Hazards

	Value	Df	Asymp. Sig. (2-sided)	
			0.05	0.01
Pearson Chi-square	11.717	2	11.07	15.09
N of valid Cases	122			

Appendix 9b: Contingency Coefficient for Access to Sanitation Facilities and Health Hazards from Table 8.2

$$C = \sqrt{\frac{\chi^2}{n + \chi^2}}$$

$$C = \sqrt{\frac{11.717}{122 + 11.717}}$$

$$= 0.29$$

Appendix 9c: Calculated (χ^2) Value as against (χ^2) Table Values

	Value	df	Asymp.Sig. (2-sided)	
			0.05	0.01
Pearson Chi-square	62.41	2	59.34	66.77
	14.11		10.60	15.20
N of valid Cases	122			

Source: Calculated (χ^2) value and (χ^2) table values

Calculated (χ^2) value as against (χ^2) table values

	Value	Df	Asymp. Sig. (2-sided)	
			0.05	0.01
Pearson Chi-square	11.717	2	11.07	15.09
N of valid Cases	122			

Source: Calculated (χ^2) value and (χ^2) table values

Appendix 9d: Motor Bike Usage

Communities	Yes	No	Total
Communities with less Water and Sanitation facilities	27 (22)	37 (41)	64
Communities with maximum Water and Sanitation facilities	16 (37)	42 (37)	58
Total	43	79	122

$$\chi^2 = (27-22)^2 / 22 + (37-41)^2 / 41 + (16-37)^2 / 37 + (42-37)^2 / 37$$

$$= (1.136) + (0.390) + (11.918) + (0.675)$$

= 14.11

$$C = \sqrt{\frac{\chi^2}{n + \chi^2}}$$

$$C = \sqrt{14.11/122 + 14.11}$$

$$= \sqrt{14.11/136.11}$$

C= 0.32

Calculated (χ^2) value as against (χ^2) table values

	Value	Df	Asymp.Sig. (2-sided)	
			0.05	0.01
Pearson Chi-square	62.41	2	59.34	66.77
	14.11		10.60	15.20
N of valid Cases	122			

Source: Calculated (χ^2) value and (χ^2) table values

**Appendix 10: Community Scoring Sheet under Safe Zone Flag
Methodology Competition
CLIP-WASTE Project
Hygiene and Sanitation Verification Tool (HaSVT)**

Verification Tool (VT) for assessing Communities towards good hygienic and sanitation practices.

SCORING A COMMUNITY USING THE VERIFICATION TOOL

Instruction

The following scoring scheme has been developed for use with the VT. The maximum possible score for each of the indicators is 5 while the minimum is 0. A Community needs to get at least 75 points to be declared as good practitioner of hygiene and sanitation and to be considered for an award of Safe Zone Flag (SZF). A score less than 75 points do not qualify a community to be declared. That community has to reorganize itself and put itself up for verification again at a later date.

Level 1 Verification towards good hygiene and sanitation practices

Name of community.....

Local level unit (town council, unit council etc).....

Date of verification.....

Date community was triggered.....

Background information of the community

Did the community's CSDC meet the whole community to sensitize them on good hygiene and sanitation practices? If Yes (5) marks and if No (0)

How many people were at that meeting?

How many women and children were present?

What dates did the community set for clean-up exercises?

What immediate actions did the community members decide on to undertake to improve upon the community's hygiene and sanitation status? (attach details from Action Plan if there is one)

Who were the CSDC members who championed the HaS action in the community?

- 1.
- 2.
- 3.
- 4.
- 5.

Level 2

The following items must be verified using Spot Observations and Informal Conversations (SOIC) in the community. The team should undertake a community walk through the community to get first hand information on the required items. Each indicator has a maximum of 5 marks while the minimum is 0. Put marks in the appropriate box

1. Absence of Open Defecation (OD) in the community

There are no signs of feces:

- a) On the refuse dumping sites
- b) In the near-by bushes
- c) In between houses (alleys and pathways)

2. The community has implemented actions towards achieving hygienic environment

- i. There is evidence of improved defecation practices (proper disposal of feces, children do not defecate on refuse dumping sites)
- ii. There are local regulations to discourage OD in the community and these are being complied with
- iii. There is evidence of clean surrounding (in and out of the compounds)
- iv. Individual community members (adults) are aware of the general efforts toward improving the sanitary conditions of the community
- v. Children are aware of the of the general efforts toward improving the sanitary status in the community
- vi. There is no evidence of a weedy surroundings

3. Improved drainage system

- a) Construction of Soak away by CSDC and community members as a whole
- b) Community members have constantly clean bathrooms and gutters
- c) Community members who have initiated action on household latrine construction

4. Community self assessment

- i. The CSDCs has embarked on a house to house sensitization campaign
- ii. The community conducted a Self Assessment Test (SAT)
- iii. The community has records of its SAT

5. Hand washing with soap

- a) Availability of hand washing facilities in households
- b) Availability of soap/ash and water in the hand washing facility
- c) Evidence of household members practicing hand washing with soap

6. Waste disposal

- a. Availability of refuse containers in households
- b. Solid waste are properly discharged at designated sites
- c. Liquid waste (fecal matter) are properly disposed

Total Marks

Appendix 11: Transcribed Group Interview on WaS and Poverty Nexus (Kusawgu Kootito)

R: As I mentioned, I am a student in Germany and doing a research in WaS and the contribution of CBOs in this sector. I will like us to discuss some issues with regards to WaS.

Q: How long have all of you been staying in Kusawgu?

All respondents: All our life time

Q: How is the situation of WaS like in Kusawgu?

TAN: Very bad here. We do not have potable water in Kusawgu

AM: Yes it is very serious. Government and NGOs have tried but there is no underground water here.

YL: It is the same with the sanitation. We have no sanitary facilities here like Buipe and other areas

Q: Ok so where do you go to attend to nature's call?

YL: Madam, why are you asking this question? It is the bush of course. We do not have sanitary facilities here. So we do it outside.

SSJ: Some community members do it at the school facility there. That facility over there but it is now very filter and unfriendly to users.

Q: Why do households in the community not having pit latrines?

SSJ: Madam, this question has been asked over and over again by many people not you alone. The problem to me is that we are not punished by our actions.

AM: Madam, we have tried as a community to enforce the laws but they are not working. Community members are not willing to build pit latrines.

Q: AM do you have a facility in your house?

AM: Oh I have started but not yet finish. It is still under construction.

Alhaji: Madam, we are like born into a situation that is eating us up. I am an Alhaji and feel very bad to do it outside but excuse me to say that sometime I find myself outside doing it.

All: Laughing

Q: We were on the water before the sanitation. So where is the community source of drinking and cooking water?

AM: Did you say you went to the dam? Yes! that is our source of water for everything. We use the dam water for drinking, cooking, washing, and also for our animals as well. The dam also serves other communities like Kadigbanto, Bubuaposo, Bulamposo, Galenzegu and Jiramoape.

YL: Madam we are suffering here with water but the politicians will not listen to us.

TAN: The problem is not politicians. There is no underground water here like other communities so what do you want the politicians to do?

Alhaji: All YL is saying is there are other options the politicians can use. They can use surface water and extent it here. Do we have underground water in Tamale? No but they are served with treated water from Dalum. YL is right by mentioning politicians.

SS: Especially now that our MP is from this community and even the DCE.

Q: Oh I see! The MP and DCE are all from Kusawgu here?

All: Yes

Q: What do you think should be done for the community?

AM: Kusawgu is a strategic community and we need water very badly. We would like water to be extended to the community. There was a time when the community even contributed money to have facilities but because underground water is not yielding results, organizations will come and go without a solution.

TAN: I think the community is ready for pipe water if it is extended from any source. We have no underground water but if surface water can be extended what are they waiting for?

Alhaji: Madam, the problem is that, we are not dying. If all of us are dying government will find a solution to the problem.

Q: But what about the sanitation? What should be done?

Alhaji: The problem is that some members are poor and cannot build their own facilities.

Q: But Alhaji, look at that house over there. The whole house is built with cement and they have no resources to build a latrine.

Alhaji: Oh Madam, you see, you are right but this house has been doing it outside all this time and is convenient to do it or they are used to it. Please I am not talking on their behalf. I am just saying this.

AM: The problem is that we are not punished for our actions.

Q: Is Kusawgu aware of CLTS?

All: Yes the community was introduced to the policy.

YL: Madam, the problem is that we have no money. If we get money we will build without being punished.

Q: Ok I want to find out; what is/are the problems with drinking from the dam and attending to “nature's call” outside?

SSJ: Oh this is a straight forward answer. We will fall sick but it is not easy with us. I am aware but there is no option with the water. With the sanitation we can find a solution but the attitudes of the people are difficult to change.

AM: In community meetings we are all aware of the dangers but change is just the problem here.

Alhaji: The others have said it all. We need laws that will hold us responsible.

Q: OK! What are your views on WaS and poverty reduction. Do you think if your community had these facilities you will reduce poverty? What are your thoughts?

TAN: I personally do not think there is significant change in the status of poverty in households when we have WaS facilities and services. Why am I saying so? Take Kusawgu for example. We do not have quality water and improved sanitation systems, but we are better in terms of poverty than others. For instance, the community has electricity, and a lot of people here are doing jobs with this source of energy. The women at the center here are all engaged in one activity or the other. These are increasing their incomes and their ability to meet other family needs. So, WaS to me is not the solution to poverty.

Alhaji: Yes! WaS might just be one of the issues but you know, if you have measures in place you can really curb poverty without relying solely on WaS. You see, we have a lot of facilities here, though, we will still ask for more from government “Oliver Twist asked for more” laughing... With the clinic the community is able to access health care, we also have schools and enrollment is now high. If we maintain these records, we will be able to reduce school dropout and the benefits associated with education. Though we will need water and sanitation, their impact is just minimal. This is my mind.

AM: For me, we will need water very badly here. This is election year and we do not know what this lady is going to do with these questions here and there. It is very important to have water and sanitation. Kusawgu is just in the hands of God. You said you are coming from the dam side. The dam is located downstream and the day epidemic will break, all what my colleagues are saying will be a long story. We have no cemetery here and we bury our people in the houses. Some do not dig deep before burying. In this case, heavy down pour sends a lot of debris into the dam, where we drink from. Again, when there was guinea worm, many people could not attend to their farming activities. This had a subsequent effect on food security during those years. Most household could no more sell their farm produce to buy household assets like bicycles and the rest. Madam, if you can help us with water, it is good.

YL: Please I beg to differ from all what you people are saying. I want to tell the Madam that I am a youth leader and I speak on behalf of the youth here. We think jobs are the solution to poverty reduction. If you have job you can buy good water. Look there, they are selling sachet water but I cannot buy because I have no job that is bring income. You say you are coming from Germany, look at how you are looking. There is no poverty in you because you have money. If we are able to get jobs that would give us incomes, we can afford good water, we can build good houses with sanitary facilities like the ones in the city, we can pay for good education and madam money can buy everything.

SSJ: I am not going to say much but to ask Madam to go out and compare for herself the two communities you said you are doing your studies. Go to Mankpang where they have a borehole from I think they say an NGO and compare with Kusawgu to see whether there are difference in the poverty levels of the communities. If I talk, it would not make difference but you need to check that out yourself (Sakawura Sulemana Jakpa,).

R: I would like to know why some of you have raised these factors or reasons but since there is no time now, I will come at another time for us to continue. I thank you so much for your contribution to this research. I will call on you if there are more questions.

R: Researcher Q: Question AM: Assembly man (Jebuni Mohammed) TAN: Teacher Abudulai Napri

SSJ: Sakawuri Sulemana Jakpa

Alhaji: Alhaji Zontuwura Iddrisu

YL: Abdulai Ewura (Youth Leader)