THE CONTRIBUTION OF THE WORLD BANK IN ACHIEVING SUSTAINABLE DEVELOPMENT GOAL 6 IN GHANA: A CASE STUDY OF THE GREATER ACCRA METROPOLITAN AREA (GAMA) PROJECT

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THIS DISSERTATION IS SUBMITED TO THE UNIVERSITY OF GHANA, LEGON, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE MASTER OF ARTS DEGREE IN INTERNATIONAL AFFAIRS

LEGON **JULY 2019**

DECLARATION

I, Lariatu Sulleyman hereby declare that this dissertation is the outcome of an original research conducted by me under the supervision of DR. DANIEL DRAMANI KIPO-SUNYEHZI and that apart from other words which has been duly acknowledged, no part of it has been submitted anywhere else for any purpose.

…… ……

LARIATU SULLEYMAN **DR DANIEL D.KIPO SUNYEHZI**
(STUDENT) **(SUPERVISOR)**

DATE…… **DATE……**

DEDICATION

I dedicate this work to my family and all who helped me in conducting this research.

ACKNOWLEDGEMENTS

My utmost appreciation goes to Almighty Allah for the inspiration and strength. I wish to also express my gratitude to my supervisor, DR. DANIEL DRAMANI KIPO-SUNYEHZI for his immense support and the critical review of this research. His valuable contributions were fundamental to the successful completion of this Dissertation.

On the whole, this research will not have been fruitful without the help of my respondents and I appreciate their time and support.

LIST OF ABBREVIATIONS AND ACRONYMS

AVL	-	Aqua Vitens Rand Limited
CIDA	-	Canadian Development Agency
CWSA	-	Community Water and Sanitation Agency
CWSP	-	Community Water and Sanitation Project
DANIDA	-	Danish International Agency
EHSD	-	Environmental Health and Sanitation Department
EPA	-	Environmental Protection Agency
ESP	-	Environmental Sanitation Policy
EU	-	European Union
GAMA	-	Greater Accra Metropolitan Area
GDP	-	Gross Domestic Product
GOG	-	Government of Ghana
GWCL	-	Ghana Water Company Limited
HDR	-	Human Development Report
HIV	-	Human Immune Virus
IBRD	-	International Bank for Reconstruction and Development
IDA	-	International Development Association
IMF	-	International Monetary Fund
LICSU	-	Low Income Support Unit
MDG	-	Millennium Development Goals
MLGRD	-	Ministry of Local Government and Rural Development
MTEF	-	Medium Term Expenditure Framework

MWRWH	-	Ministry of Water Resources Works and Housing
NCWSP	-	National Community Water and Sanitation Policy
NGO	-	Non-Governmental Organization
NWP	-	National Water Policy
ODF	-	Open Defecation Free
PAP	-	Project Affected Persons
PCU	-	Project Coordinating Unit
POU	-	Point of Use Technologies
SDG	-	Sustainable Development Goals
SPIS	-	Sub Project Implementers
SRWSP	-	Sustainable Rural Water and Sanitation Project
UESP	-	Urban Environmental Sanitation Project
UN	-	United Nations
UNDP	-	United Nations Development Programme
UNICEF	-	United Nations Children Fund
UWS	-	Urban Water and Sanitation
VIP	-	Village Infrastructural Project
WASH	-	Water, Sanitation and Hygiene
WHO	-	World Health Organization
WRC	-	Water Resource Commission
WSP	-	Water Sector Monitoring Platform

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ABSTRACT

United Nation member states adopted a 15-year plan (17 SDGs) in 2015 to eradicate poverty and make sustainable development a reality. SDG 6 (Universal access to water and sanitation) is one of the goals and the achievement of this objective is a significant challenge to developing nations as a result of the absence of political will, financial constraints, overpopulation, etc. World Bank has been a major contributor to this sector globally by funding projects to ensure access to water and sanitation. The study examined the World Bank GAMA project in Ghana which was implemented in 2013 and projected to end in 2020 and how it will help Ghana achieve SDG 6. To investigate this issue, qualitative research method was used in conducting the research with purposive sampling method. The conceptual framework of Human Security was used with emphasis on environmental security. Data for the study were obtained from primary sources through semi-structured interviews and from secondary data sources. The study found out that the project has put in place some mechanisms which have increased access to water and sanitation and improved the quality of life of the people with other secondary benefits such as health, economic, social, environmental benefits, among others. However, the project is faced with implementation challenges such as availability of land, human resource constraints, financial constraints, among others. The study recommends that all stakeholders must be engaged extensively, contractors with financial capacity should be employed, there should be a thorough assessment of the targeted areas and the implementing teams must be resourced efficiently while ensuring effective enforcement of sanitation laws and building codes.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Development has been defined by scholars in a myriad of ways. According to Michael Paul Todaro (1981) a development economist, development is not purely an economic phenomenon but rather a multidimensional process involving reorganization and reorientation of entire economic and social system. Development is also the method of enhancing the quality of all people's life with three equally significant aspects (Todaro & Smith, 2011, p.13). That is, raising people's living standards, increasing people's self-esteem to support dignity and respect for humanity and finally, enhancing the liberty of people by selecting from a variety of factors. The Brundtland Commission (1987, p. 56) explains sustainable development as "development that meets the needs of the present without compromising the need of future generations to meet their own needs".

The millennium Development Goals (MDGs) were created by United Nations (UN) in 2000 which included a set of eight goals and became the centrepiece of development efforts of poor nations around the world. The MDGs guided global development efforts for fifteen years and enabled countries to address matters of poverty, lack of adequate shelter, diseases, hunger and exclusion whereas endorsing equality, education and sustainability of the environment. The Sustainable Development Goals (SDGs) have succeeded the MDGs, which are a set of seventeen (17) objectives aimed at combating extreme poverty but will also add the challenges of ensuring equitable development and environmental sustainability (UN, 2015a). The SDGs were developed based on the achievements and challenges of the MDGs. In goal 7c of the MDGs that is to halve

the proportion of the population without sustainable access to drinking water and basic sanitation by 2015 stressed on the importance of water and sanitation.

In the same vein, SDG 6 aims to ensure accessibility and sustainable water and sanitation management for all by 2030. Target 6.1 emphasizes on the need to achieve universal and equitable access for all to clean and affordable drinking water by 2030. Target 6.2 of the SDG aims at ensuring access to adequate and appropriate sanitation and hygiene for all and to put an end to open defecation, paying specific attention to the requirements of women and girls in vulnerable conditions to work diligently to bridge the access and equity gaps. This study mainly focused on target 6.1 and 6.2 of the SDGs. Access to drinking water and basic sanitation is evaluated using SDG indicators that focus on the percentage of the populace using an enhanced drinking water source and the percentage of the people using an improved sanitation facility (WHO/UNICEF, 2017).

Access to water and sanitation in urban areas is rarely greater than in rural settings, with the exception of countries that have attained universal coverage. Improved sanitation increased from 76 percent to 80 percent in urban areas from 1990 to 2012 and from 28 percent to 47 percent in rural areas globally. However, in urban areas, individuals without sanitation have grown from 215 to 756 in 2012 owing to overpopulation growth that outstrips individuals with access (WHO/UNICEF, 2014). Most of the populace deprived of quality water source and sanitation facilities are in South-East Asia and Sub Saharan Africa. Although most regions without enhanced water are rural, absence of sanitation impacts urban as well as rural regions (WHO/UNICEF, 2014). Conditions in Sub-Saharan Africa tend to be severe, with an estimated 42 percent of the

population lacking access to quality water, while 64 percent of the populace lacks access to improved sanitation with hygienic-related deaths being greater than any other (Montgomery & Elimelech, 2007). Even though the world has met the MDG drinking water goal of halving the total population without sustainable access to drinking water, 748 million individuals usually still do not have access to a quality source of drinking water (WHO, 2014).

Approximately 2.5 billion individuals worldwide have no access to enhanced sanitation, which is more than 35 percent of the world's population (WHO/UNICEF, 2014). Globally, around 892 million individuals have been reported to practice open defecation primarily because they have no access to a toilet facility (WHO/UNICEF, 2017), hence, they are left to attend to natures call in hidden places, beaches, bushes or in isolated places. Open defecation is possible to worsen environmental health hazards in a country that is already susceptible to diseases such as malaria, diarrhoea, dysentery, cholera and bilharzia. For good health, survival, growth and development, safe drinking water, sanitation and excellent hygiene are crucial in attaining these. Nevertheless, these necessities have become a luxury which poor people are deprived of as they are unable to afford them. Reports indicate that 1 out of 3 women and girls do not have access to decent toilets and this has serious implications on their health and security (WaterAid/Unilever, 2013).

According to UNICEF Ghana 2013 report on Advocating for Development That Leaves No Child Behind, although Ghana is on track to achieve the Millennium Development Goal, 89 percent of the population have access to quality drinking water sources whereas access to improved sanitation is extremely low. Only 15 percent of the inhabitants have access to adequate sanitation, which is far below the MDG target of 54 percent. With the death of thousands of children a year due to

diarrhea, the main issue in improving children's health in Ghana is to take sanitation seriously. The Water Sector Monitoring Platform (2009) predicts that 76.6 percent of the rural populations have access to improved water sources, household connections, government pipes, boreholes, well-protected spring or rainwater collection in Ghana. Meanwhile, the overall improved sanitation coverage for Ghana has been 14 percent from 2010 through to 2012 (World Bank, 2015). The World Bank's country environmental analysis in Ghana revealed that health costs arising from the country's poor water quality, sanitation and hygiene are equivalent to 2.1 percent of annual GDP, and Ghana loses GHS 1.4 billion annually owing to poor sanitation.

In achieving SDG 6, the World Bank is sponsoring a project in the Greater Accra Metropolitan Area called GAMA project. The project's goal is to enhance access to improved sanitation and quality water supply in 11 chosen Metropolitan and Municipal Assemblies, with a focus on low-income communities. The areas of implementation include Ga West Municipal Assembly (GWMA), Tema Metropolitan Assembly (TMA), Ledzorkuku Krowor Municipal Assembly (LEKMA), Accra Metropolitan Assembly (AMA), Ga South Municipal Assembly (GSMA), La Nkwantanang-Madina Municipality (LANMA), Ashaiman Municipal Assembly, (ASMA), Adentan Municipal Assembly (ADMA), Ga East Municipal Assembly (GEMA), La Dade Kotopong Municipal Assembly (LaDMA) and Ga Central Municipal Assembly (GCMA). The project is estimated to cost USD 150 million (Mammo, 2019). The fund is also projected to promote natural resource management in Ghana more sustainably. The World Bank GAMA project also provides toilets facilities to some selected public schools who are in dire need of sanitation facilities. These are all efforts towards achieving SDG 6 in Ghana, especially in the Greater Accra Region.

1.2 Statement of the Research Problem

In Ghana, about 85 percent of the population do not have access to any sanitation facility and approximately 13 percent lack improved water facilities (WHO/UNICEF, 2014). In 2015, Ghana became the 7th worst-performing nation in the world in terms of sanitation (WHO/UNICEF, 2015). There have been various interventions and policies in Ghana to meet SDG 6 some of which include the creation of Community Water and Sanitation Agency (CWSA), Local Government, etc (World Bank, 2017b). Despite these interventions, the problem of water supply and sanitation still persist in the country. Ghana failed to fulfill its Millennium Development Objective (MDG) for sanitation by setting the aim of achieving 54 percent improved sanitation coverage, but only a modest 15 percent was achieved (WHO/UNICEF, 2015). The president of Ghana, Nana Addo Dankwa Akuffo Addo, has pledged to make the country's capital city- Accra, one of the neatest cities on the African continent by 2020.

The World Bank has been a major contributor to countries in helping to achieve the SDGs. One of the interventions of the World Bank is funding the GAMA project to provide clean water and improved sanitation to low-income communities. Some studies have been conducted in areas of access to potable water and sanitation but not much research has been conducted on the interventions the World Bank has made towards achieving SDG 6 in Ghana. It is against this background that I am motivated to investigate this social phenomenon (water and sanitation). This study specifically seeks to assess the contribution of the World Bank in achieving SDG 6, a case study of GAMA project.

1.3 Research Questions

- What are the mechanisms put in place by the World Bank GAMA towards the achievement of SDG 6 in Ghana?
- What are the importance and benefits of GAMA project?
- What are the challenges encountered by the World Bank GAMA project and measures to ensure effective implementation?

1.4 Objectives of the Study

- Examine mechanisms put in place by the World Bank GAMA project in towards the achievement of SDG 6.
- Assess the importance and benefits of World Bank GAMA project.
- Identify the challenges encountered by the World Bank GAMA project and propose measures to ensure effective implementation.

1.5 Scope of the Study

The study seeks to ascertain the contributions of the World Bank GAMA project in achieving SDG 6 in the GAMA area specifically in two selected assemblies which include, Ga West Municipal Assembly and Ledzorkuku Krowor Municipal Assembly from 2013 to 2019. The choice of the 6 years was informed by the time that the project was put in place in achieving access to clean water and sanitation in GAMA by the World Bank. The two assemblies were also selected because those are areas with high demands of the project in GAMA (GAMA, 2019).

1.6 Rationale

The relevance of this study is to add knowledge on how to achieve SDG 6 in Ghana by using the World Bank GAMA project as a case study. It will hopefully add to the creation of awareness about the sanitation and water issues with its accompanying health problems, especially in the Greater Accra Metropolitan Area. The study may also be relevant because it will come out with recommendations that will enhance the effective implementation of the World Bank GAMA project towards achieving SDG 6 in Ghana and other countries with a similar setting.

1.7 Conceptual Framework

This study is conducted through the conceptual framework of Human Security. The 1994 UNDP (United Nations Development Programme) Human Development Report (HDR) laid emphasis on the need for human security. It describes human security as "freedom from fear" and "freedom from want". Freedom from want has to do with activities such as gainful employment, good health, food and shelter. Freedom of want emphasizes activities that will lead to basic human requirements such as food and shelter and a longer-term need for growth that will achieve sustainability in the future (Tadjbakhsh, 2005). On the other hand, freedom from fear deals with activities that are related to violence such as sexual violence, wars, natural disasters and ethnic strife. It aims at creating a violence-free day to day life for all (Tadjbakhsh, 2005). Sanitation and water can be defined under freedom of want because it calls for providing the population with basic needs of sanitation and water for survival. The 1994 HDR further characterised human security as "safety from chronic threats such as hunger, disease and repression as well as protection from sudden and harmful disruptions in the patterns of daily life – whether in homes, in jobs or in communities" (UNDP, 1994, p. 23). Furthermore, "human Security complements state security,

strengthens human development and enhances human rights" (Commission On Human Security, 2003, p. 2). It was the 1994 UNDP HDR that made human security a common currency among international affairs scholars and practitioners (Shinoda, 2004).

The 1994 HDR recognised seven categories under which human security may be considered. These categories include community security, environmental security, political security, food security, health security, personal security and economic security (UNDP, 1994, p. 25). Environmental security is relevant to this study because it protects human life from environmental threats such as lack of access to clean water, air pollution, natural disasters, deforestation, salinisation, etc. Environmental security is accomplished when people and groups are able to prevent or adapt to changes in the environment so as not to undermine their fundamental needs, rights and values (Barnett, 2010). When individuals have insufficient food, water, shelter or natural resources required to survive, it generates unstable situations. Environmental security considers environmental processes and natural resources as a catalyst for conflict and barriers to human well-being, and contrarily as a means of decreasing or addressing insecurity. Environmental security is generally recognised as a basis for human security, crucial for sustainable living, health and well-being among households and communities (Scott & Thapa, 2015).

Economic security is concerned with securing fixed earnings. Food security is about the financial and physical access of all people to food. Health security is about providing a healthy atmosphere and health facilities. Personal security is designed to safeguard human life from threats by states and other groups of multiple types of violence, such as war, national violence, ethnic conflict and tension. Community security is concerned with factors that threaten the existence and social

cohesion between people and communities, including ethnic clashes and oppressive practices. Political security is about human rights protection and democratization (UNDP, 1994).

According to the 1994 HDR, it recognised four basic human security features. Human security is universal, its components are interdependent, its prevention-oriented and intrinsically people-centred (UNDP, 1994, p. 22-23). It is universal in the sense that it is relevant to people everywhere and is for everyone. Its components are interdependent implies threats to human security are interconnected. According to Tadjbakhsh (2005), they are interconnected in two ways First, they are mutually linked in domain. Example, the deterioration of education can contribute to unemployment leading to poverty. Secondly, several threats can spread across a particular country. An example is a spillover effect into other regions through massive migration as a result of unemployment (Tadjbakhsh, 2005). It is people-centred because it is about how individuals live, and it puts people at the centre of analysis when it comes to security. It can be prevented in the sense that it relies on measures to prevent threats rather than reacting to situations (Kaldor, Martin, & Sechow, 2007).

Mahbub ul Haq led the establishment of the HDR 1994, he launched the report in 1990 and the goal was to put people at the centre of analysis of the development process. Persons such as Paul James, Garry King, Christopher Murray, Caroline Thomas, Roland Paris, Leaning and Arie are some proponents of human security. Traditionally, it is the responsibility of the state to provide human security but since the safety of people has become transnational, international institutions and organisations such as World Health Organization, United Nations Children Fund, World Bank, etc have taken the responsibility to support and provide human security (Tadjbakhsh, 2005). Thus,

the reason why this international organisation (World Bank) is funding the GAMA project in Ghana as a way of working towards the achievement of SDG 6.

This conceptual framework has been used by scholars in the area of international relations but has not been spared from criticisms. Duffield and Waddell (2004, p. 18), argued that by linking security with development, there is a division between those who have and those who do not have that is states that can provide their people with human security (Western, developed) and those that cannot (Third, underdeveloped). The concept's most prominent criticism relates primarily to its conceptual ambiguity, absence of an accurate definition. Paris (2001, p. 88) affirms that human security can be linked to other equally vague concepts such as sustainable development, everyone embraces it, but few individuals have a clear knowledge of what it means. Furthermore, Newman (2010, p. 82) refers to it as "normatively attractive but analytically weak". According to Tadjbakhsh (2005), G77 critics argue that the concept is another ethnocentric paradigm that reinforces developed countries economic might. It also serves as a means by which the West will impose on non-Western societies its liberal values and political institutions. Other critics argue that the concept was adopted by nations to complement hegemonic interests rather than challenge or transform them in order to further their own needs (Black, 2016). Suhrke (1999) adds that non-military middle powers like Norway, Japan, and Canada have embraced the notion of human security in order to enhance their own positions in the international system. The concept is significant to this study because it emphasizes the need to safeguard and provide the means of existence for people, as well as the ethical obligation to intervene in cases where their security is at risk. With issues of existence, water and sanitation are crucial.

1.8 Literature Review

United Nations Member States endorsed the 2030 Agenda for Sustainable Development on 25 September 2015 (UN, 2015). The 2030 Agenda includes 17 Sustainable Development Goals and 169 social, economic and environmental development objectives to end poverty, protect the planet and ensure prosperity for all (WHO/UNICEF, 2017). The SDGs were designed to replace MDGs and was built on the successes and failures of the MDGs. The MDGs held sway from 2000 to 2015. WHO/UNICEF (2017), defines improved drinking water sources as "those which by nature of their design and construction have the potential to deliver safe water while improved sanitation facilities are those designed to hygienically separate excreta from human contact". The relevance of SDG 6 cannot be underestimated considering the health consequences of water and sanitation and the impact it has on a country's growth. SDG 6 has eight targets and eleven indicators which will help track the progress made in achieving targets. WHO/UNICEF (2014) asserts that more than 2 billion individuals have access to improved drinking water sources since 1990, and nearly 2 billion have access to improved sanitation. Globally open defecation reduced from 24 percent to 14 percent amid 1990 and 2012.

A study conducted by Ranjula Swain (2017) titled a 'Critical analysis of the SDGs', recognised some criticism against the SDGs as being uncertain, hard to quantify, implement and supervise. Literature shows that there is the likelihood of inconsistency predominantly between socio-economic development and the objectives of environmental sustainability. She added that critics are also questioning the measurability and tracking of the generalised SDGs. The writer predicted that the sources of financial and investment funds are uncertain for SDGs. Her work generally looked at the disparities in the SDGs and scrutinizes the economic, social and environmental

factors as most efficient for attaining the goals. The research indicated that developed countries should remain focused on their environmental and social policies to assist in accomplishing these objectives. Another recommendation is that developing countries should concentrate on environmental policies in order to attain their goals, as they do well in their economic and social policies.

World Bank (2009) wrote on IDA at Work: Sanitation and Water supply, Improving Services for the Poor. The article showed that the World Bank has been enthusiastic in achieving safe water and sanitation to its clients and partners, making a true difference in poor people's life. The International Development Association (IDA) which provide funds to poor countries, has worked to enhance access to water and sanitation in the poorest countries of the world and it has experienced true progress over the last 15 years (World Bank, 2009). The IDA has been able to undertake successful programs which have contributed to improvement in water and sanitation globally. A country based approach, budget support, international cooperation, operational experience and research capacity among others are the factors used to accomplish positive results by the Bank. The article further indicated that the World Bank partners with the African Development Bank and other donors to support national programs for water and sanitation supply in rural and urban areas. It recommended project designs such as using suitable technologies, demand-responsive service delivery approaches and managing services at the lowest price to attain sustainability. A major challenge to the development association lies in broadening and deepening investments and reform efforts. This paper is important to this research because it highlights the efforts and initiatives of the World Bank to improve access to water and sanitation globally of which Ghana is a part and therefore the need to look into the role of organisations such as World Bank in assisting Ghana to improve access to water and sanitation.

Paul W. Jowitt (2008) in his study, Water Infrastructure, the UN MDGs and Sustainable Development reviewed some of the problems linked to international development, delivery of UN MDGs and efficient water supply and sanitation. According to his study, he pointed out that, infrastructure delivery is lacking on the African continent and there is the need to make investments in these areas to increase access to water and sanitation. He argued that those stuck in poverty will have difficulties in providing the necessary resources to resolve their plight. He mentioned that the wide gap between the rich and poor, undesirable political immobility and treacherous effects of corruption have affected delivering of infrastructure in water and sanitation.. His study predicted that all the MDGs rely on the delivery of infrastructure and education. The study discovered that without the requirements for development namely; reasonable governance structure, a functional civil society, corruption, freedom from persecution and conflict, there will be no development.

The writer recognised that the MDGs are seen as an engineering project and the biggest way to attain the highest result is through the engineering of infrastructure that delivers. He gave recommendations such as the need to concentrate on sustainable development through a people-centred strategy to poverty reduction, capacity building and community engagement to attain sustainability. This particular research aims at examining some of the challenges that are related to international development and delivery of the UN Sustainable Development Goals by focusing on World Bank GAMA project and how their intervention is increasing access to water and sanitation in Ghana. It will further examine the study from a different perspective that is Sustainable development Goals which succeeded the MDGs.

Montgomery & Menachem (2007), analysed water and sanitation in developing countries by introducing health in the equation. They argued that to achieve good health there should be an improvement in global access to clean water and safe sanitation as millions of deaths in the developing world are linked to poor sanitation and water resources. They suggested that when the local community partner with the government to implement water and sanitation facilities, it will lead to sustainable global coverage. Their study identified three themes about water, sanitation, and hygiene. First, water and sanitation improves health and leads to other secondary benefits. Also, researchers should emphasize constructing interventions that will completely deal with the influence of environment, culture and economics in the implementation and maintenance in order to achieve sustainability.

Finally, in order to enhance access to water and sanitation, barriers such as absence of investment, lack of political will and difficulties in the maintenance of services need to be addressed. The article predicted that there are three main factors of exposure and these are: social, economic and environmental conditions which serve as pathways for pathogens. Therefore, to block the pathogen's path we must deal with the economic, cultural and environmental conditions of a community. Montgomery & Menachem (2007) noted that the government should shift attention from providing centralized treatment systems to household techniques such as Point of Use (POU) technologies as the centralized systems do not serve everyone, particularly those in the rural areas. The centralized system has lots of limitations such as high cost, difficult to maintain, lack of proper operation, etc. The authors asserted that ventilated, enhanced latrines should replace traditional sanitation systems as they harbour offensive odours. They listed financial constraints and corruption as challenges in providing sanitation and water facilities. They proposed good policies,

funding initiatives, improved technologies and community-based research as solutions to the challenges. This article is relevant to this study because it addressed most of the importance of water and sanitation in developing countries including Ghana as a means of improving people's health and enjoying other benefits.

Bartram & Caincross (2010), wrote an article titled 'Hygiene, Sanitation, and Water: the Forgotten Foundations of Health'. They supported the idea that thousands of deaths can be prevented if we practice good hygiene and use improved water and sanitation. Diarrhoea is estimated to have killed more young children relative to HIV, tuberculosis and malaria deaths combined especially in the developed countries. They also argued that water and sanitation diseases can lead to malnutrition and even pneumonia in children. Their study predicted that not only does the intervention prevents deaths, it also saves cost, time and boost school attendance and reduce dropout rates. They added that not only does the intervention benefits the individual but to the state as well. According to their study, problems of hygiene, sanitation and water cannot be eliminated with development as many believe. Nonetheless, development only helps in the satisfaction of demand for services, but health issue remains. They introduced a new measure to curb issues of water and sanitation by focusing on health practitioners. They identified five main duties that health professionals needed to enhance the condition; (1)Maintenance and periodic facilities replacement, (2) establishing new set of facilities to handle population growth, (3) provision of additional target to meet the MDG target, (4) provision of improvement of existing structures so that all can benefit from it and (5) exposure to everyone to be well-conceived in hygiene promotion. This paper is relevant to my research because it adds to the debates on the importance of water and sanitation and helps to raise

awareness about water and sanitation issues as key to excellent health and this is very helpful in evaluating individuals' quality of life.

Akinlolu Omisore (2018) wrote on attaining SDG in Sub Sharan Africa, the need to address environmental challenges. The writer argued that SDGs have three main dimensions that are, economic, social and environmental which are interrelated and interconnected (UN, 2015a). According to Akinlolu, the main obstacle in Sub Saharan Africa's quest in achieving SDGs is environmental challenges. The environment is vital to sustainable growth and development and the environment through creative policies can be a significant centrepiece of beneficial financial and social change (United Nations Economic Commission for Africa (UNECA), 2015). He stated that half of the SDGs are linked to environmental sustainability and there is no single objective without an environmental target to it (United Nations Environmental Programme, 2015). Most of the African countries failed to achieve the environmental sustainability target. He suggested that Africa should harness its environmental resources to attain socio-economic growth and prioritize environmental-related SDGs to fix the issue. He went on to say that capacity building, incorporating objectives and developing policies that will attain sustainable development, tracking, planning and assessment can help address environmental issues. He concluded by stating that Africa will stay a mirage if environmental issues are not addressed. The series of poverty and bad governance of the environment in Africa leads to never ending unsustainable development.

Mugagga & Nabaasa (2016), in their work the centrality of water resources to the realization of sustainable development goals, reviewed the potentials and constraints on Africa's pursuit of the SDGs. The article argued that Africa is blessed with abundance of water resources, but this is just

a fantasy because most of the water is not consumable due to its saltiness. (UN, 2015: World Business Council for Sustainable Development (WBCSD), (2016). Their main argument is that for Africa to achieve SDGs it must tap its water resources appropriately which can lead to development by boosting sectors such as agriculture, livestock, energy, manufacturing, tourism, etc. They believe water is a required resource in achieving SDGs. However, challenges such as degradation and underutilization of water have hampered Africa's quest to achieving SDGs. Similarly, they recommend the continent can do better if member countries become committed and invest more in the sector by developing sustainable policies and cooperating with neighbouring communities in water resource management. This study is relevant to my work because it emphasizes the need for African countries including Ghana to develop water resources to achieve SDGs. It however, failed to recognise financial constraints by African countries in tapping water resources.

Awuah, Nyarko & Owusu (2008) examined water and sanitation in Ghana and identified financial constraints as one of the main variables hampering the country's efforts in achieving access to water and sanitation. Their study focused on the performance of water and sanitation in urban and rural areas in Ghana. The study indicated that in Ghana, the government depends on loans and grants to provide for these services (Awuah et al, 2009). The government of Ghana has implemented policies to address issues of water and sanitation, but enforcement is proving futile. They also acknowledged that in order to achieve the MDGs, the urban sector must deal with the population as this is the main problem but not with the facilities present. Also, sanitation facilities must be improved in the rural areas as this is estimated to be lacking in the rural areas. Furthermore, they argued that the water sector has received much attention than the sanitation sector. They

recommended that to solve this problem, sanitation needs to be given maximum attention and government should adopt policies that are attractive and beneficial to the local communities. The country's water and sanitation database need to be enhanced in order to educate individuals about the accurate scenario at hand. This study is significant to my research because it indicates the challenges of providing water and sanitation in Ghana. This particular research will examine the idea from a different dimension by concentrating on the challenges of an institutional donor's (World Bank) intervention in water and sanitation and how it has contributed to attaining SDG 6.

Alagidede & Alagidede (2015) in their study wrote on 'The Meeting and Missing target; Public Health Dynamics of Sanitation and Water in Ghana'. They acknowledged sanitation and water as important indicators to a healthy nation. They opined that improved access to quality water has been achieved, but less in sanitation. Their study revealed that there is a link between water, sanitation, and poverty (Lynch & Mathew, 2010). The study suggested that prior to the MDGs most Ghanaians had access to improved water with a wide gap of access between rural and urban dwellers with urban settlers having access to quality drinking water more than rural inhabitants. To them, improvement of water in Ghana is partly due to the creation of public awareness on the benefits, health-related diseases and Non-Governmental Organizations measures to provide sanitation and water services.

They added that sanitation has not received much improvement and the greater part of the population live without toilets and practice open defecation (19 percent). Water cost is expensive and must be brought to the level of the ordinary person in order to gain access. They recommended that more education, public-private partnership, investments, and policies should be adopted to

improve the sanitation condition of the country. A guiding lesson from the study is that a common health issue that Ghana faces is akin to water and sanitation and as such needs to be addressed. This study failed to discuss the role played by international institutions to attain SDG 6 (water and sanitation) although their work adds to the debates on challenges and solutions to the water and sanitation issues of the country. In this regard, this work will add to the growing literature on the contribution of the World Bank in achieving SDG 6 in Ghana.

1.9 Methodology

Research design is the plan, structure, strategy, and investigation adopted to obtain answers to research question and control variance (Ahuja, 2010). Basically, It pertains to the general approach that we employ to assimilate various components of the study in order to address research questions. There are three main types of research design, namely quantitative, qualitative and mixed method (Creswell, 2014). This study employed a qualitative method of research to address the research questions and objectives of the study.

Quantitative research method is a technique by which the findings are generally explained by numbers. Quantitative research is a type of research that explains a phenomenon by collecting numerical data analysed using techniques based on mathematics (Creswell, 1994). It uses graphs, questionnaires or statistics. Originally, quantitative research subscribes to the principles of positivism- the point of perspective that "social research adopt a scientific method, that the method is exemplified in the work of modern physicists, and it consists of rigorous testing of hypotheses by means of data that take the form of quantitative measurement" (Teddlie & Tashakkori, 2009). Normally, quantitative research techniques are used in circumstances where the researcher wants

to study how a particular variable impacts another, ignoring the effects of other factors. An advantage of this method is that it is easy to measure and interpret. This strategy has been criticized as not being able to explain how social reality is formed and preserved, or how individuals interpret their behaviour and the actions of other people (Blaikie, 2007).

Creswell (2013) believes that mixed methods in health and social sciences are relatively new and developing, combining statistical trends and stories to study human and social issues. In the same research, a mixed method combines quantitative and qualitative techniques to gain complete knowledge of the phenomenon under study. Choy (2014) compares the advantages and limitations of qualitative and quantitative studies and concludes that both methodologies may be suitable however, he argues that the combination between the qualitative and quantitative methods for the same research subject can produce better outcomes than using a single isolated methodology. A limitation of this method is that it is time-consuming and difficult to interpret because of the multiple sources of data (Creswell, 2014).

According to Flick (2014), Qualitative research is interested in analysing subjective meaning or the social production of issues, events or practices by collecting non-standardised data and analysing texts and images rather than numbers and statistics. Many researchers with qualitative orientation subscribe to a world view known as constructivism and its variants. Constructivists believe that researchers develop the meaning of the investigated phenomenon individually and collectively (Teddlie & Tashakkori, 2009). An advantage of qualitative research is that it gives a thorough description of the respondents' feelings, views and experiences and interprets the meanings of their behaviour (Lincoln & Denzin, 1998). Qualitative research design has a flexible

framework as the design can be more extensively created and rebuilt to a higher extent (Maxwell, 2012). Its main advantage, which is also its basic difference with quantitative research, is that it offers a complete description and assessment of a research topic without limiting the scope of the study and the nature of the respondent's feedback (Collis & Hussey, 2003). Limitation of this approach is that it sometimes omits contextual sensitivities and concentrates more on meanings and experiences (Silverman, 2009). The analyses of the cases take a significant amount of time and can only be generalised in a restricted manner to the larger population (Flick, 2011).

The reason for my choice of qualitative research method is that it entails explanations which are required to understand how the World Bank has contributed to achieving SDG 6 in Ghana a case study of the GAMA project. Another reason for employing this method is that it will help me to interview people in their homes and offices. Qualitative research method will assist to define and comprehend the meanings given to a social phenomenon by people or groups and will help to conduct an in-depth analysis of the subject under study. According to Creswell (2014), a study that aims at examining an in-depth analysis needs a solid qualitative approach thus my choice of qualitative research method.

In research methodology, research strategy is understood as the "general plan of how the researcher will go about answering the research questions" (Saunders, Lewis & Thornhill, 2009, p. 90). The main strategies include ethnography, experiments, archival research surveys, case studies, grounded theory, action research and archival research (Shruti, 2016). This research chooses a case study research strategy because it investigates a bounded system (a case) over time through comprehensive in-depth data collection involving various sources of information (e.g.

observations, interviews, audio-visual material, documents and reports) and presents a case description and case-based themes.

With regards to the sampling method, the study employed purposive sampling to develop the sample for the research. Purposive sampling is also known as judgement sampling. In this technique, the researcher selects his informants on the basis of the qualities they possess (Tongco, 2007). The researcher designs questions and reaches out to people who can offer vital information by virtue of their knowledge or experience. Purposive samples are used if the objective is to describe rather than to generalise (Dawson, 2002). This method was used because it helped in interviewing individuals who are knowledgeable and can give relevant information regarding the topic under investigation. Thus, the reason for my choice of purposive sampling method was to interview persons who have knowledge on the GAMA project towards achieving SDG 6. The selection was also based on where they work and their positions as well as the beneficiaries.

1.9.1 Sources of Data

The study employed the use of both primary and secondary data sources. The main source of data for this study was primary data. Semi-structured interviews were conducted with key and expert persons at GAMA, Ministry of Sanitation and Water Resources, The World Bank, Environmental Health and Sanitation Departments (EHSD) of the two selected assemblies and beneficiaries of the project in order to get the necessary information. The use of interview is one of the most widely acknowledged forms of qualitative method of research (Dawson, 2002). The primary function of the interview is to comprehend what the interviewees are saying (Kvale, 1994). The sampling method used was purposive sampling method and the sample size was 20 people. The rationale for

choosing the 20 people in total from different institutions is to be able to get information from diverse groups where different views were sought. Out of the 20 people that were interviewed, 10 were beneficiaries with 5 from Ledzorkuku Krowor Municipal Assembly (LEKMA) and 5 from GA WEST municipal assembly respectively. The other 10 people interviewed include 1 official from World Bank, 1 from MSWR, 3 officials from PCU, 2 officials from GWCL, 2 officials from LEKMA, and 1 from Ga West.

The study also made use of secondary data, obtained from books, articles, dissertations, internet sources, etc. According to Cowton (1998), "secondary data complements primary data". Secondary data consist of data that are studied to address a research question other than questions for which the data were initially gathered (Vartanian, 2010). It is basically datasets that have already been gathered by governments, research organizations and in some cases agencies that give easily accessible resources and information to the researcher. The main advantage of this is that, it gives the researcher access to large amounts of information, it is less costly and takes less time (Vartanian, 2010).

1.9.2 Data Analysis

Le Compte, Schensul & Jean (1999) defines analysis as the "technique used by a researcher to decrease information to a story and its interpretation. Thematic analysis was used to analyse the data that was gathered. Thematic analysis is a technique used to establish, analyse, organise, describe and report themes discovered within a data set (Braun, Clarke & Weate,2006). The rationale for thematic analysis is to be able to do analysis along major themes. Thematic analysis is used because it helps the researcher come up with patterns of themes that will support addressing

the research questions. Thus, data in this study are presented along with the main themes and sub-themes.

1.9.3 Ethical Consideration

Cooper and Schindler (2008) have defined ethics "as the norms or standards of conduct that directs moral choices about our behaviour and our associations with others". Ethical consideration of the study includes a presentation of the findings in a true and fair manner and acknowledging the origins of publications. Also, participants consent were sought before conducting an interview with them and how they wanted the interview to be done. Participants were informed on how their data will be used, what will be done with their case materials, photos, audios, and video recordings. Thus, the informed consent of participants was sought, privacy, voluntary participation, anonymity and confidentiality adhered to and respected.

1.9.4 Limitations of the Study

The research experienced few challenges during the data collection and information gathering phase. A significant challenge in the targeted institutions was the reluctance of some authorities to avail themselves in sharing data. This affected the time used in collecting data. Another challenge was the time assigned to conduct the research. Despite these constraints, the study managed to cover all the main points in order to attain the above-mentioned objectives.

1.10 Arrangement of Chapters

This research has four main chapters. Chapter One is the introduction which presents the background to the problem, objectives of the study, its scope, rationale, literature review,

methodology and conceptual framework that guided the study. Chapter two gives an overview of SDGs and World Bank water and sanitation projects. Chapter three focuses on the contributions, benefits, challenges, and interventions by the World Bank GAMA project in achieving SDG 6 in Ghana. Chapter Four comprises of the summary of findings, conclusions, and recommendations.

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CHAPTER TWO

OVERVIEW OF SDGS (GOAL 6) AND WORLD BANK WATER AND SANITATION PROJECTS

2.0 Introduction

This chapter commences with the United Nations (UN) Sustainable Development Goals (SDGs) and narrows it to SDG 6 which is on achieving universal access to clean water and sanitation. The chapter further discusses SDG 6 in Ghana, the challenges, funding and private sector involvement in providing water and sanitation facilities. The chapter concludes by looking at the World Bank's water and sanitation projects globally and settles on projects in Ghana and how they have effectively contributed to universal access to clean water and sanitation.

2.1 General Overview of the UN SDGs

United Nations developed a set of global Sustainable Development Goals which consist of seventeen goals and 169 targets and serves as a framework for member countries to formulate their agendas and policies (Tomáš, Svatava, & Bedřich, 2016). The 2012 UN Rio+20 Summit in Brazil pledged governments to establish a set of Sustainable Development Development Goals (SDGs) to be incorporated into the Millennium Development Goals (MDGs) after its target date in 2015 (Griggs et al., 2013). The SDGs were proposed as a means of succeeding the Millennium Development Goals and to serve as the framework for development in the international system by UN member states from the period of 2015 to 2030 (Le Blanc, 2015). Unlike the Millennium Development Goals, the SDGs extend to all countries and are universal objectives and goals. It expresses the need and opportunity for the global community in building a sustainable and good

future in an increasingly interconnected world (Costanza, Fioramonti, & Kubiszewski, 2016). The overall aim of SDGs is to encourage human dignity and well-being while preserving the essential ecosystem services and biophysical processes of the earth (Nilsson, Griggs, Visbeck, Ringler, & McCollum, 2017). They recognise that terminating poverty and inequality must go hand in hand with policies that encourage sustainable economic growth, peace and justice. Address fundamental social requirements, such as social protection, health education, work prospects, climate change and improve the security of the environment (Nilsson et al., 2017). The 17 goals developed by UN include, Goal 1: No poverty, Goal 2: Zero Hunger, Goal 3: Good Health and Well-being, Goal 4: Quality education, Goal 5: Gender equality, Goal 6: Clean water and sanitation, Goal 7: Affordable and Clean Energy, Goal 8: Decent work and economic growth, Goal 9: Industry, innovation and infrastructure, Goal 10: Reduced inequalities, Goal 11: Sustainable cities and communities, Goal 12: Responsible consumption and production, Goal 13: Climate action, Goal 14: Life below water, Goal 15: Life on land, Goal 16: Peace, justice and strong institutions and Goal 17: Partnership for the goals (UN-Department of Economic and Social Affairs, 2019). This research is focused mainly on goal 6 particularly target 6.1 and 6.2.

SDG 6 is one of the seventeen goals which aims to ensure that water and sanitation are available and sustainable for all (Ortigara, Kay, & Uhlenbrook, 2018). When world leaders met to develop the MDGs in 2000, it added the element of water and sanitation as part of its 7c target. This was added not only to increase access to water and sanitation but to appease the increased demands of water and sanitation because of urbanisation, large energy demands, industrialisation and intensification of agriculture (Ortigara et al., 2018). SDG 6 merges the analysis of freshwater resources, the supply of drinking water and sanitation services as well as practicing safe hygienic

activities (Sachs, Schmidt-Traub, & Durand-Delacre, 2016). Statistics in 2015 shows that globally 71 percent of the people that is 5.2 billion uses safely managed improved drinking water sources whiles 844 million people worldwide still lack access to an improved drinking water source (WHO/UNICEF, 2017). It is estimated that 39 percent of the world's population uses a safely managed sanitation facility whiles 2.3 billion do not have access to any sanitation services, with a total of 892 people practicing open defecation (WHO/UNICEF, 2017). Goal 6 has eight targets and eleven indicators (Janoušková, Hák, & Moldan, 2018). Indicators are the mechanisms employed in combining data to a form that can be interpreted more easily from a policy perspective and it is used to supervise improvement towards a target and goal (Ortigara et al., 2018). This study was predominantly on target 6.1 and 6.2 which focuses on improving access to quality drinking water and improved sanitation. The targets concurred by members of the UN for Goal 6 is illustrated in table 2.1 as:

Table 2.1: SDG 6 Targets

SDG 6.1	Drinking water **Indicator 6.1.1**: Proportion of population using safely managed drinking water services
SDG 6.2	Sanitation and Hygiene **Indicator 6.2.2:** Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water
SDG 6.3	Water quality and Wastewater **Indicator 6.3.1:** Proportion of wastewater safely treated **Indicator 6.3.2:** Proportion of bodies of water with good ambient water quality

SDG 6.4	Water use and Scarcity **Indicator 6.4.1:** Change in water-use efficiency over time **Indicator 6.4.2:** Level of water stress: freshwater withdrawal as a proportion of available freshwater resource
SDG 6.5	Water resource management **Indicator 6.5.1:** Degree of integrated water resources management implementation (0-100) **Indicator 6.5.2:** Proportion of transboundary basin area with an operational arrangement for water cooperation
SDG 6.6	Water-related ecosystems **Indicator 6.6.1:** Change in the extent of water-related ecosystems over time
SDG 6. A	International Cooperation and Capacity building **Indicator 6.a.1:** Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan
SDG 6. B	Stakeholder participation **Indicator 6.b.1:** Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management

SOURCE: (UN-Water, 2016)

2.1.1 African Overview of SDG 6

A total of 565 million individuals in sub-Saharan Africa lack access to sanitation and 330 million individuals also live without access to safe water. Moreover, it is believed that poverty in Africa

is linked to water, sanitation and hygiene and this is well established (WHO/UNICEF, 2010). Thus, the gap in access to sanitation and water facilities is as a result of poverty. Amid 1990 and 2010, more than 321 million individuals had access to improved water sources in Africa and 189 million individuals had access to improved sanitation (WHO, 2012). Fifty-eight (58) percent out of the 159 people who collect water directly from surface sources, live in Sub Saharan Africa (WHO/UNICEF, 2017). Providing safe drinking water and sanitation is one of the major challenges facing African countries. However, from 2000 to 2015, Africa was able to decrease the number of individuals practicing open defecation from 32 percent to 23 percent (WHO/UNICEF, 2017). Over the years, Africa has attempted to address the water and sanitation issue by integrating the SDGs into other African development agendas, such as the African Union's Agenda 2063 (Omisore, 2018). By addressing inequality and encouraging economic development, Africa can address the issue of sanitation and water. Africa should strive to harness the different natural resources that can contribute to sustainable development in all sectors, including water and sanitation (Omisore, 2018). According to WHO (2012), Africa's concerted efforts to improve access to sanitation and water should focus on adequate sector financing.

2.2 Water and Sanitation in Ghana

Ghana has abundance of water resources relative to other African nations, but increased urbanisation has placed a burden on Ghana's water and sanitation sector (Bohman, 2010). In Ghana, sanitation coverage is projected to be roughly 15 percent and 6 percent respectively in urban and rural areas. The improved sanitation system of the country increased from 6 percent in 1990 to 10 percent in 2006 (WHO/UNICEF, 2008). According to WHO/UNICEF (2014), Ghana met the MDG for water but lagged far behind in improved sanitation thus, 87 percent of the

inhabitants had access to improved water sources while 85 percent lacked access to sanitation facilities. Approximately 42 percent of Ghana's urban population does not have access to sanitation facilities, while 44 percent of rural individuals have no access to sanitation facilities (WHO/UNICEF, 2014).

Ghana gets funding for water and sanitation from numerous sources and these are captured in the MTEF (Medium Term Expenditure Framework) of the government in addition to loans and grants from donors (World Bank, 2011). Funds for the water sector is gained from both domestic and external donors (Chan & Effah-Ameyaw, 2013). The domestic funding is provided by the Government of Ghana (GOG) through the payments of tariffs by consumers while external funding is obtained from donors via investment in the industry in the form of loans, grants or sometimes both (Chan & Effah-Ameyaw, 2013). Danish International Agency (DANIDA), Canadian Development Agency (CIDA), World Bank, International Monetary Fund (IMF), European Union (EU) and so on are private agencies that have invested in water and sanitation in Ghana over the years (Fuest & Haffner, 2007).

2.2.1 Legal and Institutional Framework

Ghana's water and sanitation sector has experienced significant reforms since the early 1990s to address the weakness by creating institutional, legal and regulatory mechanisms to improve supply in urban and rural subsectors (World Bank, 2011). The two main legal frameworks for water and sanitation in Ghana is the National Water Policy (NWP) and Environmental Sanitation Policy (ESP). The NWP and ESP have consolidated all subsector policies in water and sanitation in the country (World Bank, 2011). The universal goal of the NWP is to attain sustainable development

and management while using the country's water resources to boost health and livelihoods (Williams, Gyampoh, Kizito, & Namara, 2012). The first NWP in 2007 serves as a framework for water governance by highlighting three primary fields: management of water resource, urban water supply and community water and sanitation (Acheampong, Swilling, & Urama, 2016). It will also help as a guide to the Water Resource Commission (WRC) on how to effectively address the perilous water delivery situation in the country. Following debates with various stakeholders, the Ghana Environmental Sanitation Policy was formulated in 1999 and covers a wide range of environmental sanitation. The policy outlines the country's impediments to environmental health and sets out the policies to be implemented to tackle the issues (Thrift, 2007). The National ESP produces important results in achieving sustainable environmental development in Ghana's cities (Agyei, Awuah, & Oduro-Kwarteng, 2011).

The Government of Ghana has established numerous institutions in charge of providing water and sanitation. According to Thrift (2007), there are four ministries involved in sanitation namely Ministry of Water Resources, Works and Housing (MWRWH), Ministry of Local Government and Rural Development (MLRGD), Ministry of Health and Ministry of Education. Two of these institutions that is MWRWH and MLGRD are the two main principal institutions that make policies in relation to sanitation and water respectively (Thrift, 2007). MWRWH seeks to formulate country resource management water policies, review, monitor and evaluate the operations of other agencies and donors (World Bank, 2011). It is important to note that, Ministry of Sanitation and Water Resources have been separated from the Ministry of Works and Housing in contemporary times with each performing separate duties. MLGRD is the leading industry in sanitation and is also responsible for sponsoring the establishment of a decentralised system of

local government to attain balanced rural development (Thrift, 2007). MLGRD ensures the effective management and administration of local government structures, Metropolitan, Municipal and District Assemblies (MMDAs) which also have an Environmental Health and Sanitation Department (EHSD) accountable for all the operations of essential organisations engaged in the sanitation industry (World Bank, 2011). The other two ministries that is Ministry of Health controls health data and contributes to making policies set standards for hygiene education while Ministry of Education is responsible for educating the people on sanitation and hygiene (Thrift, 2007).

Water Resource Commission (WRC) and the Environmental Protection Agency (EPA) are two appropriate institutions by virtue of their mandate for water supply (Williams et al., 2012). The WRC was mandated to regulate, implement policies and handle Ghana's water resources in accordance with the 1996 Water Resource Commission Act (Williams et al., 2012). The Environmental Protection Agency was established by EPA Act 490 in 1994 to act as an institution to regulate the environment and enforce government environmental policies (Hens & Boon, 1999). The EPA provides guidance for the use of water and environmental resources in order to attain sustainability through well-established environmental assessment procedures (Williams et al., 2012). Ghana Water company limited (GWCL) is the state public utility with the sole responsibility of providing piped water in the country (Acheampong et al., 2016). It supervises the supply, preservation and distribution of water in urban regions for industrial, government and domestic purposes (Fuest & Haffner, 2007; World Bank, 2011). At the rural community and small-town level, the Community Water and Sanitation Agency (CWSA) has been established to act as a water and sanitation delivery system to these areas (World Bank, 2017b). It was created by an

Act of Parliament (CSWA Act 564) to offer an institutional foundation for (NCWSP) National Community Water and Sanitation Programme (Entsua-Mensah, Essegbey, Frempong, & Engmann, 2007).

2.2.2 Challenges of Providing Water and Sanitation in Ghana

The efficient and integrated provision of water and sanitation services for all in Ghana has posed a major challenge (Adank et al., 2011). The main problem preventing access to water and sanitation in Ghana is the absence of political will to place the issue at the centre of national agendas and to convert funds for the benefit of the population at large (Osumanu, 2008). Overcrowding is a barrier to accessing clean water and sanitation in the country as it limits productivity gains and makes it hard for the supply chain to satisfy increasing demands (Osumanu , Abdul-Rahim, Songsore, Braimah, & Mulenga, 2010). Thus, urban infrastructure has not been able to be at pace with increased urbanisation. The sanitation sector which is led by the Ministry of Local Government lacks an organizational structure and appropriate funding provision from the central government (Akosa, Franceys, Barker, & Weyman-Jones, 1995). Another constraint in the provision of water and sanitation in the country is the absence of a strong national urban water policy that affects the coordination of policies and strategies in the urban water supply as well as the interactions between implementing agencies (Mensah, 1999). Actions to curb the aforementioned problems do not only require political will and financial resources but trying to understand how socio-economic variables such as households have contributed to shaping the dynamics of access, giving equal attention to the water and sanitation sectors will contribute to excellent coordination of jurisdiction between the two, which will be essential to achieving sustainable development (Adams, Boateng, & Amoyaw, 2016). Ghana Water Company Limited (GWCL) needs to adopt innovative

approaches to connect poor people and develop alternative ways of providing water to people who cannot access it directly from GWCL (Adank et al., 2011).

2.2.3 Private Sector Contributions to Water and Sanitation in Ghana

African governments have embraced the practice of enhancing the participation of the private sector or privatizing state assets in urban water supply and sanitation with the primary purpose of reducing costs, acquiring access to technology and knowledge from the private sector and achieving higher economic efficiency for advancing activities and generating income (Osumanu, 2008). The Government of Ghana (GOG) and many local authorities have entered into a various private-public partnership to provide water and sanitation. Recently, Non-Governmental Organisations (NGOs) have developed several approaches to enhance the country's access to water and sanitation (Osumanu et al., 2010). Lack of finance, technology, poor managerial practices has caused governments to involve the private sector to achieve sustainability of the delivery system (Chan & Effah-Ameyaw, 2013). Notable agencies in Ghana that helps to improve the water delivery system is the World Bank and International Monetary Fund. For instance, the 2005 urban water management contract in Ghana was mainly sponsored by the World Bank and other development partners, while from 1998 to 2004 the EU also sponsored small water systems that helped to supply drinking water (Fuest & Haffner, 2007). A private Dutch and South African company known as Aqua Vitens Rand Limited (AVL), took over the management of urban water supply in Ghana for a five-year life span which started in 2005 (Awuah et al., 2009). Responsibility for water manufacturing, delivery, billing and customer service became AVL's responsibility, while Ghana Water Company Limited retained asset ownership and investment responsibility and supervised the work and achievements of AVL (Hirvi & Whitfield, 2015). The transfer of

responsibility was made because there was the need to enhance efficiency and resources, clients services and help to reduce non-revenue water by 5 percent per year (Hirvi & Whitfield, 2015).

2.3 World Bank Water and Sanitation Projects

Since the evolution of the World Bank, it has embarked on different projects in providing access to sanitation and water namely integrated urban development projects, pragmatic urban projects and most importantly pragmatic water and sanitation services (Kessides, 1997). The bank had the mandate to provide water and sanitation as part of providing state infrastructure after the implementation of the new concept "water resources management" into its policies in 1993 hence the bank is regarded as one of the major actors in the delivery of global water (Welle, 2001). The World Bank's water and sanitation lending program was encouraged by the inability of previous initiatives to extend coverage to urban poor and how to sustain them over time (Kessides, 1997).

The International Development Association (IDA) is the affiliates of the World Bank Group which provides concessional loans to developing countries to embark on developmental projects including water and sanitation (Kremer & Clemens, 2016). IDA offers technical and financial assistance to governments working to update, fix, preserve or expand water and sanitation facilities (World Bank, 2009). From 2002 to 2012, World Bank-supported projects improved access to water for 123 million people and improved access to sanitation for 5.8 million people (World Bank, 2014). For example in East Asia and Pacific region, particularly Indonesia, the World Bank gave a total sum of USD 275.10 million to assist in improving access to water and sanitation facilities for low income and peri-urban communities from 2007 to 2020 (World Bank, 2017c). As of 2017, 10 million individuals had access to safe water and 10.6 million individuals had access to decent

sanitation in about 12,250 villages in Indonesia with 56 percent of the target community achieving open defecation free status. The project is estimated to cover about 27,000 villages and 35 percent of the total villages in Indonesia (World Bank, 2017c).

In India for instance, the Karnataka Urban Water Improvement Project was a breakthrough in demonstrating that water supply in urban India can be a reality 24/7. The project assisted the installation of 24/7 water supplies in five urban demonstration zones, providing direct supplies to 230,000 people, gaining rapid satisfaction and support for end-users (World Bank, 2014). India was given a loan of USD 39.5 million by the World Bank to aid in this particular project. Karnataka's urban water supply reform process based on state urban water policy enhances Urban Water and Sanitation (UWS) services in partaking urban local bodies and reveals the sustainability of efficient and commercially oriented Urban Water and Sanitation service provision (World Bank, 2012). In Zambia also, the Water Sector Performance Improvement Project enhanced the Lusaka Water and Sanitation Corporation's technical efficiency and financial sustainability. The project was approved on October 5, 2006, with a USD 23 million IDA Credit. The Bank's Board approved a USD 10 million IDA Grant in additional financing to scale up the project on April 16, 2009. The project assisted approximately 5,000 people to gain access to safe water through 100 new peri-urban kiosks. Water availability in Lusaka increased (per day) from 210,000 to 230,000 cubic meters. With regards to beneficiaries, water supply increased from 64 percent to 87 percent and sanitation improved from 64 percent to 71 percent respectively (World Bank, 2016). In Senegal principally Dakar, IDA contributed to 130,000 new household links at subsidised prices for poor homes and 400 government pipes as part of the Senegal Urban Water projects. Sanitation in urban areas improved with 830,000 individuals accessing sewerage and sanitation on-site (World Bank,

2009). In North Africa, with the Moroccan Rural Water Supply and Sanitation Project, IBRD endorsed the government's program to improve sustainable access to rural drinking water supply while supporting enhanced sewage management and sanitation practices from the period of 2005 to 2014. By the end of 2013, 171,000 people in the projected areas had access to potable water supply from 1,025 standpoints (World Bank, 2014). Nepal's Second Rural Water Supply and Sanitation Project enhanced access to drinking water for over 1 million individuals through more than 1,400 community-operated and institutional water maintenance schemes, all with at least three female employees. The project also helped to decrease the occurrence of diarrheal disease morbidity among children by more than 80 percent in the proposed region and to integrate the Rural Water Supply and Sanitation Fund Development Board's strategy into the Nepalese Government's scheme (World Bank, 2014). Nepal was given a credit of USD 25.30 million and a grant of USD 27 million to aid in the implementation of the second rural water supply and sanitation project (World Bank, 2013b). At the end of the project, 83 percent of the target population had access to hygienic sanitation facilities whiles 1,140,892 people in rural areas gained access to improved water supply (World Bank, 2013b).

One current water and sanitation project of the World Bank in Africa is the Uganda Integrated Water Management Development project which is to be implemented from 2018 to 2024 estimated to cost USD 313 million (Yee-Batista, 2019). The objective of this project is to improve access to water and sanitation facilities, integrated water resource management and operational efficiency of water and sanitation suppliers in the project zones (Yee-Batista, 2019). At the end of the project, it is estimated that a total of 88,129 individuals are likely to have access to household water connection and 7,780 to improved community water points respectively (Yee-Batista, 2019). In

Europe particularly in Tajikistan, the World Bank has approved a total sum of USD 58 million to help in the implementation of rural water and sanitation project from 2019 to 2025. The aim of the project is to improve access to basic water and sanitation facilities in selected districts and to boost the capacity of water and sanitation institutions (World Bank, 2019). The project was implemented recently and its ongoing hence it is expected to contribute immensely to the water and sanitation sector of Tajikistan by increasing access to water and sanitation facilities.

2.3.1 World Bank Water and Sanitation Projects in Ghana

The World Bank Group is regarded as the initiator of global reforms in the Ghanaian water sector and has played a crucial role in the country's development of a new structure for the water sub-sector (Fuest, 2005). There have been a lot of projects funded by the World Bank in providing water and sanitation facilities in Ghana. Some selected projects of the World Bank and how it has impacted the water and sanitation sector in Ghana as well as on the lives of people are discussed below.

2.3.2 Community Water and Sanitation Project (CWSP)

The standalone project of the World Bank to achieve access to water and sanitation in Ghana is the Community Water and Sanitation Project implemented between 1994 and 2000 (Mohan, 2001). Community water supply and sanitation is defined as the provision of potable water and improved sanitation facilities for small towns and rural communities with hygiene education for the benefit of the people in rural areas (Entsua-Mensah et al., 2007). The project was specifically designed to increase the achievement of the goals of National Community Water and Sanitation program namely (a) Providing fundamental water and sanitation services to groups that contribute

efficiently to capital costs, pay for the ordinary operation, maintenance and repair of their equipment, (b) ensuring sustainable infrastructure through community management, including the provision of products and services by the private sector and the advancement and support of the public sector and lastly, (c) maximizing health gains through the incorporating of water, sanitation and hygiene education (Mohan, 2001). The project was implemented in four regions; Ashanti, Brong Ahafo, Northern and Western region in addition to small-town works in Upper East and West region (World Bank, 2001). The project cost was USD 21.96 million, and the implementation agency was the Community Water and Sanitation Agency. The project had three components; (1) providing water and sanitation services to rural communities, (ii) provision of water and sanitation facilities to small towns on a pilot basis and (iii) institutional strengthening in the public and private sector (World Bank, 2001).

The project was carried out in order to move away from a governmental driven approach to community management. The CWSP was a demand-driven method that gave communities the platform to participate completely in the program by contributing human and economic resources to the program's achievement (Mensah, 1999). According to the World Bank report on the Community Water and Sanitation Project (2001), it argues that the project has not only been able to attain its objectives but has also surpassed its objectives in developing sanitation and water infrastructure in the areas suggested for the project. The project was able to supply 32,000 rural inhabitants with water supply through a new water point constructed for them (Mohan, 2001). A total number of 563 hand-dug wells and 725 boreholes were constructed to aid water supply. In the Ashanti region 2,323 household latrines were built, 2,126 latrines in the Brong Ahafo region, 841 in Western and 641 in the Northern region (World Bank, 2001). About 6,000 household

latrines that were constructed are serving many people in the country (Mohan, 2001). All these infrastructures helped increase access to water and sanitation.

2.3.3 Urban Environmental Sanitation Project (UESP I)

Urban Environmental and Sanitation Project is the World Bank's first investment in the provision of extensive urban sanitation services in Ghana from 1996 to 2003 (World Bank, 2004a). The project was estimated to cost USD 63.8 million. With the World Bank's assistance, the Government of Ghana was able to implement the UESP (Mariwah, 2012). UESP's primary goal was to raise the productivity and living standards of low-income individuals living in major cities in Ghana by enhancing drainage, sanitation and solid waste facilities, establishing better institutional and funding mechanisms for a more effective policy framework and finally, construction ability in metropolitan and municipal assemblies to be able to efficiently handle environmental sanitation (World Bank, 2004a).

The project was identified as a result of the Urban Development Strategy Review which was conducted between the World Bank and the Government of Ghana. The project was developed to serve among other things the privatisation of waste collection systems in the proposed cities (Vásquez, Cofie, Drechsel, & Mensa-Bonsu, 2002). The move towards the integration of the private sector in waste management was thus stimulated by the recommendation of the World Bank (Addo-Yobo & Ali, 2003) from the Urban Environmental Sanitation Project 1 document which received national support from the 1999 Environmental Sanitation Policy (Akaateba & Yakubu, 2013). The project was implemented in five big cities in Ghana; Accra, Kumasi, Sekondi-Takoradi, Tema and Tamale. The project had five major components; (1) storm drainage, (2)

sanitation, (3) solid waste (4) upgrading of community infrastructure and (5) institutional strengthening (capacity building) (World Bank, 2004a).

The project decreased the percentage of people in the proposed cities using pan latrines and public toilets by 10 percent (World Bank, 2004a). A total number of 60,000 people benefited from household latrines, 100,000 benefited from school latrines and 30,000 from public latrines (World Bank, 2004a). Open defecation reduced as a result of access to sanitation facilities. Metropolitan and Municipal Assemblies also benefited by gaining valuable experiences in managing private sector contracts (World Bank, 2004a). The project is considered to be the first project in the water and sanitation sector to have a decentralised approach. The project also helped to reduce flooding in the suggested areas owing to the drainage systems built particularly in Kumasi and Accra (World Bank, 2004a). The number of household latrines to be built was 5,560 but the project exceeded these targets by 42 percent (7,920) except in Sekondi-Takoradi, where construction was difficult due to high water table and poverty that prevented people from paying for the project (World Bank, 2004a). 245 school latrines and 65 public toilets were constructed (World Bank, 2004a). In my view, the project encountered some difficulties as a result of the income status of Ghana's urban poor and the fast urbanisation in the large towns. This made it difficult to achieve total satisfaction. When it comes to such projects, urban poor should be given utmost attention so that the well to do will not end up benefiting from it alone.

2.3.4 Ghana- Village Infrastructure Project (VIP)

The Village Infrastructure Project is a World Bank-funded project targeting rural community groups and organisations across the nation in general (Porter & Lyon, 2006). The duration for the

project was 5 years and the total estimate for the project was USD 60 million (Sowa, 2002). The project was aimed at funding various rural infrastructures that will provide the community with boreholes, feeder roads, small-scale irrigation, post-harvesting facilities, markets, etc. in order to support government attempts to alleviate poverty and improve rural people's lives (World Bank, 2004b). The prime objective of this project was to aggrandize the quality of poor people in rural areas by expanding technical and financial resources to support the sustainable development of basic village infrastructure (Awoosah, Cofie-Agamah, Oppong, & Kwarteng, 2004; Sowa, 2002). This project originated from the Poverty Reduction Program of the Government of Ghana and was implemented between 1998 and 2004. According to Botchie (2000), VIP is one of the bold initiatives in the country to alleviate poverty in rural communities. The project was co-financed by the International Fund for Agricultural Development (IFAD), Kreditanstalte Fur Wiederavfban (KFW) and GOG (Awoosah et al., 2004).

The project had four basic components namely (a) rural water infrastructure (b)rural transport infrastructure (c) rural post-harvest infrastructure and (d) institutional strengthening (Porter & Lyon, 2006; World Bank, 2004b). The project accomplished these goals by funding civil works, machinery and technical aid to boost village infrastructure in terms of rural water, transportation (village tracks and paths), post-harvest treatment of agricultural products (livestock and crops), building local government and individual capacity to maintain these investments (Sowa, 2002). Component one of the project concentrated on water infrastructure, enhancing water for agriculture, human consumption, livestock, improving the conservation and management of rainfall. The project had an impact directly and indirectly on agriculture (Asuming-Brempong & Kuwornu, 2013). A total of 1,354 rural water facilities were built at the end of the project,

including boreholes, hand-dug wells, dams and irrigation schemes that enhanced crop production (World Bank, 2004b). The second component relating to rural transport infrastructure helped to increase access to the main rural areas by constructing 552 km of feeder roads and farm tracks and providing 207 intermediate means of transport including power tillers, motor tricycles, animal traction carts, etc. (World Bank, 2004b). Generally, the project contributed to improving rural people's quality of life. The third component dealt with rural post-harvest infrastructure and this greatly contributed to rural development by building 174 markets, 160-grain stores, 2 slaughterhouses, and a fish landing site. The last aspect of the project also helped to provide training and awareness campaigns for 12,995 communities with a population of over 3.9 million (World Bank, 2004b).

2.3.5 Second Community Water and Sanitation Project (CSWP 2)

In support of the first phase of the Community Water and Sanitation Program between 1999 and 2004, Community Water and Sanitation Project 2 was implemented. Following the formulation of the National Community Water and Sanitation Program (NWSP) by the Government of Ghana (GOG), the World Bank provided funds to support community projects in water and sanitation assisting national sector strategy (World Bank, 2005) because of the fact that water and sanitation issues are essential to man's life. The project concentrated on community development including hygiene education, training, capacity building and maintain water and sanitation (Williams, 2010). The implementation agencies for the project were Ministry of Water Resources, Works and Housing, Government of Ghana and Community Water and Sanitation Agency. The CWSP 2 was mainly put into action to increase water and sanitation supply in small towns and villages in four main regions in Ghana namely: Ashanti, Brong Ahafo, Upper East and West (World Bank, 2005).

It also aims at expanding investment efficiency in the water and sanitation sector to achieve sustainability (Welle, 2001). The project had three main components namely (a) community sub-projects, (b) sector strengthening and (c) programme management.

This project was the first of its kind to give funds directly to District Assemblies (World Bank, 2005). Among the project's accomplishments are increased rates of cost recovery from rural communities (Amenga-Etego & Grusky, 2005). At the end of the project, a total of 794,900 of the 550,000 people targeted in 2,000 communities had access to water and sanitation facilities (World Bank, 2005). The project thus exceeded its targets in access to water and sanitation facilities. There were 5,814 household toilets and 440 school latrines constructed (World Bank, 2005). In general, the program helped create rural infrastructure, restore community services and create a community-based organisation oriented on capacity building (Williams 2010). Although the project was successful, during the execution phase there were some setbacks, such as delays in beginning the project, delays in installing hand pipe, etc. The project also improved the efficiency of the private sector and NGOs in providing access to clean water and sanitation (World Bank, 2005).

2.3.6 Second Urban Environmental Sanitation Project (UESP -2)

The World Bank decided to fund the Second Urban Environmental and Sanitation Project by giving a total sum of USD 62 million in June 2003 to guarantee its completion (Oteng-Ababio, 2011). The UESP-2 was implemented in 2004 and ended in 2012 and the implementation agency was the Ministry of Local Government and Rural Development (World Bank, 2007). The Project Development Objective (PDO) was to advance living conditions in urban areas in relation to environmental health, solid waste management, drainage, sanitation and access to vehicles in order

to attain sustainable development with a focus on the poor (World Bank, 2013a). The project was a repeater process of the first phase of UESP 1which was generally satisfactorily at the end of it (World Bank, 2007). The project was carried out in Accra, Kumasi, Tamale, Sekondi-Takoradi, and Tema. The project had five components same as UESP-1, that is storm drainage, sanitation, solid waste management, community infrastructure upgrading, and capacity building (World Bank, 2007). The project was co-financed by the Nordic Development Fund (NDF), the French Development Agency (FDA) and the Government of Ghana (World Bank, 2013a). The ultimate goal of this project was to improve living conditions in relation to environmental health. The project increased access to improved latrines of about 80 percent to school children and to low and middle-income residents. Not only did the project increase accessibility but also contributed to hygiene awareness through the training and education received by the beneficiaries (World Bank, 2013a).

The project was to serve 160,000 people with 8,200 sanitation facilities (World Bank, 2013a). A total of 1,412 toilet seats were completed out of the 1,670 targeted at the end of the project, representing 85 of the target. 8,501 household latrines were constructed, 36 public facilities with 674 seats and 157 school latrines built (World Bank, 2013a). The project's goal was generally achieved and it generated jobs for individuals in various sectors of the economy (World Bank, 2013a). This project was not first of its kind, it was created on the basis of UESP 1, but the project was still confronted with some difficulties. The barriers to UESP 1 should have been correctly resolved so that UESP 2 can be implemented effectively.

2.3.7 Sustainable Rural Water and Sanitation Project (SWRSP)

Sustainable Rural Water and Sanitation Project is a World Bank project aimed at expanding access and providing sustainable facilities for water and sanitation in rural and small communities in six regions, estimated at USD 75 million and anticipated to benefit 600,000 individuals. (World Bank, 2010). The six regions for implementation were; Central, Western, Brong Ahafo, Northern, Upper East, and Upper West. The period of implementation was from 2010 to 2016 but was extended to end in June 2017 and the agency responsible for this project was the CWSA (Nkrumah, 2016). The project had three main components namely, (a) rural and small-town water supply, (b) rural and small-town integrated sanitation and hygiene promotion and (c) institutional strengthening and project management. The immediate advantage of the project was the access to water and sanitation facilities, while the indirect benefit was the time saved in the collection of water, the health benefits of quality drinking water and the enhanced hygiene associated with new latrines (World Bank, 2010).

The project had positive effects on water supply but lagged on sanitation. The project was able to supply water to 600,000 individuals surpassing its rural and small-town water supply targets of far more than 150,000 (World Bank, 2010). The complete number of improved latrines built under the project was 40,000 just over 50 percent of the target population (World Bank, 2010). The project also aimed at encouraging the adoption of an open defecation-free status, with 60 out of 550 target communities were acknowledged Open Defecation Free. The project confronted execution difficulties such as record keeping, reporting and delays in the contract delivery by the implementation agency. Despite advancement in water supply, the project lagged behind in sanitation (World Bank, 2017a). The lessons learned from the project according to 2017 World

Bank report include a careful appraisal of cost estimates, direct support to households in the construction of household toilets, improving capacity for the sector Ministry, Ministry of Sanitation and Water resources, etc.

2.3.8 Greater Accra Metropolitan Area Project

The city of Accra has grown to cover an area generally referred to as the Greater Accra Metropolitan Assembly (Adank et al., 2011). The GAMA project is the recent project supported by the World Bank to improve access to drinking water and sanitation in eleven municipal and metropolitan assemblies in Greater Accra with emphasis on low-income communities in Greater Accra (World Bank, 2017b). The estimated cost for the project is USD I50 million and it is to be implemented between 2013-2020 (Mammo, 2019). This project will be discussed in detail in the next chapter.

2.4 Conclusion

This chapter brings to fore a general overview of the UN SDGs and focused on SDG 6. It further talked about water and sanitation in Ghana and indicates that water and sanitation is a major problem in Ghana and the Government of Ghana has put in place measures to help curb the issue. With private sector involvement in water and sanitation sector, the accessibility of these facilities by the population has increased. World Bank has been a major external donor in implementing various projects of water and sanitation globally and in Ghana. The interventions of the World Bank have drastically increased access to water and sanitation by contributing to the quality of life of the people and reducing ill-related diseases that are associated with unsafe water and sanitation.

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CHAPTER THREE

THE CONTRIBUTIONS, BENEFITS, INTERVENTIONS, AND CHALLENGES BY THE WORLD BANK GAMA PROJECT IN ACHIEVING SDG 6 IN GHANA

3.0 Introduction

This chapter examined the mechanisms put in place by the World Bank GAMA project in improving access to quality water and sanitation facilities in GAMA and its benefits. It further discusses the challenges encountered by the project and proposes measures to ensure effective implementation of the project. The study is analysed through the conceptual framework of human security with emphasis on environmental security concerning the protection of human life from threats of the environment, such as access to clean water and sanitation. These factors are crucial for sustainable living, health and well-being of individuals. The chapter essentially analyses the data collected from the field and uses secondary data to support it.

3.1 GAMA Project and SDG 6

The GAMA project is a World Bank sponsored project with the objective of improving access to quality water and improved sanitation in GAMA in eleven municipal and metropolitan assemblies. The Board of Executive Directors of the World Bank approved a USD 155 million IDA grant to promote the initiative by the Government of Ghana to improve access to sanitation and water supply services and improve government agencies' capacity to plan and manage natural resources more sustainably (World Bank, 2013c). The funds will promote two of the objectives of Government of Ghana which is viable management of natural resources and improved sanitation and water supply for more than 3.6 million individuals residing in and around GAMA (World Bank, 2013c). The USD 5 million IDA grant will provide the Natural Resources and

Environmental Governance project with technical assistance to help enhance the capacity of government agencies to sustainably plan, manage and use natural resources effectively in selected sectors. The second USD 150 million IDA grant will support the GAMA project, a five-year program aimed at bringing sanitation facilities and water supply to GAMA inhabitants with a focus on low-income communities and strengthening environmental sanitation management (World Bank, 2013c).

According to an officer at the Project Coordinating Unit (PCU), "the focus of the project is on low-income communities because these groups of individuals cannot afford to build their own homes, live in slums and lack basic amenities such as water and sanitation which is essential to human existence". They lack the financial capacity to pay for these services and resort to practices such as open defecation which pollutes the environment and create an environmental nuisance. Hence there was a need for some form of intervention to help these people get access to water and sanitation. The project provides some form of subsidy so that low-income communities can have access to these facilities. The criteria for a low-income community was done through geographical targeting such that, an area where about 75 percent of the people live in single rooms and uses shared facility or public toilets were considered as a low-income community. There are many of these communities in the capital city-Accra hence the project sought to subsidise the payments of these facilities so that the low-income earners can also benefit from it.

Another official added that the implementing assemblies have increased from 11 to 22 encompassing 2 metropolitan and 20 municipal assemblies. There are seven (7) districts in the

Greater Accra region yet to attain a municipal status hence if not for these districts, the project will have covered the whole of the Greater Accra region.

3.1.1 Mechanisms of GAMA Project

The project has four components. Component one is on the provision of services for sanitation and water, Component two focus on improving and expanding the water distribution network, Component three deals with environmental sanitation services planning, enhancement and extension and Component four deals with institutional strengthening. The sanitation aspect of the project is implemented by the Ministry of Sanitation and Water Resources through the Project Coordinating Unit while the water aspect of the project is also operated by Ghana Water Company Limited (GWCL). An official at GWCL expressed his view on this indicating that three of the components are directly linked to sanitation and one is linked to water. So, that is when they come in as GWCL to implement the component directly linked to water supply. A representative from the PCU contended that the aim is to have piped water in every home even though there are instances where standpipes are done, water can be stored hence where standpipes are used it is acceptable although there is a minimum distance for that.

According to a respondent from GWCL,

> *the mechanisms put in place to increase access to water include the updating of the master plan for GAMA and updating the masterplan resulted in a very good ramification in the sense that the company had a document that can tell the interventions needed to be carried out in GAMA to achieve a particular purpose.*

The master plan also gave an insight into what needed to be done in terms of their operations so that they can better deliver service to the people. Therefore, by updating the GAMA master plan and bringing it up to date, it gave them the opportunity to see the various interventions that ought to be taken in GAMA so that they can give their water supply infrastructure a facelift. Another respondent from MSWR added to this saying that:

> *We have developed a master plan as a mechanism in the water sector and this is more like a hydraulic plan for improving water in the areas. So areas where hitherto water was a problem like Adenta and its environs, are now having a good supply of potable water.*

Another mechanism put in place to increase access to water is the establishment of the Low Income Consumer Support Unit (LICSU) at GWCL. An official from GWCL argued that because the project was focused on water service delivery to low-income communities, they carried out an examination of the company and realised that over the years their activities were kind of directed towards the middle income and the high-income areas. He said that:

> *Because the project was focused on water service delivery to low-income communities, we looked at ourselves and carried out an introspection of the company and realised that over the period, our activities were directed towards the middle income and the high-income areas*. So, *we needed a unit that could help provide the low-income with water supply.*

So, in order to achieve the goals of the project that needed to directly affect the lives of people in low-income communities, they decided to set up a low-income consumer support unit in GWCL. Basically, the function is to promote water supply service delivery to low-income areas. The unit is placed under the secretariat of the Managing Director because of his key interest in serving the poor with water and to have direct oversight and responsibility of the unit. LICSU agents go to the communities, carry out community engagement, participatory consultations and processes with

stakeholders and this is one thing that has helped the project by defining what the community members want. Because water is demand-driven, they created the demand, raised awareness about having a household connection and set a flat rate of GHS 200. Therefore once you find yourself within the selected low-income community and are able to pay the amount then the project does the connection for you regardless of your location. This point is well explained in the words of the official at GWCL as follows:

> *So, once an area is classified as low income, any person or household interested in having water connections just comes in and expresses the interest of being connected. Because water supply connections are demand-driven, you need to express your interest first. So, what we did as a project was, we created the demand and told them the benefits of owning household connections rather than community standpipes therefore once you find yourself in the targeted low-income community, we set out a flat rate of 200 cedis to be paid.*

Before an individual can be connected to a water supply at GWCL, the average amount to be paid is around GHS 1,500 but for this project, it has set a rate of GHS 200 for interested low-income householders to pay so they will be connected. The cost for attaining a connection at GWCL was perceived as expensive by the low-income communities and the processes involved in getting a household connection was cumbersome and this deterred them from getting access to water connections. With the subsidy given and the establishment of LICSU which sends personnel to the communities to get them connected, a lot of people have been connected to household water networks. A representative from GWCL explained this point saying that:

> *Now they don't need all those details and documents to come to us, we have community engagement personnel in the community who engages people who are interested in connecting to our water and we have also subsidised it from GHS 1,500 to 200 cedis. So, when you pay GHS 200 then you are eligible for a connection under the GAMA project.*

Sanitation, on the other hand, is implemented by the Ministry of Sanitation through the Project Coordinating Unit (PCU). The Project Coordinating Unit was established purposely to see to the implementation of the GAMA project. It coordinates and supervises the activities of Sub Project Implementers (SPIS) and the implementing assemblies. This makes the GAMA project more interactive unlike other projects running under the Ministry that people are not aware of. The project has also put in place a sanitation team at the assemblies that manage the day to day affairs of the project such as registration of clients, the award of work to contractors and field visits to ensure appropriate materials in construction and inspect the toilets upon completion. The project also creates a lot of awareness through community stakeholders such as the assemblyman who the people are willing to listen to because he is their leader. The media are also used to advertise the project to increase its uptake. A representative from LEKMA added that :

> *We use a local radio station call Latenu radio to disseminate the promotion of these household toilets and do a door to door sensitization and registration of clients to increase the uptake. At a point, we prepare notices and our environmental health inspectors serve them on landlords who lack household toilets.*

Three (3) of the 10 beneficiaries interviewed said that they heard about the GAMA project on the radio during its announcement, so they inquired about it and took advantage of the opportunity and ended up benefiting from it. Other beneficiaries contended that they heard about the project

through announcements from the team and from other beneficiaries who promote awareness by informing others about the project. The project has also subsidised the payment of household toilet facilities so that low-income earners can afford them. The project absorbs 70 percent of the total cost of a toilet facility and the beneficiary is made to pay 30 percent. This has helped increase access to toilet facilities as the prices have been reduced making it affordable to low-income earners. The average cost of an improved toilet facility is about USD 900 and that is equivalent to about GHS 4,000. An official from PCU contended that:

> *If we are to help them have access then we have to reduce the cost of the facility and reducing the cost does not mean you render the facility not useful, we maintain the facility level, the quality and the standard. And then, support them by providing some level of subsidy to reduce the cost to the beneficiaries.*

A digestor which is around GHS 2,000 is being constructed under the project as low as GHS 600 so that the low-income earners can afford. The project makes it possible for people to pay in installment to access the toilet facility. These are all mechanisms put in place by the World Bank GAMA project to increase access to water and sanitation (SDG 6).

3.1.2 Achieving SDG 6 through GAMA Project

The GAMA project was approved in 2013 when UN member states were dealing with the MDGs. A representative from World Bank Ghana indicated that when the project was implemented, UN member states were dealing with MDGs and not SDGs hence the start of the project concentrated for example on the provision of community standpipes. But with the introduction of the SDGs, certain changes have been made to the project to help address SDG 6, for instance, there has been the construction of more household water pipes as compared to the community standpipes. SDG

6 focuses on ensuring clean water and sanitation for all by 2030. The focus of this study is on SDG 6.1 which is on ensuring universal and equitable access to safe and affordable drinking water for all by 2030 and SDG 6.2 which concentrates on ensuring access to adequate and equitable sanitation and hygiene for all and put an end to open defecation, paying particular attention to the needs of women and girls and those in vulnerable situations (WHO/UNICEF, 2014). The GAMA project has been able to increase access to quality drinking water and improved sanitation facility in GAMA and if implemented in other regions, it can serve as means by which Ghana can achieve SDG 6 through universal access to water and sanitation. The project has built over 22,000 household toilets out of a target of 19,000 household toilet facility serving about 360,000 people in GAMA. It has also built about 270km pipelines and connected over 5,000 households to water networks.

In an extensive discussion on achieving SDG 6 through GAMA project, a respondent from the PCU indicated that:

> *SDG 6 aims to ensure that everyone has equitable access to an improved toilet facility. Hence this is a bold step to support the poor, who are the most vulnerable. Once you are able to support the poor and put in place measures to enforce development plans and laws on building codes such as ensuring all buildings have these facilities then there will be an increase in access. So it is a means of working towards attaining the SDG 6, which is obviously going to go a long way with the support. Currently, many more people have access to it, so if we continue, I am sure that by 2030 a lot more people will have access to it, so it is a better means of achieving universal access.*

SDG 6 also requires that open defecation should be reduced to zero thus by providing improved toilet facilities by the project, it will boost access and eventually curb open defecation if not reduce

it to the barest minimum. Thus it will help attain an objective of the SDG 6 which is to end open defecation. However, in order to achieve universal coverage in Ghana, the project should be extended to other regions in Ghana to increase access across the country. A representative from GA West municipal assembly reiterated that:

> *Till all regions have some form of intervention by getting the low income to have household toilets, then it will help Ghana attain SDG 6 but if it is limited per districts or municipal assembly then the project cannot help to achieve SDG 6 although it will be able to increase access in one part of the country. So, until all regions have some form of intervention that will provide the low-income earners with household toilets, then I will say yes but if it is limited per districts or municipal assembly then NO, it cannot help Ghana achieve SDG 6.*

The outcome of the interviews affirms that, GAMA project will help Ghana achieve SDG 6 through the subsidy of payments for improved toilet facility and quality drinking water whose connections are able to connect a lot more people covering a greater part of the population in GAMA. The project's achievement is overwhelming and measures are being taken to extend to other regions of the country. Another officer from GWCL said that the project will be expanded to other regions. They intend to go to Kumasi, move to the North, the Brong Ahafo and other regions of Ghana. The Government of Ghana can help by investing more money into this project to scale it up to other regions so that there will be universal coverage in water supply and sanitation in Ghana. The project can therefore, help Ghana achieve SDG 6 looking at the mechanisms and strategies put in place. Since access to improved sanitation and water is measured using the SDG indicator that focuses on the percentage of population using an enhanced source of drinking water and improved toilet facility, the GAMA project is a means to achieve SDG 6 in Ghana because it

will increase the percentage of people using improved toilet facility and quality drinking water in GAMA and in Ghana as a whole.

3.2 Importance of World Bank GAMA Project

In developing countries, the supply of drinking water and improved sanitation is very poor (Wilderer, 2004). The provision of quality water supply and improved sanitation facility has posed a major challenge in Ghana. In Ghana, about 85 percent of the population do not have access to an improved sanitation facility and approximately 13 percent lack access to quality water supply (WHO/UNICEF, 2014). Ghana failed to accomplish its MDG for sanitation, having set the target to achieve 54 percent coverage in improved sanitation but only reaching a modest 15 percent (WHO/UNICEF, 2015). Several factors account for the inability of developing countries to achieve universal access to quality water and improved sanitation such as poverty, rapid population growth and rapid increase in urbanisation (Wilderer, 2004). The clear need for fundamental water and sanitation facilities for the poor assumes even higher importance when considering the connections with other measurements of poverty. Financial constraint is one of the main obstacles preventing the urban poor to have access to improved household toilet facilities and water connections. People build houses without toilet facilities and landlords are equally unwilling to provide these facilities for their tenants. A respondent from PCU shared his view on the importance of GAMA project stating that:

> *GAMA project is important because the target area is in Accra which is the capital city with an influx of over-population and environmental challenges as a result of increased migration to the capital city*.

GAMA has approximately a population of about 4 million, making it Africa's 11th biggest metro area (World Population Review, 2019). Another officer from the PCU suggested that:

> *We need GAMA project because a lot of people are coming to the capital city without a place to live and thus lack basic water and sanitation services. Most of these migrants are squatters who engage in petty trading and end up creating both solid and liquid waste, hence the nuisance is very much compounded in Accra. Therefore we need this project to address the issue at hand especially in the capital city.*

Some of the impacts of fast urbanisation have been the invasion and extinction of public open spaces and environmentally delicate regions, the pervasiveness of slum societies, unregulated informal financial activity, congestion, flooding, haphazard and unauthorized land growth and the growing conversion of traditional land use to other uses (Cobbinah & Amoako, 2012). GAMA project is thus very essential because it will help increase access to water and sanitation facilities in GAMA and serve as a means through which the government of Ghana can use to improve the Water, Sanitation and Hygiene (WASH) sector and achieve SDG 6.

3.2.1 Benefits of World Bank GAMA Project

The GAMA project, first of all, has been able to increase access to improved toilet facilities and quality water supply in GAMA serving low-income people who are the most vulnerable. The project has been able to build household toilet facilities of over 22,000 out of the 19,000 targeted as at May 2019. The project has also built 406 institutional toilet for schools and some health centres. In GA West, over 4,000 household toilets have been constructed while LEKMA has benefited from over 3,000 household toilets and 43 institutional toilet facilities out of which 31 are newly constructed and 12 are renovated ones. The project had a target of laying 150km of

pipelines and connecting 3,500 households but it has exceeded its targets by constructing about 290km of pipelines and connected around 5,879 households to a water supply.

A lot of communities benefited indirectly from the laying of the pipelines especially those who were in between the two ends where pipelines were laid. A respondent from GWCL argued that:

> *Laying of the pipeline was such that a lot more communities and areas were going to benefit indirectly from the project because if a community in Teshie(LEKMA) is benefiting, and another in Sapeiman which is in GA West benefiting, to lay a pipeline from one end to the other, you end up crossing a lot more communities indirectly.*

Ga West has benefited from 18km pipelines laid and 8 standpipes while LEKMA on the other hand, has benefited from 20.24km of pipelines and 10 standpipes. Because of the subsidy given by the project, a lot more people have been able to get access to quality water and improved sanitation facilities. It is important to note that, GAMA project has been one of the projects where both sanitation and water supply has exceeded its targets. One respondent from LEKMA argued that for the first time in the history of Ghana and in the history of sanitation and management, this is the only project that has been able to provide a lot more people with water supply and sanitation facilities within the project life. Increasing access to water and sanitation will translate into helping Ghana achieve universal access to water and sanitation (SDG 6). Access to quality water and improved sanitation generates health, social, economic and environmental benefits. An officer at LEKMA made the point that the effect of the projects has been good, and it was awarded the most impactful project in Ghana in 2018.

3.2.2 Health Benefits

Inadequate access to safe water supply and sanitation facilities leads to significant human health threats. Compelling evidence has shown that enhancing the use of safe water, sanitation facilities and improved hygiene behaviour has a substantial beneficial effect on health (Haller, Hutton, & Bartram, 2007). Diarrhea is the primary disease linked to unsafe water and sanitation and is responsible for the deaths of millions of people every year. Diarrhea is one of Ghana's major causes of morbidity and death in children under five years. In Ghana, 14,000 children under five years die out of diarrhea annually (Asamoah, Ameme, Sackey, Nyarko, & Afari, 2016). Other diseases include cholera, typhoid, intestinal helminthiasis, etc (Cairncross & Valdmanis, 2006). GAMA project has had positive impacts on the health of beneficiaries. A representative from LEKMA shared a similar view that the provision of these facilities has helped improve the health of the people. He indicated that:

> *Since 2014 where we experienced a wide outbreak of cholera, we have not recorded any cholera case within this municipality, and this can largely be attributed to the ownership of household toilet for the beneficiaries within the assembly.*

Traditional latrines generate heat and offensive odours making it usage uncomfortable but with GAMA toilets, its usage is very comfortable. A beneficiary shared his viewon health benefit saying that:

> *With the GAMA toilets, it does not produce offensive odours like the traditional ones whose usage can affect your health. Using traditional latrines generates heat which makes you uncomfortable when visiting the place and sometimes makes you get yeast infection (White). This calls that you need to treat the infection which comes with a cost. So, this facility has really helped me in terms of healthwise and economically.*

3.2.3 Economic Benefits

The economic benefits of quality water and improved sanitation include reduced cost for health-related problems, fewer days lost at work or school due to illness or care for an ill relative. It also reduces the cost incurred from a shared facility or from collecting water from a nearby water source (Cairncross & Valdmanis, 2006). GAMA project has helped beneficiaries to save money from using a public toilet and water facilities. A LEKMA beneficiary stated that the toilet facility constructed for him has helped him save a lot of money because the latrine he was using gets full almost every 3 months and he had to pay for it to be emptied. The toilet facility built by the project is mainly biofield toilets which run on biofiltration principle with a digester which saves the faecal matter and water. The water is filtered off into a soakaway pit while the bioreaction destroys the faecal matter and converts it to odourless compost. Hence it takes a very long time at least six years for the compost to build up in the digester. Thus the project has made it possible for beneficiaries to save money due to the long duration it takes for a digester to be full and emptied. Another GA West beneficiary added that the project has helped her economically because she doesn't have to empty her garbage every day. Below is the statement that explains her reasons:

> *During the night, homes without toilet facilities defecate in plastic bags and dispose of it in their trash cans. Because of the smell, the garbage will have to be emptied every day, whether full or not. But since I benefited from this project, I don't have to worry about emptying my trash can every day while paying cash.*

The project will also help the Government of Ghana economically in terms of the total money spent on improving the environmental conditions. A study conducted in Ghana and Pakistan suggests that general improvements in environmental conditions can save 8-9 percent of GDP annually (WHO, 2008).

3.2.4 Social and Environmental Benefits

Improved sanitation brings social and economic advantages and while sanitation programming agencies' primary objective is to enhance health, households seldom adopt and use toilets for health-related purposes. Instead, the primary motive for sanitation is the desire for privacy and to avoid embarrassment, the desire for modernity, convenience and to prevent the uneasiness or dangers of the bush (such as snakes, pests, rain, etc.) and a desire for social recognition or status. (Cairncross & Valdmanis, 2006). A respondent from LEKMA recalled how she had to deal with running stomach during the night when the public toilet had closed. She said, personally, it has been convenient for her and so, she can visit the place at any time. Public toilets facilities do not operate throughout the day, it closes in the night and this makes it very difficult for poor, aged, blind or physically challenged persons without household toilets to access it during the night especially if these people do not have anyone to assist them. Another respondent from Ga West shared how owning a toilet facility has brought her family together. The following statement by the respondent illustrates how it has benefited her socially:

> *My children do not stay with me and they hardly visit when on vacation due to the absence of a toilet facility in my home. Because they are adolescents, they feel shy to walk all the way to the main town to access a public toilet. But once I benefited from the GAMA toilet, my children have been coming home during vacations and this makes me very happy*.

Increased access to improved sanitation facilities also brings about environmental gains by making the environment clean and not prone to diseases. An official from LEKMA added that the increased ownership of household toilets in the municipality has reduced the rate of open defecation and has made the environment clean. According to the official, the project has helped 6 communities in the assembly to achieve Open Defecation Free Status (ODF). Most of the beneficiaries interviewed

in both LEKMA and Ga West supported the view that the environment has been clean, and it is very rare to see people defecate in the open. An official from the Ministry of Sanitation and Water Resources also argued that the project is very important especially for the girl child who needs these facilities. She explained her position in the following words:

> *When you are on your menses, you need some privacy and flow of water to enable you to keep yourself clean and these are facilities which hinder girls from attending school. The provision of such facilities has helped increased the enrolment and sustaining the attendance of the girl child in various basic schools*.

Poor school sanitation affects the growth and development of children. It also limits student attendance and retention and adversely impacts the capacity of a student to concentrate and learn. About 1 in 10 school girls misses school on their menstrual days or drop out of school at puberty stage as a result of the absence of clean and private sanitation facilities (Lidonde, 2004). The project has built institutional facilities to schools that lack sanitation facilities and has renovated some old toilet facilities in various schools in the targeted areas. Therefore, the intervention by the World Bank GAMA project has increased school attendance and drop out rates of adolescent girls in schools.

3.2.5 Time Saving Benefits

Having household water connections and toilet facilities also generates time-saving benefits. The time used in collecting water from far sources and accessing public facilities can be saved for other productive things and this generates other social benefits. A beneficiary from GA West supported this view saying that:

Having a household water connection has helped me save the time of not walking for long distance to collect water from public vendors. The project has also helped my children in terms of not being late for school as a result of the long queues they meet in the morning in fetching water. It is also economical because considering the amount you pay to get your tank filled almost every time is costly. Having your own connection will save the stress of paying for water from public vendors.

Thompson et al. (2001) discovered a mean distance for water sources of 622 meters from rural unpiped households in study sites in Kenya, Tanzania and Uganda. In urban areas, the range was only 204 meters but queuing at the tap meant that a water collection trip almost took long.

3.3 Challenges and Measures for Effective Implementation of GAMA Project

Extensive discussions with key officials at the various implementing agencies and beneficiaries led to the establishment of some challenges which affect the effective implementation of the project. The major themes that were discovered concerning challenges include human resource constraints, financial constraints, behaviour change, law enforcement problems, bureaucratic processes, availability and nature of the land.

3.3.1 Financial Constraints

The major challenge faced by the project has to do with affordability. Most households find it difficult to assess the project because of affordability. Although the project absorbs a greater part of the cost, people find it difficult to pay for the project. A lot more people need to be served but they are constrained financially to be able to access the project. Ensuring access to water and sanitation facilities needs money, so it is no surprise that poverty is a major obstacle to extending

coverage from household to national level. Some households generally can not afford the cost of improved services without external help, while many poor countries simply do not have the resources to fulfill the requirements of providing and sustaining water services (Hutton & Bartram, 2008). Some of the people live in compound houses and organizing themselves to access the facility becomes a problem due to inadequate funds. A respondent from LEKMA mentioned that the lifetime savings of these low-income earners may not be enough to afford the project. The project requires the beneficiary to pay some amount of money so that the people can have a spirit of ownership. Despite the support, people cannot still afford it. In spite of the subsidy given, individuals in the targeted areas hope the cost be reduced further so that a lot more people can afford. Most of the beneficiaries interviewed shared the view that the reason why some people have not gotten access to the project is as a result of financial problems. Some people wish to have these facilities, but their financial capacity does not allow them. Thus low-income people coming up with the money to pay for the toilet facility and water connection despite the subsidy given sees the amount to be paid as huge for them. A Ga West beneficiary explained her view on financial constraints as follows:

> *My brother was the one that paid for the facility to be put up. I was moved by the way the facility was and how it was helping us. I wanted to build one for myself in my own house which I have rented out but upon inquiring about it I was told it cost GHS 1,100 so I didn't bother to do it again because I do not have the money to pay for it. Since I am staying with my brother for now, in the future if I get the money I will construct one.*

The issue with the water connections has to do with the collection of revenue after the connections. Low-income earners find it very difficult to pay their bills after getting connected. This is also a problem that is affecting the water sector of the project.

3.3.2 Human Resource Constraints

Another challenge that affects the implementation of the project is human resource constraints. The assemblies lack adequate personnel to ensure effective implementation of the project. Supervision and working with artisans has also posed a major challenge. A representative from LEKMA indicated that there are not enough personnel to visit the clients' house to check or do the assessment for payments to start. This is a challenge facing the municipality and it affects the progress of the work. Another representative from Ga West argued that the contractors can stop building at any point in time leading to delays. Engaging all stakeholders is a little challenge for the project. Relevant stakeholders in the WASH sector contributes to the project but a lot more efforts need to be done to achieve excellent results. A representative from GWCL commented on this point by explaining how stakeholder's engagement can affect the effective implementation of the project. All stakeholders will have to be consulted before the laying of pipelines but the problem arises when after the design of pipelines and at the point of implementation a stakeholder comes to ask that they change the pipeline alignment. This ultimately delays implementation and increases the cost. The following statement explains his views on this point:

> *It is sometimes the case that, just at the point of implementation one of the stakeholders will come and inform you that you will have to change the pipeline alignment again but which time designs will have been made, resettlement action plan will have been prepared and it calls that you need to go back and redesign and also modify your resettlement action plan so that you pay the right persons the compensations*.

3.3.3 Behaviour Change and Cultural Practices

Water quality and hygiene interventions are especially interesting because while test findings generally have a powerful effect on disease risk, significant behavioural changes are also required to be efficient, generally within the household and often at the individual level (Waddington, Snilstveit, White, & Fewtrell, 2009). Thus for an intervention to be effective in the WASH sector, there should be attitudinal change. The traditional nature of low-income earners makes it difficult for them to accept these new technologies due to their behaviour and cultural practices. An official from PCU stated that one of the challenges they face is behaviour change. Getting people to change their behaviour is a problem. Some people prefer to practice open defecation than to own a toilet facility no matter how you convince them to have these facilities. A representative from LEKMA added to this point saying that:

> *We are also faced with the challenge of the attitude of the people of Teshie. About 40 percent of the people are traditional people and they claim to defecate in the open or along the beaches, or the coastal line is their human rights because their ancestors have been practicing it, so they also have the right to practice it. Therefore even if you provide them with an improved toilet facility, they will still prefer to go to the seaside. Hence, the thinking of the people in the old town especially is a challenge or a border to the project.*

Another respondent added to the issue of attitude, saying that the people feel very lazy to travel or walk to the assembly in order to have access to the project. Moreover, some of them have certain perceptions about government authorities and this prevents them from going to the assembly.

3.3.4 Availability and Nature of Land

Land availability is an issue due to the lack of space for these facilities. Dealing with waste requires space to be disposed of, but this space is not accessible particularly in Accra, which is very choked and has little room to build a disposal site or a treatment plant. This affects the implementation of the project since people who express interest in the project end up not having space for the infrastructure. An officer at GWCL argued that a key challenge faced by the project has to do with wayleave acquisition (right of way). According to Wikipedia, "the right of way is a type of easement granted or reserved over the land for transportation purposes such as highway, rail, transport and electrical transmission lines, etc". GAMA is a highly urbanised area hence there are a lot of obstacles to be dealt with in laying pipelines. In addition to this challenge, there is the issue of land demarcation and litigation. The areas in GAMA are not well planned and those living around lack a site plan and documents of the land which sometimes breeds confusion as a result of fight of ownership of the land and this affects work progress. A representative from LEKMA explained his position on this point stating that:

> *Most of the time, we encounter this litigation when the workers go on site. When people claim ownership of the land, work has to stop. At a point, people pull cutlasses on our workers who go to do the construction. We have a case at the police station that we are dealing with. A neighbour hit a client with a shovel with the reason that he has encroached on his land. So, one of the major issues in Teshie is land litigation because the area isn't too planned especially the Maame- old town areas. They are not well planned and then those who reside there do not have site plans or building documents.*

Also, areas with a high water table inhibit the smooth implementation of the project. High water table makes the construction of bio fill toilets difficult because by digging 2 feet, you find water,

and this makes implementation difficult. The situation is well explained in the words of an official at LEKMA as follows:

> *Though, we have another system in place called the micro flush system which receives very little water, so we can implement that type of system at high water areas just that when the water table is too high, our soak away pit can't work well, therefore we are unable to work in areas where we have a very high water table. Accordingly, this prevents us from building the facility there. Consequently, they will demand either a septic tank or dry toilets.*

Al-Momani (2000) explored the causes of delay in 130 public projects in Jordan and the primary reasons for the delay discovered were in relation to the designer, user change, financial capacity, increase in quantity, late deliveries, weather and site conditions. There are instances where a large number of people demand the project after the assembly has triggered the enforcement bit. When it happens like that a lot of people make payments for the project, but the huge number does not make it possible for a first site inspection to take place to know if the project will be feasible at the said site. The problem arises when the facility cannot be constructed or is delayed due to the high water table. A great number of individuals paying at a time also affects the construction process leading to delays in delivering the infrastructure.

3.3.5 Law Enforcement Problems

Enforcement of the laws in the country is a problem and this sometimes affects the progress of the work. Respondents expressed their consent over enforcement as one of the biggest challenges that hinder the effective implementation of the project. Enforcement of sanitation by-laws is an issue. A respondent from PCU remarked that the most difficult aspect of the project is the enforcement of sanitation laws. Enforcement is a challenge because getting the logistics to do enforcement that

is moving from house to house to monitor is an issue. Besides these people need to be recruited and paid for by the government. Therefore, having the required number of sanitary inspectors in the field to be able to implement the sanitation by-laws is also another challenge due to the monitoring effect that needs to be addressed. Moreover, enforcement is a challenge because despite being guilty, individuals go unpunished as a result of the links they have with high officials. This makes it difficult to have an impact on them and to serve as deterrence to others. Research undertaken in Nigeria found that in order to achieve compliance with environmental sanitation laws and provision of environmentally oriented projects, there is a need for rigorous enforcement of environmental sanitation legislation. In reality, if necessary, some individuals should make scapegoats to serve as a lesson to others. In that case, individuals will be careful not only to ensure that they comply separately with environmental sanitation legislation but also proactively to prevent others from contravening them (Daramola, 2012).

There is also a need to enforce the laws on the right of way so that individuals do not build structures on the right of way that affects the laying of pipelines. Pipeline laying is a challenging task in GAMA because individuals and other structures have occupied the right of way for pipelines. The enforcement problem also affects the compensation of Project Affected Persons (PAP). World Bank projects are such that all those impacted by the project one way or the other are compensated. Anyone who needs to be relocated for work to be undertaken needs to be compensated. The processes involved in the payments of compensation delays the smooth implementation of the project particularly with the laying of pipelines. The people will have to be relocated and compensated and this unduly slows down the company's pace of supplying water to interested low-income communities. The issue intensifies when traders or squatters realise they

are going to be compensated, so they keep coming almost every time employees go to the field to lay pipelines and this increases cost. Therefore, if the state strictly enforces trade and housing laws, it will help to prevent double pay because some individuals are squatters that are not supposed to be there under normal circumstances. An official at GWCL expressed his view on this saying:

> *Because laying of pipelines is not only about supplying water, it is necessary to supply water with good quantity and at good pressure. Hence a lot of obstacles met on the field on one side will require the laying of a pipeline to be done at the opposite side. This increases cost because a designer will have to be consulted to redesign and examine if water can pass through at the same pressure originally designed to. This also delays the progress of the work.*

Lastly, a challenge faced by the project is the long procedures and processes that they have to go through before subsidy is paid. This sometimes delays the progress of the work. Bureaucratic processes delay the lease of subsidy or counterpart funding to the contractors. It goes through very rigorous processes and at times when they submit the request of payments at the project office it has to go through the ministry which delays the work. Maintenance is also a challenge because some of the people are not looking after the project well. They do not keep it clean and they sometimes exceed the number of users. The household toilet facility has been designed in such a way that it can be used by a maximum number of 15 people. The project did not take care of final disposal and as such when digestors are full clients punch holes to the digesters for it to empty into drains. More efforts are needed especially when digesters are full.

3.4 Measures to Ensure Effective Implementation of the Project

According to a respondent at LEKMA, there should be a thorough assessment of the targeted areas or communities to ascertain the needs of the people. In the targeted areas, thorough assessment and research work need to be conducted to develop measures to address all concerns to boost uptake of the facilities. There should be broad-based consultation with stakeholders and residents alike in the targeted areas in order to understand their grievances and the choice of facility they want before the take-off of the project. This will help to know their financial status and devise ways to assist them to increase their household contribution to own these facilities. All stakeholder in the sector should be engaged extensively at the project preparatory stage to forestall or reduce the incidence of pipeline realignment.

Respondents from the implementing assemblies proposed that the project should resource the assembly teams to frequently serve their programs and events. Resourcing the assembly teams can help efficiently in their marketing and internal operations in order to get a lot of individuals on board. In the view of another official from LEKMA, Contractors should be assisted with plumbing materials since its acquisition delays the progress of the project. If the project can help the contractors acquire building materials and maybe take it out of their subsidy payments it will also push the project very well. Therefore, they can give them the building materials upfront especially the plumbing materials because these areas unduly delay the completion of the work. If the project can help supply them with these materials and make deductions at the point of payment of the subsidy, it will go a long way to improve the completion rate of the facilities. On the issue of finance, another official suggested that more funds should be released to municipal assemblies to increase awareness for demand, for example, if advertising is always done on the radio and by

other means, it will assist community members to understand the dangers involved in not owning these facilities.

There should be strict enforcement of laws in Ghana. If people are building in the right places, relocation and compensation issues will not be a problem because the right of way for utilities will be known so that when going to work, it will be easy to identify places meant for pipelines to ensure smooth implementation and less cost incurred in extension works. Community members should be involved as much as possible while strengthening the sanitation court and engaging more sanitary inspectors to monitor and strictly implement sanitation laws without compromise. This reflects in the statement of the respondent as follows:

> *The assembly should make it a point to enforce the sanitation by-laws to the latter, and once they do, individuals will be compelled to have household toilets. Therefore, they shouldn't relax the by-laws, every feasible bit of it must be implemented to make sure everyone has a household toilet facility. This is because the by-laws state that, it is an offence not to have a toilet facility and people without it should be punished.*

Commitment is also needed to help ensure the effective implementation of the project. The project is such that it deals with human beings and as such needs a lot of time and commitment. Thus the team must be patient to be able to deal with the pressure from clients especially during delays of the project. The Municipal Assemblies should make an effort to give maximum assistance to the project by resourcing the team with the required equipment to ensure effective execution of the project. At the assembly level, there should be support from especially the Coordinating Director and the Chief Executive. The team sometimes has mobility issue as transportation is not always available to assist in site inspection and other operations. Though the project has made mobility

available, it is not always accessible because at the assembly, they compete with other things. There are other projects ongoing at the assembly that also requires to use the limited transport facility available.

Finally, a PCU respondent stressed on the need to identify sanitary sites and obtain them legally for sanitation purposes and have strict laws that will prevent individuals from developing in any acquired sanitary site. On how to address the issue of storage, a LEKMA official specified that the project can get a key point where a large containment or septic tank can be built so that individuals can construct their superstructures and connect to lines that run into the septic tank. With this in place, individuals will not have problems with lack of space as an excuse usually in areas where land is scarce.

3.5 Conclusion

In conclusion, the World Bank GAMA project has put in place some mechanisms to help in achieving SDG 6 (Universal access to water and Sanitation). The intervention of the World Bank GAMA project has increased access to water and sanitation in GAMA. The project has additional benefits such as health benefits, economic benefits, environmental, social, etc. Financial problems, human resource constraints, enforcement of laws, nature and availability of land are some of the challenges faced by the project. In addressing these issues, there is the need for extensive stakeholder engagement, strict enforcement of the laws, proper supervision, resourcing the teams among others. With these strategies put in place, the project can be implemented effectively to achieve sustainability.

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CHAPTER FOUR

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

4.0 Introduction

The study sought to examine the contribution of the World Bank in achieving SDG 6 through the conceptual framework of human security. The chapter summarizes the findings of the study based on the objectives of the research, draws conclusions and make relevant recommendations deduced from the opinions of respondents and data from secondary sources.

4.1 Summary of Findings

The key objectives of this study include:

- To examine mechanisms put in place by the World Bank GAMA project in achieving SDG 6
- To identify the importance and benefits of World Bank GAMA project
- To identify the challenges encountered by the World Bank GAMA project and propose measures to ensure effective implementation.

- It was established in this study that, the World Bank GAMA project has put in place some mechanisms to ensure access to quality water and sanitation in GAMA with emphasis on low-income communities who are the most vulnerable lacking these facilities. The project has subsidised the payment of water and toilet facilities and has established institutional structures like LICSU, a Master Plan and PCU to achieve its purpose. The project also does capacity building for the various Metropolitan, Municipal and District Assemblies

involved in the project in the area of planning and infrastructure development in sanitation, public financial management, procurement and all the key pillars that will enable to deliver a service sustainably.

- The study further revealed that the mechanisms put in place by the project is a means to help Ghana achieve SDG 6 which is on attaining universal access for all to water and sanitation by 2030. The project is very important because sanitation and water are vital issues that promote the development agenda of a country. The project has been able to increase access to water and sanitation facilities and has helped to improve the quality of life of the people in GAMA. It has also positively impacted the health and environment as a result of a reduction in open defecation. Social and time-saving benefits are other advantages the project provides.

- In identifying the challenges faced by the project, the study highlighted the financial status of the low-income communities as an obstacle to the project since some people are still not able to afford the project although the project absorbs a greater portion of the cost. Again, law enforcement issues affect the implementation of the project. It was revealed that the sanitation by-laws and building codes are not effectively enforced and as such affects the progress of work leading to delays and increased cost. The research also discovered that the availability and nature of the land can be an obstacle to the project. Construction in waterlogged areas is difficult and acquiring land or space for the structure to be built is another challenge considering the lack of space in GAMA which happens to be in the capital city with over-population. The behaviour of the people is a challenge

because getting people to change their behaviour and practices is very difficult. Some people continue to defecate in the open and bushes despite the awareness that have been created on the importance of having these facilities. Furthermore, human resource constraints is another challenge faced by the project. There is inadequate personnel to ensure effective implementation, especially at the implementing assemblies. There are issues with contractors and stakeholders which sometimes affect work progress.

- Regarding measures to ensure effective implementation, the study through the opinions of respondents identified thorough assessment of the targeted areas, support from all stakeholders, strict enforcement of laws in Ghana, commitment, resourcing the assembly teams, properly acquiring sanitary sites, building large containment at places where space is a problem to enable them to connect their pipes to the containment and assisting contractors who are not financially stable to get plumbing materials upfront to prevent delays in the construction process. This can be deducted from the subsidy that will be paid to the contractor.

The findings of this research concur with the work of Montgomery & Menachem (2007) that in order to achieve good health, there should be an improvement in global access to water and sanitation. The findings of this research also concur with the work of Bartram & Cairncross (2010) that interventions in water and sanitation do not only prevent deaths but it saves cost, time and boosts school attendance while benefiting the state as well. The GAMA project has helped beneficiaries economically, socially and produces time-saving benefits. However, my research findings disagree with the work of Alagidede and Alagidede (2015) that by reducing water cost to

the level of the ordinary person will enable them to gain access to a water supply. The findings of this research show that despite the subsidy given by the World Bank GAMA project which absorbs 70 percent of the cost, people still have problems with affordability. Although the cost has been reduced, not all the people have gained access to water in the targeted areas and this is a challenge faced by the project. According to Awuah, Nyarko & Owusu (2008), although the Government of Ghana has implemented policies to address sanitation, enforcement is proven futile. The findings of this research confirm this point because one of the challenges faced by the GAMA project was as a result of law enforcement problems. Although there are sanitation laws and laws on the right of way, people do not respect them and this affects the effective implementation of the project.

Lastly, the findings of my research also indicate that, the environment is vital to sustainable growth and development through creative policies. This is in line with Akinlolu Omisore (2018) work which suggests that, in attaining SDGs, there is the need to address environmental challenges. By prioritizing environmental-related SDGs, it can help to achieve socio-economic growth. The GAMA project has not only generated environmental benefits but has also produced social, economic, health and has even decreased the drop-out rate of adolescent girls in school during puberty. This shows that attaining SDG 6 can help to achieve other related goals like SDG 3 which is on good health and well-being. This shows how it is important to provide human security (environmental security; water and sanitation) because threats to human security are inter-related and interconnected. Deterioriation of the environment can contribute to low education leading to poverty.

4.2 Conclusion

This study was designed to examine the contribution of the World Bank in achieving SDG 6 in Ghana, A case study of the GAMA Project. As stated in the introductory chapter few research has been conducted on the role of the World Bank in achieving SDG 6, this motivated the researcher to carry out a similar study in Ghana to add to the growing literature on the contribution of World Bank in achieving SDG 6 which is on universal access to water and sanitation. Water and Sanitation is a major issue facing the government of Ghana. With the support of external donors like the World Bank, there has been increased access to water and sanitation. The World Bank GAMA project is the current project of the World Bank to support universal access to water and sanitation in GAMA.

Based on the findings of the research, the project has put in place some mechanisms to achieve its agenda. Financial constraints, human resource constraints, land issues and behaviour change are some implementation challenges faced by the project. However, the above-mentioned challenges can be addressed when there is extensive stakeholder involvement, proper acquisition of land, enhanced commitment, thorough assessment of targeted sites and resourcing team members adequately. More importantly, ensuring the laws of the country on building codes and sanitation by-laws is vital for the effective implementation of the project. In conclusion, the project has helped to increase access to water and sanitation facilities in GAMA, and if extended to other regions of the country and the duration also increased, by 2030, there will be universal coverage in water and sanitation and this will help Ghana achieve SDG 6. It is important to note that the project plans to extend to other regions in the country.

4.3 Recommendations

The following recommendations are made based on the findings of the study:

- It is recommended that the project expands to include development partners, private sector and Non-Governmental Organisations (NGOs) to scale it up. This is because there are many people who do not still have access to water and sanitation facilities. Hence, instead of GAMA Sanitation and Water Project, it can become Ghana Sanitation and Water project. This will obviously achieve excellent results throughout the country. It is also recommended that the government should increase the allotment of finance in the area of sanitation to aid people in the country especially the low-income earners to own household toilets. The government of Ghana can also take advantage of the initiative by investing in this particular project to ensure universal access to water and sanitation. More funds should be released to the municipal assemblies to intensify awareness creation for the demand of the project.

- The study also recommends that the by-laws of sanitation should be strictly enforced without compromise. The assembly should make it a point to enforce the sanitation by-laws and once they do, individuals will be compelled to have household toilets. Therefore, they should not relax the by-laws, it is necessary to enforce every possible aspect of the by-laws to guarantee that everyone owns a toilet facility. The laws on trading and building codes should also be strictly enforced so that squatters and street vendors do not occupy the right of ways to ensure the laying of pipelines efficiently. These people must be punished according to the law so that they do not just occupy these places in the name of

compensation which sometimes delays the progress of work. The punishment will prevent them from occupying the right of ways and serve as a lesson to others.

- Furthermore, the study recommends that the next approach to the project should focus on both solid and liquid waste. The World Bank definition of sanitation for this project has to do with liquid waste, but the general understanding of sanitation by the ordinary man has to do with solid waste. Some people think the project is about solid waste and at times wish it addresses that issue. Hence, interventions for both solid and liquid waste should be provided by the World Bank.

- In addition, the study recommends engaging all stakeholder extensively at the project preparatory stage to forestall or reduce the incidence of pipeline realignment. There should also be continuous community engagement. Another recommendation for the project is that, the implementing assemblies should recruit contractors who have the financial capacity to do the work on time. When the digester gets full, the compost removed can be used for other beneficial purposes, for instance, it can be used for farming activities other than disposing it into the sea to pollute the water.

- Finally, the study recommends that the government of Ghana should consistently create awareness and educate the people in order to reform them from habits that have been acquired traditionally such as defecating in the open. Such acquired habit takes time to reform hence government should persistently educate them on good hygienic practices. The government can also focus on the youth especially those in schools by using different

school programmes to educate them on the need and benefits of having quality water and improved sanitation facilities. This will help the people to readily accept any form of intervention and pursue it for their own good.

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APPENDICES

Appendix I

SEMI-STRUCTURED INTERVIEW GUIDE FOR GAMA PROJECT OFFICE, GHANA WATER COMPANY LIMITED, WORLD BANK AND MINISTRY OF SANITATION AND WATER RESOURCES

- Can you please tell me the mechanisms put in place by the project to promote access to water and sanitation facilities?
- Do you think these mechanisms are effective in achieving SDG 6?
- Why do you think we need GAMA project?
- What are the importance and benefits of GAMA project
- What are some of the challenges faced by the project?
- Which aspect of the project is difficult to implement? Why?
- Has any obstacle prevented you from achieving full implementation of the project? Can you tell me about it?
- Will you recommend this kind of interventions to other donors or development partners? Why or why not?
- Which aspect of this project will you change before recommending it to others?
- Is there anything that can be done differently to ensure effective implementation of the project.
- Do you have an additional comment you will like to share?

Appendix II

SEMI-STRUCTURED INTERVIEW GUIDE FOR BENEFICIARIES

- What are some of the strategies put in place by the project to ensure access to water and sanitation?
- Can you please tell me why we need GAMA project?
- How do you feel being a beneficiary to this project?
- How has the project helped you?
- Can you please tell me some of the positive impacts the project has had on the community if any?
- Do you think the project is effective in ensuring access to water and sanitation (SDG 6)?
- Can you please tell me the challenges you faced in becoming a beneficiary to the project?
- In your opinion what are some of the drawbacks of the project?
- How do we deal with those drawbacks or challenges in your view?
- Will you recommend this project as an intervention to solve future water and sanitation problems? Why?
- What recommendations will you give to help in effective implementation of the project?
- Do you have an additional comment to share?

Appendix III

SEMI-STRUCTURED INTERVIEW GUIDE FOR THE SELECTED MUNICIPALITIES (LEKMA AND GA WEST)

- Can you please tell me the things put in place by the project to increase access to water and sanitation in this municipality?
- How do you think this project meets the needs of the people in relation to water and sanitation facilities in this municipality?
- Can you please tell in your opinion how this project will help Ghana achieve SDG 6?
- What are some of the challenges faced by the people in getting access to the project in your municipality?
- Has any obstacle prevented the municipality in ensuring full implementation of the project? Can you tell me about it?
- Are there any other drawbacks of the project you will like to share?
- What recommendations will you give to help in effective implementation of the project?
- What do you think can be done to help address the obstacles to the project?
- Do you have any additional comment additional comments to share?