

**ASSESSING THE FACTORS INFLUENCING THE SUSTAINABILITY OF
COMMUNITY-BASED PROJECTS IN GHANA. A CASE OF WATER,
SANITATION AND HYGIENE (WASH) PROJECT.**

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DECLARATION

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at the Kwame University of Science and Technology, Kumasi or any other educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

The sustainability of a project is pointed out by its continuous operation and maintenance of the system. Sustainability of projects is usually constrained by the inadequacy of financial resources that are needed to implement the same. The present study assessed the Factors Influencing the sustainability of community-based projects in Ghana focusing on Water, Sanitation and Hygiene (WASH) Project. The issues the study focused on are sustainability parameters, factors that influence the choice of sustainability parameters and challenges of sustenance. The study used one hundred and fifty (150) respondents. The instrument for the data collection was developed by the researcher, preceded by a pilot study. The pilot study was initially conducted in a similar project community to ascertain its validity and the reliability. With regard to Cronbach Alpha, the pilot study passed the threshold of 70%. The data for the study was basically from primary source in that, closed-ended questionnaire was designed and distributed to respondents. The data generated was analyzed using the mean score ranking. Descriptive statistics was used to test the data. The study concluded that sustainability parameters are recognized on the project, therefore achieving its set objectives and already providing some tangible benefits to community members. In addition, the study recorded that the project has influential factors of sustainability parameters. More so, the study finds that planning and coordination is the most significant sustainability challenge of the Project. The study recommended that project implementers should use their project management skills to solve practical challenges to enhance the benefits to communities.

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DEDICATION

I dedicate this work to Mr. Robert Dodoo.

CHAPTER ONE

GENERAL INTRODUCTION

1.1 BACKGROUND

Project Management Institute (2006) a project is a unique set of organized activities, with unique beginnings and end, which is gone into privately or by an organization to meet specified objectives within a specified period of time.

Sustainable development is a concept that is used in our daily talks but difficult to define. The Brunt Land Commission memorably defined it in its 1987 report (Our Common Future) as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (World Bank, 2005). Most authors perceive Sustainable Community-based Development Project differently. Roy (2003) viewed development as for the people and by the people. His argument was that, the essence of sustainable development is determined by the people, which can be attributed to change of peoples" attitudes, leading to a change in their habits.

Project sustainability is figured out by the continuity of operation and maintenance of the system (O&M). The O&M accepts project variety and inclusivity of all sectors that would be required to sustain the project. According to Yacoob (1990) project sustainability is usually affected by the lack of financial resources needed to implement the task. Due to budget policies, it is difficult for project team to establish project resource structures and the associated institutions needed for the execution and the attainment of the set goals. However, the condition can be reduced by robust and effective capacity at the national level to manage and organize project financing.

According to Espinosa (2000) sustainability is the capacity of an organization to keep its being and growth momentum through its lifecycle. The World Bank (1986), defines

continuity as the capacity to keep an optimum level of flow through its financial cycle. The flow can be in a quantitative term which requires the financial rate of return, benefits or qualitative in terms of technological transfer and institutional building. The outcome level is a high-level indicator which is required to measure the success level of any community-based venture. It takes the extreme responsibility of all project stakeholders and total dedication of all involved to the letter and spirit of the organization.

A community venture is a term used to refer to any community-based project. (Allen, 2004). On the other hand, the term community is defined as: a social unit or group of people with commonality such as norms, a given set of mannerisms such as customs, religion, values and share a sense of place situated in a given geographical area. Community-based organizations follow a particular tread such as population clusters, regional boundaries and different levels of income (Cleaver, 2001).

In Ghana, an estimated two million people are being positively impacted by community-based projects efforts. The focus of CBPs has included interventions in education, water, sanitation, health care, agriculture, spiritual nurture, community capacity building as well as micro-enterprise development (Ghana National Profile, 2001). Community-based development projects are planned for a certain period of time called gestation period or life-span after which they come to an end and the community is expected to continue running the project and make them self-sustaining.

There are various factors that influence projects sustainability which include designing and planning, implementations that are well-coordinated and monitoring and evaluation techniques that would be used to refine the weak areas as reinforcement are done on the effective areas (Isabalijaa et al., 2011). The Project Management Institute (2006) also brings out that there are various approaches to project continuity. The recognized benefits

by the local community such as employment opportunity and favourable market for the exhibition of its goods and services. Transparency in the procedures such as tendering and inclusivity in the running of the joint venture.

The resource aid brought by the local community groups particularly with respect to the technical efficiency and financial support is key to community-based project sustainability. In addition, the participation of community groups in supporting community-based projects in areas of customer preference, effectiveness in design construction and maintenance of project facilities and equipment is essentially important in project sustainability. Moreover, the involvement of various community-based groups and the training of staff on the efficient use and management of project assets, improved skills and increased incomes of the beneficiaries and the local community will be reasons enough to sustain their interest in the project.

1.2 PROBLEM STATEMENT

The progression of community-based projects and the resulting profits is of great interest to many researchers. Millions of dollars are invested by the local communities and business-oriented people in projects but still fail in maintaining the uninterrupted flow of returns throughout the lifecycle of the project. A number of factors would undermine the long-term sustainability of community-based projects. These include: lack of close monitoring to alleviate the flow of challenges. Lack of technocrats to avoid the arise of problems in the successful delivery of projects and follow-up to the end of the project. As the number of community-based projects increases, both local support and other support from big corporate companies, precise information is a key in the major decision making in order to yield the desired outcome and remove the bottlenecks to the progression of the project.

In his study Karanja (2014) sought to investigate the success of the youth projects in parts with respect to the impact of successful management on the integration of the project. The findings of the study showed a great association between prudent management of resources, the continuous training and on time feedback as the key pillars to the success of youth projects. However, the study was not comprehensive to include other youth income generating projects in other countries, the variables were not comprehensive enough. Sizwe et al., (2012) studied the sustainability of Swaziland's local waters. However, the research study focused on the general factors that failed to cover the specifics of the project's continuity.

The goal of Habtamu (2012) study was to find the factors affecting the continuity of rural water supply systems in Ethiopia's Amhara area. However, the research study was equally not all embracing as it focused only on one variable relating to the role of community involvement in project sustainability. Stephen et al., (2011) looked into There has been quite a number of projects that has been initiated by various stakeholders in Kenya and across Africa. Unfortunately, most have not fulfilled the intended purpose for which they were undertaken because they don't get to pick up and operate as envisioned. For example, the Lake Turkana fish processing plant in Kenya which was designed in 1971 with an aim of providing jobs to the Turkana people through fish farming. The construction of the plant was completed and the operation of the plant started but only lasted for a few days after which the plant was shut down. Some of the factors that led to the closure of the plant included, the cost to operate freezers and the demand for clean water which was not readily available in Turkana being a semi-arid region. The Turkana people being nomads with no history and background knowledge of fish farming and activities could not integrate their lifestyles of suit the fish farming.

The Roll Back Malaria, across Africa project was started in 1998, the projects target was to reduce the malaria infections to less than half by the year 2010. The project was budgeted at about \$1.9 billion yearly in Africa only. The project had however received \$200 million in its kitty by 2012. The low funding of the project resulted in the infection rate increasing by 12%. Experts say donors did not honor their pledges, additionally, some activities were subject to political debates.

This is not different in Ghana in that private WASH sector organizations engage in the processes to provide specialized service when needed. Utilizing the VSLA networks where present or facilitate the formation of new ones, WASH for Health will partner organizations working with the VSLAs to drive the demand for latrines through saving up for the facility. Some other financial products may be developed to respond to local situations as a way of increasing access to inputs for the construction of household latrines. Due to the lack donor funds flow as was projected, the project could not be sustained. This and other examples not highlighted have necessitated further study on factors influencing the sustainability of community-based projects.

1.3 RESEARCH AIM

The aim of the study was to determine the factors that influence the sustainability of community-based projects in Ghana.

1.4 RESEARCH OBJECTIVES

The study was guided by the following objectives:

1. To examine the existing sustainability parameters of the WASH Project.
2. To identify the factors that influence the choice of sustainability parameters.
3. To identify the challenges of sustaining the WASH Projects.

1.5 RESEARCH QUESTIONS

To achieve the objectives of the study, the research ought to answer the following research questions.

1. What are the existing sustainability parameters of the WASH Project?
2. What are the factors that influence the choice of sustainability parameters?
3. What are the challenges of sustaining the WASH Projects?

1.6 SUMMARY OF METHODOLOGY

Research methodology was considered as the general approach to the design process of a study from the theoretical foundation to the collection of data and its subsequent examination (Thurairajah et al., 2006). That is, it provided a theoretical and philosophical assumptions of the study and its consequence on the method or methods adopted for the study (Saunders et al., 2009). The large amounts of numeric data used to generalize findings and independent nature of the researcher, the study is implicated on positivist research philosophy (Kaboub, 2008). The researcher adopted a quantitative approach to understand the association between the variables in this study. Furthermore, a deductive approach is best suited to establish the underlining relationship between variables. The study adopted a descriptive survey to avoid manipulation of variables in the study and rather explore the existing relationship between variables (Aliyu et al., 2014). The

objective populace for the study was employees of WASH projects in the Kumasi Metropolis in the Ashanti Region. In effects, a survey approach and consequently a stratified sampling approach will be used. According to this approach, people or gatherings of people that are capable and all around versed in data with a wonder of intrigue (Cresswell et al., 2011). The study used of primary data collection tool as part of the research design. All ethical considerations were made during the collection of data. Prior to the data analysis, the data was screened and coded using SPSS statistical software. Also, test for validity and convergence was carried out to ensure validity of data (Creswell, 1994). For the data analysis, descriptive statistics will be used. The descriptive analysis included means, frequencies and standard deviations. Furthermore, mean scores will be used to rank the importance of themes identified in the data collection tool.

1.7 SIGNIFICANCE OF THE STUDY

The research study would be significant to project managers and staff of community-based projects in Kumasi as they would understand the sustainability of project development and how they can be able to strengthen the project in order to achieve project sustainability. The findings of this study would be of much significance to the project beneficiaries as it would increase their understanding of how important project sustainability is and why there is the need for participation of the local communities in project design, implementation and management so as to increase the project sustainability. The study would be of much importance to project sponsors and the various donors who would appreciate the importance of community work to enhance these factors.

The study will enhance the knowledge, understanding and appreciation of government officials on the factors that hinder local community participation, partnerships, monitoring

and evaluation in achieving project success and sustainability and again apply them to the various projects been undertaken.

1.8 SCOPE OF STUDY

The study was restricted to donor funded projects in Ashanti Region. The region is one of the most populous regions in Ghana in terms of donor funded projects. The concern of the study was factors influencing the sustainability of community-based project in Ghana.

1.9 ORGANISATION OF THE STUDY

The study was organized into the following chapters. The first chapter, outlined the background of the study, problem statement, research questions, research objectives, brief overview of research methods, scope of study and the significance of study.

Chapter two talked about the literature. It looks at the contextual review-elaborating on the concepts of donor funded projects. The chapter looked at the overall governance of community-based project; focusing specifically on monitoring and evaluation, resource support, project design, and operational maintenance. The chapter was also outline theoretical and empirical literatures on the factors influencing donor funded projects. Conceptual framework will be designed and the chapter will end with research gap.

Chapter three detailed the methodology of the study. Study area, research approach, research methods, research strategy, target population, sample size and sampling technique, sources of data, instrument for data gathering, validity and reliability of research instrument and data analysis. Chapter four deals with the presentation and analysis of data and finally, chapter five contains summary of findings, conclusion and recommendations of the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 INTRODUCTION

The chapter presents review of literature on the topic under study. The chapter looks at the critical gaps in the various published works of others focused on the sustainability of Community-based Projects (CBPs). The significant inputs of the NGOs on the CBPs and how they can be sustained would be looked into. The section would analyse the following three theories; Theory of constraints, the theory of sustainability, and aggregative and distributive theory. Furthermore, the role that would be played by the resource support, project design, operational maintenance and monitoring and evaluation in the sustainability of the community-based projects will be analysed.

2.2 SUSTAINABILITY OF PROJECTS

The capacity of benefits to flow down to the lowest curdle of the organization, usually after the funding of the project has taken place is the critical test of sustainability. Moreover, it is of much importance to carefully appreciate that, the benefit that would be sustained does not certainly state that the venture itself perpetuates. The other ultimatum to sustainability emerges from poorly composed policies and overconsumption from recurring expenditure at the expense of production (Norgaard 1992). Again, there are multitudes of factors that can have a positive or negative impact on project sustainability which should be critically looked at during project implementation and design.

Sustainability of WASH projects in urban areas is further complicated by the competing demands for resources. Water is a critical resource for communities, as it is for hospitals and schools, industries, businesses and agriculture. As competition and the demand for water increases, sustainability of sources becomes more difficult to guarantee. Ensuring

sustainability requires substantial work towards improved care of resources and responsible use by all stakeholders. Sustainability is a concept used to ensure that activities – regardless of the place or the time they happen – result in a long-term positive impact on the environment and its inhabitants, or at least do not have negative impacts. Urban communities are part of a larger national community, and are also part of the community of the world as whole. The concept of sustainability helps us to think locally, nationally and globally, when planning interventions.

WaterAid (2011) define sustainability is about whether or not WASH services and good hygiene practices continue to work and deliver benefits over time. No time limit is set on those continued services, behaviour changes and outcomes. In other words, sustainability is about *lasting* benefits achieved through the continued enjoyment of water supply and sanitation services and hygiene practices.

For numerous reasons, urban areas do not always get adequate access to WASH facilities. Where facilities are not functioning properly, even for a short period, the lives of communities are immediately and severely affected. The hygiene and sanitation conditions of individuals or families can rapidly worsen if WASH facilities are poor, exposing them to significant health risks. Lack of nearby clean water means communities have to use water from further away, which may become contaminated during transport and handling. This increases the risk of exposure to waterborne diseases.

Interestingly, Brikké (2000) define a service to be sustainable when:

- It functions and is being used.
- It is able to deliver an appropriate level of benefits (quality, quantity, convenience, comfort, continuity, affordability, efficiency, equity, reliability, health).

- It continues over a prolonged period of time (which goes beyond the life-cycle of the equipment).
- Its management is institutionalized (community management, gender perspective, partnership with local authorities, and involvement of formal / informal private sector).
- It's operation and maintenance, administrative and replacement costs are covered at local level (through user fees, or alternative financial mechanisms).
- It can be operated and maintained at local level with limited but feasible, external support (technical assistance, training, monitoring).
- It does not affect the environment negatively.

2.3 EXISTING SUSTAINABILITY PARAMETERS OF THE WASH PROJECT

Given the complexity of Sustainability and its dependence on the context of each country, it is not possible to provide a simple recipe to address it. Hence, the following programming guidance has been formulated in the form of broad guiding key topics and potential programming responses to the WASH Project (Brikké, 2000).

2.3.1 RESPONSIVENESS TO USER NEEDS AND EXPECTATIONS

Conduct preliminary assessments of both technical, social and cultural aspects related to water and sanitation. Support the implementation of inclusive participatory processes, with particular attention to be given to vulnerable populations, indigenous populations, people with disabilities and ethnic minorities in the whole project cycle, from design to implementation. Support the creation of affordability mechanisms for access to services, to ensure that vulnerable people are not excluded from accessing the service (WaterAid, 2011).

2.3.2 Infrastructure Design and Construction

Design of infrastructure should consider needs of all users – men and women, children, the elderly, and disabled people. Appropriate technologies should be used to consider operation and maintenance constraints. Ensure high quality and transparent procurement processes. Ensure high quality of construction and follow-up of the works, through third party external quality control and community involvement (Norgaard 1992).

2.3.3 Service Provision/Management

Support a process to select an adequate service provider (public, private, community-based), including contractual and legal issues around the model of service provision. Support the definition of clear service standards regarding quality of service and performance and responsibilities, as well as setting tariffs, and specific mechanisms for review of service standards. Support adequate mechanisms for transparent use of funds and reporting mechanisms to users and authorities. Operationalize the roles: support the agreement of service standards and reporting mechanisms between government and service providers, and between both of these and the end users. Ensure that information about services is regularly collected, and publicly available, and that there are opportunities for discussion about it for stakeholders. Information collection and the knowledge sharing mechanism should ensure that discussion is enabled, that lessons can be learned from such discussions, and that service delivery can be adapted accordingly. Ensure that mechanisms for correction (and sanction) are in place to act when service providers are not responding. Similarly, consider and promote incentive mechanisms for good performers (WaterAid, 2011).

2.3.4 Regular Monitoring of Sustainability

Build monitoring mechanisms that ensure sustainability is specifically and regularly monitored at the national level, through nationally owned sustainability checks and other studies. Promote the inclusion of a specific sustainability chapter as part of the national Joint Water Sector Review process, and as part of the key national performance indicators (Brikké, 2000).

2.4 FACTORS THAT INFLUENCE SUSTAINABILITY PARAMETERS

Development partners have become increasingly aware that local communities and service providers are often unable to guarantee an appropriate service level if left to their own devices. Community dynamics (for example access to finance, low capacity, social conflicts, and political issues), low capacity of the local service provider, and vulnerability to external shocks and stresses (such as climatic events) often constrain community managed services. Hence an important factor for sustainability is that local/municipal governments (or the responsible government agency in place) need to have the capacity and monitoring tools to support service providers and communities, with post-construction technical support, agreed performance indicators, the validation of water quality, and safety and financial support (when problems exceed minor repairs). They will also need to develop mechanisms to ensure affordability of the service for the most vulnerable and marginalized community members. Monitoring should as much as possible engage community members in collecting and reporting on functionality data – and information should be transparent to all community members (WaterAid, 2011).

2.4.1 Accountability in Service Delivery

Lack of clarity in service delivery standards, roles and responsibilities of parties, limited information on availability and the use of funds, or lack of reactivity to challenges detected in service delivery erode the trust of users, who can choose to find alternative ways of service delivery and stop payments, ultimately causing the services to collapse. Experience shows that services are more sustainable if users have been involved from the start, if there is transparency and spaces where both service providers and governments can be accountable to users, and if there is regulation from the corresponding authorities that protects both consumers and service providers (Ryan, 2014).

2.4.2 Availability of Local Finance

Infrastructure will need to be quality assured, built and repaired by skilled technicians with access to spare parts, and users need to have accessible and affordable services to be able to progressively move up the service ladder. This includes understanding the viability of local markets for spare parts. The lack of availability of financing mechanisms for short and medium term is one of the main indicators of system stress in water Ryan (2014).

2.4.3 Climate Change Impacts, Water Safety and Water Conservation

The sustainability of safe and secure drinking water services is dependent on the management and allocation of water resources in the watershed. Conservation also includes attention to the quality of water delivered, as it is a critical issue for continuous use of services by a given population. Similarly, monitoring of fluctuations of ground water tables are essential to ensure the durability of services. An important and critical issue that will be covered under forthcoming documents include regulation and water scarcity (Norgaard 1992).

2.4.4 Coordination, Institutional Arrangements and Regulation

Effective sector coordination remains an issue in many places, both within the government and with other partners, to make policies and plans operational. Institutional arrangements for service delivery need to be in place. Good accountability mechanisms, based on timely access to information and adequate participatory spaces mean that roles and responsibilities are more often fulfilled. A lack of regulatory functions for key elements of service delivery (tariffs, efficiency of service providers, levels of service, coverage, environmental and health issues) mean that there is no pressure to provide adequate service levels – with predictable results for the sustainability of those services (Water Aid, 2011).

2.5 CHALLENGES TO WASH PROJECT SUSTAINABILITY.

Further hindrances that attracts dedication to long term sustainability of operations and maintenance is that, achieving sustainability of water, sanitation and hygiene projects continue to challenge southern governments and development sectors. Access to the basic needs such as water, sanitation and hygiene is a key challenge to most African countries. There is a significant difference in the access to water, sanitation and hygiene between the rural and the urban areas. Sustainability is challenged by a high number of factors which includes those internal to the communities. Most research concerning previous WASH projects have assessed the sustainability and arrives with examples of projects not succeeding. There is an ongoing search for ways to enhance project processes and help improve the longer-term sustainability of WASH interventions (Christoplos, 2006).

2.5.1 Staff Capacity to Build Projects in Emergency and Transitional Contexts

The methods employed in emergency situations are often supply driven; involve participation, but usually to a lower degree and community contributions tend to be reduced. In development contexts, the approaches should be aligned with national policies. There is high level of participation of communities during the project processes. Projects tend to be executed over a specified period of time and communities are expected to make valuable contributions to the project. The Tsunami Evaluation Coalition questioned whether staffs of humanitarian agencies have the capacity to undertake the requirements within linking relief, rehabilitation & development (LRRD) particularly for major emergencies. ‘The calibre of field-level management is crucial. A number of respondents in the Policy Study commented that agencies’ ability to engage effectively in LRRD is dependent on having mature, experienced personnel who can ‘keep their heads’ and focus on the strategic while responding to the urgent’ (Christoplos, 2006). Providing conditions which will retain experienced and capable staff will contribute to the overall improvement in the capacity of staff, along with provision of appropriate training and learning opportunities, through development organisations or other organisations known to have good practices, to compare approaches.

2.5.2 Handover and Documentation

With a high turnover of staff, handover is essential to help ensure continuity of projects and to make sure that valuable learning materials and documentation is handed over to the project Beneficial’s and not lost. The standard documentation procedures should be followed and the key documentation archived at the closure of projects. With the increase in use of technology, new options for the gathering materials for easy retrieval can be employed. Staff should not only have a face off handover but have time to visit partners,

Government authorities and a number of projects beneficiaries to introduce the new employees and discuss certain issues in the field. However, when working with partners, having the opportunity to call for joint meetings to discuss the on-going plans and project activates so that all parties are clearly aligned with the project plans. A standard list of key documents to be handed over to key staff at closure of programme should be developed which can be used as a checklist. This makes sure that standard documentation is available on handover and closure of programmes. If the information is produced on an electronic media, the information can also be held effectively by both the Headquarters and regional technical advisors (Brehm, 2001).

2.5.3 Partnership

‘Cooperation between NGOs covers a wide spectrum of relationships from ‘authentic’ partnership based on solidarity, mutuality and a broad organisational relationship to narrower, funding-based relationships such as those of donor-recipient’. ‘The main criteria on which the typologies are based are the extent of equality, mutuality and shared governance in the relationship’ (Brehm, 2001). For local NGOs and governments, the useful type of partnerships for long term impact are the institutional support and programme support. The programme support enables the partner organisation to gain experience in implementing programmes with the institutional supporter to help develop the organisation to become stronger and more capable so as to sustain themselves and continue with increased capacity over a longer period. Partnerships which have an institution building aim, should ideally last for a minimum of 5 years (3 years absolute minimum), which poses some challenges to an NGO such as ACF which only provides its own staff with short term contracts and mainly works on short term funded programmes. However, the short-term nature of ACF-IN’s programmes should not be a limitation to

having clear Memorandum of Understanding for a longer-term partnership, even if activities within the wider framework are funding dependent. Development Ally and Coalition partner include more informal or remoter levels of collaboration and may be with similar types of organisation, or related to specific sectoral issues (Brehm, 2001).

2.6 THEORETICAL REVIEW

The theories that guides the study includes the theory of Constraints, theory of Sustainability and the Aggregative and Distributive Theories, which have been elaborated in details below.

2.6.1 Theory of Constraints

The Theory of Constraints (TOC) expresses that each system, no matter how successful it is, has a minimum of one restriction that affects its performance. The theory of constraints (TOC), a management philosophy introduced by Goldratt (1984), says that any system which is manageable has a restraining factor which tends to cap the best performance of the institution. The constraint is the restraining factor that prevents the system from acquiring its set standards and goal. It also prevents a project from getting more throughputs (typically, revenue through sales). Inhibition can be within or outside the system.

A restriction from within comes into play when the market takes more than it gives back to the system which can lead to a net loss incurred from the system. The changes of demand and supply lead to an external limit. The project manager carefully monitors the demand and supply curves to ensure balance is obtained. The internal constraints include: inadequate skilled labour and the equipment needed to scale the operations of the project. The other conditions that must be met include safety of the workers: which is the project

staff need to be in proper protective gear while working among others. The main goal for organizations is profit making in order to achieve its set goal.

2.6.2 Theory of Sustainability

Sustainability describes a form of economy and society that is lasting and can be lived on a global scale. The society-changing potential of the claim: 'More justice between generations, more global justice – at the same time' faces the peril of getting out sight. Sustainability is just not the trivial general claim to take social, economic and environmental policy serious independent of any relationship in time and space and to strike a sound balance between these aspects. The cohesiveness of a community-based project is a vital key to the success of the project. The Brundtland report of 1987 linked sustainability to change, in the manner in which investments, exploitation of resources, and technological advancement all work to meet the needs of the people and their aspirations (WCED, 1987). Projects are considered as transitional organizations, in this perspective, considered as transitional organizations which work in a dynamic equilibrium (Lundin & Söderholm, 1995; Turner & Müller, 2003) that have a trickle-down effect to all the components of the project.

2.6.3 Aggregative and Distributive Theories.

Jacobs (1993) and Weiss (1995) state that, continuity of a joint venture takes into account the current environmental impact and project the future impact on the environment. They argue that equity requires equitable treatment of people regardless of class or social standing. Scarce goods should be allocated so as to maximize the sum of individual utilities (Yaari 1981). The just distribution of resources is that which equalizes welfare among

individuals. It was further argued that resources are the opportune base, but that there are different kinds of resources that are of varying importance to the theory of equity.

2.7 EMPIRICAL REVIEW

Sustainable development is a subject that has been defined by many scholars. The Brunt Land Commission memorably defined it in its 1987 report (*Our Common Future*) as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (World Bank, 2005). Most writers have the opinion that Sustainable Community-based Development projects in different dimensions. Roy (2003) viewed development as for the people and by the people. His deliberation was that, the importance of sustainable development is described by the people and can be associated to their attitudes which leads to a change in their behaviour. It took several years of deep research to reach a global consensus on the elements of sustainable development, it was eventually achieved in 1995 at the World Summit on Social Development. This accepted definition brought about what is famously known as the three 3Es (environment, economy and equity). In this context, the main stance in describing a sustainable development was what has the capacity to support the needy maintain and develop their natural capital (natural resources), while developing their human capital (human resource development). These developments were also needed in order to have the ability to improve human made capital (investments infrastructure and directly productive capital goods), and social capital (the institutional and cultural bases and political systems that make a society function). (Celliso et al., 2015). Recent literature on poverty uniformly acknowledges different theories of poverty, but the literature has classified these theories in multiple ways (Blank 2015, Goldsmith et al., 2016; Jennings et al, 2017; Schiller 2016; Shaw 2015). Virtually all authors distinguish between theories that

root the cause of poverty in individual deficiencies (conservative) and theories that lay the cause on broader social phenomena (liberal or progressive). Ryan (2015) addresses this dichotomy in terms of —blaming the victim. Goldsmith and Blakely, for example distinguish —Poverty as pathology from —poverty as incident or accident and —poverty as structure. Schiller (2015) explains it in terms of —flawed characters, restricted opportunity, and Big Brother. Jennings (2016) reviews a number of variants on these individual vs. society conceptions, giving emphasis to racial and political dynamics. Rank is very clear: the focus on individual attributes as the cause of poverty calling for community development projects is misplaced and misdirected. Structural failings of the economic, political, and social system are causes instead.

One other principle of community development is popular participation. Popular participation deals with broad issues of social development and the creation of opportunities for the involvement of people in political, economic and social life of the nation (Obbo, 2013). Thus in this way it prepares a way for community participation, a concept which connotes the direct involvement of ordinary people in local affairs such as building of roads, schools, or election of local and civic leaders (Middler et al., 2016). This study will thus be anchored to this theoretical approach.

2.8 KNOWLEDGE GAPS

In the quest to establish the link between performance and continuity of projects, several case studies have been hereby presented and the gaps in them identified. Sizwe et al., (2012). This study was focused on the continuity of water schemes in arid and semi-arid areas. Swaziland using Multi-Criteria Analysis approach to deduce the union of environmental, financial, technical, social, and institutional factors which affect the progress of rural water projects. The study discovered that several of the water projects in

the area were not well executed. Ideally, the study was not able to focus on the exact factors that affect sustainability of rural water projects. Again, the study advocates that further studies need to be undertaken to find out the particular factors that render rural water schemes unsustainable. This comes up with a policy measure and activities to save the current water schemes and improve the sustainability of future projects.

The goal of Habtamu (2012) study was to determine the issues concerned with continuity of water supply projects in Amhara and its surrounding areas, Ethiopia. Moreover, the study was not duly comprehensive as it geared towards just one variable linked to the role of community participation in project sustainability. There are other factors that hinders water sustainability project. In addition, the findings are restricted due to the fact that the research was a case derived from one region of the country.

Stephen et al., (2011) examined factors affecting adoption, implementation and sustainability of telemedicine information systems in Uganda. The research used case studies therefore coming up with the questions of generalization of the findings. The study was not comprehensive enough and again was not inclusive of other factors that affects the sustainability of telemedicine information systems. This results in the need for further research in this subject area.

Mazibuko (2007) in his study, were various ways of improving project sustainability beyond donor support. The researcher explored four objectives that sighted on scanning the borders in terms of obstacles and possible solutions. The study brought about some in-depth understanding of the challenges that tackled the process of establishing self-sustaining institutions of development.

Moreover, the study did not produce the specific findings on each of the four variable and it gave a single finding that sustainability cannot be projected due to the uncertainties

associated with project success without recommendation for further studies. The study however did not make use of any control variable so as to reduce the uncertainties and ambiguities associated with project success.

Argaw et al., (2007) the study analysed the growth of community-based reproductive health programs in rural Ethiopia's northwest region. The Study limited its focus on only one variable which was community involvement in project sustainability. This resulted in other factors affecting sustainability of projects in the health sector. Therefore, the research only focused on projects in the health sector but there are different factors affecting project sustainability which are sector specific.

2.9 CHAPTER SUMMARY

Sustainability is the capacity of any project to increase or keep the flow of benefits at a particular level for a longer duration after a project is terminated. There are countless number of factors that may affect the sustainability of a project design, implementation and post implementation phase either in a negative or positive manner. Project institutions at the regional and national level need to be strengthened by eradicating many bottlenecks in the execution of their mandate. The regional and national institutions need to also work hand in hand together with the various stakeholders in the private sector for project sustainability to be much more effective. The various factor that are critical in improving the sustainability is a vital role that is been executed by the project managers, beneficiaries and stakeholders. When a project plan is not well sustained, it usually reverts back to poor operations and management rather than technical incompetence.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

In most research undertakings, it is significant to adopt the most suitable research methodology to ensure the soundness of research findings (Creswell, 2003). In connection with the study objectives which sought to disclose the factors influencing sustainability of community-based projects, the chapter presents a detailed description of methods that will be used to gather and analyse data for the study. The chapter will discuss in detail the research design, research method, population of the study, sample size, sampling technique, data collection, secondary and primary information, questionnaire design, data analysis and ethical consideration.

3.2 THE WASH PROJECT

Children need WASH – water, sanitation and hygiene – to survive and thrive. This is true in times of stability and crisis, in urban and rural communities, and in every country around the world. WASH is important in its own right, and is also necessary for health, nutrition, education and other outcomes for children. Girls and women are particularly affected by poor WASH, as are people living with disabilities (Strategy for Water, Sanitation and Hygiene 2016–2030, UNICEF Report, 2017).

A great deal has been achieved over the past 25 years towards the Millennium Development Goals (MDGs). Billions have gained access to water and sanitation, and hygiene practices are improving. But much remains to be done. In 2016 one billion people still practice open defecation and over 600 million do not have access to even a basic level of drinking water. And there are new and emerging challenges that require us to change the way we work. It is the poorest who are most often denied access: more and more of

the world's poor live in urban slums, and climate change threatens water resources. The Sustainable Development Goals (SDGs) set an ambitious vision to achieve universal access to “safely managed” water and sanitation (including hygiene): defining a higher level of service, whilst prioritising the poorest and most vulnerable.

3.3 RESEARCH DESIGN

Descriptive research design will be used in collecting data on the determinants that maintains community-based projects in Kumasi. It is defined as the research method that describes the characteristics of the population or research that is being studied. It primarily focuses on describing the nature of demographic segments without focusing on why a certain research occurs. This is because a descriptive study determines full description of the situation, and describes the subject of the research without covering why it happens. The study helps with the demonstration of the relationships among the things around you. This design will largely analyse the problems, rectify it and obtain similar information that can be used to confirm the factors that have effects on the sustainability of community-based projects.

3.4 RESEARCH METHOD

This research is based on deductive approach as it involves the use of already existing theories, thus, quantitative methods was adopted to make inference into the sustainability of community-based projects, example of which is the WASH Project.

3.5 POPULATION OF THE STUDY

Four communities are spotted to enjoy the WASH project in Ghana, especially in Kumasi. These are Ayeduase, Oforikrom, Ahodwo and Santasi (UNICEF Report, 2017).

The study population was drawn from fifteen (15) projects in Kumasi initiated by WASH Project. Of these 15 project, four are in Ejusu, three in Ayeduase, three in Oforikrom, four in Ahodwo and one in Santasi. The project consists of twenty (20) project managers, forty-five (45) project staff and hundred (100) project stakeholders indicated by the projected population provided by WASH Project (UNICEF Report, 2017).

Table 3.1: Target Population

Areas	Projects	Project Managers	Project Staff	Project beneficiaries
Water	5	5	14	27
Sanitation	5	10	13	40
Health	5	5	18	33
Total	15	20	45	100

3.5.1 Sample Size

The study utilized purposive sampling strategy to sift data from the respondents in light of two reasons: first, simple choice and distinguishing proof of people or gatherings of people that are capable and all around versed in data (Cresswell et al., 2011). Second, the significance of readiness and accessibility to take an interest, and the capacity to convey information and feelings in an expressive and intelligent way (Bernard, 2002; Spradley, 1979). However, according to Israel (1992), if a population is less than 200, the total population is considered for the sample size. Hence, in this study the sample size is equal to the population (180). In addition, Israel (1992) advice that in such cases census sampling technique should be adopted. Thus, this study again adopted the census sampling technique in the data collection.

3.5.2 Sampling Technique

Sampling is encountered at different stages in the research process and it is connected to the decision about which persons the researcher will interview and from which groups these should come. As a result, the few targeted respondents were sampled and focused on for the study. Therefore, the study used purposive sampling methods. The purposive sampling technique was used to select potential respondents that were known in advance, and the selection was based on the fact that they have the relevant knowledge and experience with which to contribute to the study. The purposive sampling technique was used to select the respondents of the project managers representing the technical unit at the WASH Project as far as is concerned because they had the relevant knowledge with which to contribute to achieve the objectives of the study. The project staff were also purposively sampled because of their role of being in charge of the day to day running of the projects and therefore in the right position to provide information regarding the sustainability of the projects. Beneficiaries of the projects were also purposively sampled for the study because of their knowledge about the projects in their communities.

3.6 METHODS OF DATA COLLECTION

3.6.1 Primary Data and Secondary Data

The researcher will collect both primary and secondary data. The primary data will be collected through the use of the following tools: survey involving the use of semi structured questionnaires.

Again, secondary data which is mostly archival or documentary information that existed prior to this study was used to complement primary data collected purposely for this research. They were obtained from the communities such as the progress reports, M&E plan, review reports and other relevant journals, books and reports from the library and

related online books and journal publications from the internet were reviewed. Sanders et al., (2000) asserts that secondary data can either be documentary data, survey-based data and data from multiple sources. The main advantage of using secondary data is because it requires less time to collect given that they already exist prior to collecting primary data. More often, secondary data complements primary data, making up for the shortfalls of the other or providing confirmation. This complementarity is seen as data ‘triangulation’ and interpretation of results with a potential of increasing the credibility of research findings (Frankfort-Nachmias et al., 1992).

3.6.2 Questionnaire Design

Kothari (2004) argues that, in practice, one rarely comes across a case where one questionnaire relies on one form of questions alone and as such questions of different forms are included in one single questionnaire. Closed forms of questions will be employed using a semi-structured questionnaire because they are simple and quick for the respondents to complete. In this way, reliable and dependable data will be obtained since in one hand the respondents had a list of answers to select the right one in their opinion and on the other hand, they are offered the opportunity to express their views fully without restriction. The questionnaire will be directed towards the project managers, project staff and project beneficiaries, who are willing and able to read, write and understand the questions. The objective and nature of the inquiry using the questionnaire were made clear to the respondents.

3.7 DATA ANALYSIS AND INTERPRETATION

During the analysis of data, the responses will be separated into Project Managers, Staff and Beneficiary categories respectively. The data will therefore be analysed and

interpreted using quantitative means. Again, in analysing data obtained from the survey, the Statistics Package for Social Sciences (SPSS 16v) software will be used to present descriptive and inferential statistics. Basic patterns of descriptive statistics such as frequencies will be gleaned from the data set to present and report key findings and make informed conclusions.

3.8 UNIT OF ANALYSIS

The researcher edited the data collected from the field of study to ensure consistency in the responses. The organizational culture and value – norm - behaviour linkage for the project consisted of customer orientation, employee orientation, and financial orientation that influence work norms for customer retention (solidarity and role integrity). Further, the study used the multiple units where it incorporated the employees of WASH Project and the stakeholders in the community where the WASH project was executed. With regard to the object, the study examined Sustainability Parameters.

3.9 ETHICAL CONSIDERATION

Ethics is rooted in the ancient Greek philosophical inquiry of moral life. It refers to a system of principles and is the branch of philosophy which deals with the dynamics of decision making concerning what is right and wrong. Scientific research work, as all human activities, is governed by individual, community and social values. Research ethics involve requirements on daily work, the protection of dignity of subjects and the publication of the information in the research. Based on this premise, the study ensured anonymity, confidentiality and privacy of respondents. Ethical clearance was obtained from the Kwame Nkrumah University of Science and Technology, Built Environment

Department as well as all the facilities involved in the study. Consent was also obtained from each participant during the process.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF FINDINGS

4.1 INTRODUCTION

This chapter presents the study's results and the discussions of the findings. The key sections of the chapter include: overview of the study areas, respondent profile, descriptive results, measurement assessment, discussions, and chapter conclusion.

4.2 QUESTIONNAIRE RETURN RATE

The study targeted a sample size of one hundred and sixty (180). Out of these, one hundred and fifty (150) were retrieved resulting in a response rate of 83%. This response rate was good and representative. Mugenda et al., (2009) argue that response rate above 50% is adequate to carry out an investigation, while 60% is good and 70% response rate is excellent. In this regard, the response rate passed the threshold of data analysis for this study; factors influencing the sustainability of community-based project in Ghana.

4.3 DESCRIPTION OF THE SAMPLE

Data on respondents' demographics were collected and analysed. Variables included were educational level, professional background, professional qualification and professional experience. These characteristics are deemed to rightly position the study into its perspective since they have a high proclivity to inform the researcher on respondents' awareness levels as far as the study's subject matter is concerned. The following subsections present the results.

4.3.1 Distribution of Respondents by Education Level

The education level characteristic of the respondents designated that those who have Secondary Education were the majority represented by 46.9% (100 respondents) followed by professional certificate represented by (32.7%). This indicated that majority of the project team members have professional certificate. Again, this was followed by bachelor's degree holders constituting 10.2%. Those who holds master's degree represent only 9.2%.

Table 4.1: Distribution of Respondents by Education Level

Age bracket	Frequency	Valid Percent	Cumulative Percent
Masters	28	9.2	9.2
SHS	100	47.9	57.1
Prof. Cert	21	32.7	89.8
Bachelor's Degree	13	10.2	100
Total	150	100	

Source: Field data, 2019

4.3.2 Distribution of Respondents by Professional Background

When asked about their professional background, the respondents gave diverse responses as specified below in table 4.2. From the table majority had project management professionals (37.9%). Again, 23.2% had M&E specialists. Moreover, 18.7% were programmes managers while 14.3% were project managers. This showed that few people have professional background certificate in respect of executing the WASH project in Kumasi.

Table 4.2: Distribution of Respondents by Professional Background

Level of income.	Frequency	Valid Percent	Cumulative Percent
M&E	36	23.2	23.2
PMP	57	37.9	61.1
PM	25	18.7	79.8
Project staff	18	14.3	94.1
Total	150	100	

Source: Field data, 2019

4.3.3 Distribution of Respondents by Professional Qualification

When asked about their professional qualification, the respondents gave diverse responses as specified below in table 4.3. From the table majority fellow (18.7%). Again, 14.3% were associate member and 5.9% were full member. This showed that few people have full professional qualification in respect of executing the WASH project in Kumasi.

Table 4.3: Distribution of Respondents by Professional Qualification

Prof. Qua.	Frequency	Valid Percent	Cumulative Percent
Fellow	24	18.7	79.8
Ass. Member	19	14.3	94.1
Full Member	17	5.9	100
Total	150	100	

Source: Field data, 2019

4.3.4 Distribution of Respondents by Professional Experience

When asked about their marketing source, the respondents gave various responses as specified below in table 4.7. From the table majority had less than 10yrs professional experience representing (39.5%). Again, 23.2% had 10-19yrs professional experience. Moreover, 20-29yrs representing 20.9% had professional experience while 16.4% had

professional experience above 30yrs. This showed that few people have professional experience in respect of executing projects.

Table 4.4: Distribution of Respondents by Professional Experience

Prof. Expe.	Frequency	Valid Percent	Cumulative Percent
Less than 10yrs	31	20.9	20.9
10-19yrs	45	23.2	44.1
20-29yrs	22	16.4	60.5
Above 30	52	39.5	100
Total	150	100	

Source: Field data, 2019

4.4 DESCRIPTIVE RESULTS

This section presents descriptive results on the study’s constructs – that is the current state of the WASH project, sustainability parameters, influential factors of sustainability parameters and challenges of challenges. Five different Likert scale were used that ranged from strongly agree (=1) to strongly disagree (=5). These were used to measure all items.

4.4.1 Current State of the WASH Project

Current state of the project is in good shape per the responses given by the respondents. Respondents have a good knowledge of and understanding of the project. They expressed a clear understanding of the project, its objective, operational area and duration of implementation. With reference to the current state of the project, respondents who responded to the questionnaire indicated that they have heard about the project and that the project is about boosting the socio-economic activities regarding the essential goods such as water, health and sanitation as well as enhancing their livelihoods people in the community. In addition, the respondents indicated that the project is achieving its intended

purpose through the support interventions to communities through provision of water. The project has ensured affordability and accessibility. The project implementation team as well as beneficiary communities demonstrated understanding of the various project interventions and their intended outputs and outcomes (Informal Views).

4.4.2 Sustainability Parameters

Eleven (11) items were adopted from (Brikké 2000) to measure sustainability parameters of the WASH project. Four variables – responsiveness to user needs and expectation, infrastructure design and construction, service provision/management and regular monitoring of sustainability. Respectively, the study rephrased the dimensions of sustainability parameters as outlined below. The descriptive statistics of the items and their overall average score are shown in Tables 4.4b. On the whole, the project has sustainability parameters. Again, the dimensions of the parameters were responsiveness to user needs and expectation, infrastructure design and construction, service provision/management and regular monitoring of sustainability.

With respect to responsiveness to user needs and expectation, respondents rank supports the implementation of inclusive participatory process to be the highest with a mean and standard deviation values of 4.5 and 0.9911 respectively. Again, conduct baseline information on technical, social and cultural aspects related to water and sanitation was ranked second with the mean value of 4.4 and standard deviation of 0.8912. Support the creation of affordability mechanisms for access to services was ranked third with a mean value of 4.3 and standard deviation value of 0.8912. The analysis show that support the implementation of inclusive participatory process is one of the most important sustainability parameters of the WASH project. Overall, responsiveness to user needs and

expectation had a **mean value of 4.4** and **standard deviation of 0.9245** indicating that it is very significant component of the WASH project sustainability parameters.

Regarding infrastructure design and construction respondents rank design of infrastructure considers users' needs to be the highest with a mean and standard deviation values of 4.5 and 0.9221 respectively. Again, high quality and transparent procurement processes are ensured was ranked second with the mean value of 4.3 and standard deviation of 0.8912. External quality control and community involvement are ensured was ranked third with a mean value of 4.2 and standard deviation value of 0.7112. The analysis show that Design of infrastructure considers users' needs is one of the most important sustainability parameters of the WASH project. Overall, infrastructure design and construction had a **mean value of 4.3** and **standard deviation of 0.8415** indicating that aside responsiveness to user needs and expectation infrastructure design and construction is very significant component of the WASH project sustainability parameters.

More importantly, the dimensions used to measure service provision/management respondents ranked support the definition of clear service standards regarding quality of service to be the highest with a mean and standard deviation values of 4.4 and 0.8912 respectively. Again, support adequate mechanism for transparent use of funds was also ranked highest with the mean value of 4.4 and standard deviation of 0.8712. Support a process to select an adequate service provider were ranked third with a mean value of 4.3 and standard deviation value of 0.7112. The analysis show that support the definition of clear service standards regarding quality of service is one of the most important sustainability parameters of the WASH project. Overall, service provision/management had a **mean value of 4.3** and **standard deviation of 0.8245** indicating that it is very significant component of the WASH project sustainability parameters.

Again, the dimensions of regular monitoring of sustainability were build monitoring mechanisms and promote the inclusion of a specific sustainability indicators. Promote the inclusion of a specific sustainability indicators was ranked highest with a mean and standard deviation values of 4.5 and 0.9954 and build monitoring mechanisms was ranked second a mean value of 4.4 and standard deviation of 0.8644. Overall, regular monitoring of sustainability had a **mean value of 4.4** and **standard deviation of 0.9299** indicating that it is very significant component of the WASH project sustainability parameters. In terms of overall ranking, responsiveness to user needs and expectation and regular monitoring of sustainability were ranked first followed by infrastructure design and construction and service provision/management.

Table 4.5: Sustainability Parameters

Statement	<i>Mean</i>	<i>Std Dev</i>	<i>Rank</i>	<i>Overall Ranking</i>
Responsiveness to User Needs and Expectation				
Conduct baseline information on technical, social and cultural aspects related to water and sanitation	4.4	0.8912	2 nd	
Support the implementation of inclusive participatory processes	4.5	0.9911	1 st	
Support the creation of affordability mechanisms for access to services	4.3	0.8912	3 rd	
	4.4	0.9245		1st
Infrastructure Design and Construction				
Design of infrastructure considers users' needs	4.5	0.9221	1 st	
High quality and transparent procurement processes are ensured	4.3	0.8912	2 nd	
External quality control and community involvement are ensured	4.2	0.7112	3 rd	
	4.3	0.8415		2nd
Service Provision/Management				
Support a process to select an adequate service providers	4.3	0.7112	2 nd	
Support the definition of clear service standards regarding quality of service	4.4	0.8912	1 st	
Support adequate mechanism for transparent use of funds	4.4	0.8712	1 st	
	4.3	0.8245		2nd
Regular Monitoring of Sustainability				
Build monitoring mechanisms	4.4	0.8644	2 nd	
Promote the inclusion of a specific sustainability indicators	4.5	0.9954	1 st	
	4.4	0.9299		1st

4.4.3 Influential Factors of Sustainability Parameters

Eleven (11) items were adopted from (Brikké 2000) to measure sustainability parameters of the WASH project. Four variables – responsiveness to user needs and expectation, infrastructure design and construction, service provision/management and regular

monitoring of sustainability. Respectively, the study rephrased the dimensions of sustainability parameters as outlined below. The descriptive statistics of the items and their overall average score are shown in Tables 4.4b. On the whole, the project has sustainability parameters. Again, the dimensions of the parameters were responsiveness to user needs and expectation, infrastructure design and construction, service provision/management and regular monitoring of sustainability.

With respect to accountability in service delivery, Clarity in service delivery, roles and responsibilities of parties and Adequate information on availability and the use of funds were ranked first with mean and standard deviation values of 4.5 (0.9612) and 4.5 (0.9501) respectively. Again, availability of local funds was measured by quality assured infrastructure and accessibility and affordability of services to be able to progressively move up the service ladder. Accessibility and affordability of services to be able to progressively move up the service ladder had the highest mean and standard deviation values of 4.5 and 0.8761 followed by Quality assured infrastructure with mean value of 4.4 and standard deviation 0.8812. With respect to climate change impact, water safety and water conservation attention to quality of water delivery and sustainability of safe and secure drinking water services were ranked first with mean and standard values of 4.5 (0.9918) and 4.5 (0.9112). Ground water tables is monitored to ensure the durability of services was ranked second with mean value of 4.3 and standard deviation of 0.8431.

Accordingly, coordination, institutional arrangement and regulation was measured by three dimensions. Good accountability mechanisms based on timely access to information, proper regulatory functions for key elements of service delivery and effective and efficient institutional arrangement for service delivery. Good accountability mechanisms based on timely access to information and effective and efficient institutional arrangement for

service delivery were ranked first with mean values of 4.5 (0.9534) and 4.5 (0.9423) respectively. Followed by proper regulatory functions for key elements of service delivery with a mean value of 4.4 and standard deviation of 0.8874. The analysis show that coordination, institutional arrangement and regulation is one of the most important sustainability parameters of the WASH project. Overall, coordination, institutional arrangement and regulation had a **mean value of 4.4** and **standard deviation of 0.9277** indicating that it is very significant component of the WASH project sustainability parameters.

Table 4.6: Influential Factors of Sustainability Parameters

Statement	<i>Mean</i>	<i>Std. Dev.</i>	<i>Rank</i>	<i>Overall Ranking</i>
Accountability in Service Delivery				
Clarity in service delivery, roles and responsibilities of parties	4.5	0.9612	1 st	
Adequate information on availability and the use of funds	4.5	0.9501	1 st	
	4.5	0.9556		1st
Availability of Local Funds				
Quality assured infrastructure	4.4	0.8812	2 nd	
Accessibility and affordability of services to be able to progressively move up the service ladder	4.5	0.8761	1 st	
	4.4	0.8786		2nd
Climate Change Impact, Water Safety and Water Conservation				
Attention to quality of water delivery	4.5	0.9918	1 st	
Sustainability of safe and secure drinking water services	4.5	0.9112	1 st	
Ground water tables is monitored to ensure the durability of services	4.3	0.8431	2 nd	
	4.4	0.9125		2nd
Coordination, Institutional Arrangement and Regulation				
Good accountability mechanisms based on timely access to information	4.5	0.9534	1 st	
Proper regulatory functions for key elements of service delivery	4.4	0.8874	2 nd	
Effective and efficient institutional arrangement for service delivery	4.5	0.9423	1 st	
	4.4	0.9277		2nd

4.5 CHALLENGES TO WASH PROJECT SUSTAINABILITY

Eleven (11) items were adopted from (Brikké 2000) to measure sustainability parameters of the WASH project. Four variables – responsiveness to user needs and expectation, infrastructure design and construction, service provision/management and regular monitoring of sustainability. Respectively, the study rephrased the dimensions of

sustainability parameters as outlined below. The descriptive statistics of the items and their overall average score are shown in Tables 4.4b. On the whole, the project has sustainability parameters. Again, the dimensions of the parameters were responsiveness to user needs and expectation, infrastructure design and construction, service provision/management and regular monitoring of sustainability.

With respect to handover and documentation two dimension were used. Ineffective handover of documents to communities that lead to loss of valuable learning and documentation on the part of the communities and Key document for handover to key staff at the closure of a programme is not developed.

Among the two dimensions, Ineffective handover of documents to communities that lead to loss of valuable learning was ranked first with a mean and standard deviation values of 4.4 and 0.9854 respectively. Key document for handover to key staff at the closure of a programme is not developed was ranked second with a mean value of 4.3 and standard deviation of 0.8991.

Again, partnership was measured by two dimensions. No cooperation between implementers and No institutional support enabling the partner organisations to gain experience in implementing programmes. No cooperation between implementers was ranked second with mean value of 4.3 and standard deviation value of 0.8711. No institutional support enabling the partner organisations to gain experience in implementing programmes was ranked first with mean and standard deviation values are 4.4 and 0.9632 respectively. The analysis show that No institutional support enabling the partner organisations to gain experience in implementing programmes is one of the most important sustainability parameters of the WASH project. Overall, partnership had a **mean value of**

4.3 and standard deviation of 0.9171 indicating that it is very significant component of the WASH project sustainability parameters.

Regarding capacity of staff to undertake projects were measured by two dimensions. Limited techniques used in acute emergency situations and unfavourable working conditions that do not retain experienced and capable staff. Limited techniques used in acute emergency situations was ranked first with mean value of 4.3 and standard deviation of 0.9112. This was followed by unfavourable working conditions that do not retain experienced and capable staff with mean value of 4.2 and standard deviation of 0.8413. The analysis show that Limited techniques used in acute emergency situations is one of the most important sustainability parameters of the WASH project. Overall, infrastructure design and construction had a **mean value of 4.2 and standard deviation of 0.8764** indicating that capacity of staff to undertake is very significant component of the WASH project sustainability parameters.

More importantly, planning and coordination of programs was measured by five dimensions. Limited staffing in the various institutions, Limited resources for capacity building and implementation of programs, no clear urban basic sanitation strategy and plan, Various approaches and interventions in urban basic sanitation are not effectively coordinated and monitored and Social mobilization for sanitation and hygiene promotion in urban settlements is quite complicated due to its cosmopolitan and multi-cultural nature. Social mobilization for sanitation and hygiene promotion in urban settlements is quite complicated due to its cosmopolitan and multi-cultural nature was ranked first with the mean and standard deviation values of 4.5 and 0.9205 respectively. Followed by Various approaches and interventions in urban basic sanitation are not effectively coordinated and monitored and No clear urban basic sanitation strategy and plan ranked second with the

mean and standard deviation values of 4.4 (0.9442) and 4.4 (0.9671) respectively. Limited staffing in the various institutions and, Limited resources for capacity building and implementation of programs were ranked third with the mean and standard deviation values of 4.3 (0.8817) and 4.3 (0.8114). The analysis show that Social mobilization for sanitation and hygiene promotion in urban settlements is quite complicated due to its cosmopolitan and multi-cultural nature is one of the most important challenges to sustaining parameters of the WASH project. Overall, planning and coordination of programs had a **mean value of 4.3** and **standard deviation of 0.9205** indicating that capacity of staff to undertake is very significant component of the WASH project sustainability parameters.

Table 4.7: Challenges to WASH Project Sustainability

<i>Statement</i>	<i>Mean</i>	<i>Std. Dev</i>	<i>Rank</i>	<i>Overall Ranking</i>
Capacity of Staff to Undertake Projects				
Limited techniques used in acute emergency situations	4.3	0.9112	1 st	
Unfavourable working conditions that do not retain experienced and capable staff	4.2	0.8413	2 nd	
	4.2	0.8764		2 nd
Handover and Documentation				
Ineffective handover of documents to communities that lead to loss of valuable learning and documentation on the part of the communities	4.4	0.9854	1 st	
Key document for handover to key staff at the closure of a programme is not developed	4.3	0.8991	2 nd	
	4.3	0.9422		1 st
Partnership				
No cooperation between implementers and the community stakeholders	4.3	0.8711	2 nd	
No institutional support enabling the partner organisations to gain experience in implementing programmes	4.4	0.9632	1 st	
	4.3	0.9171		1 st
Planning and Coordination of Programmes				
Limited staffing in the various institutions	4.3	0.8817	3 rd	
Limited resources for capacity building and implementation of programmes.	4.3	0.8114	3 rd	
	4.4	0.9671	2 nd	
Various approaches and interventions in urban basic sanitation are not effectively coordinated and monitored	4.4	0.9442	2 nd	
Social mobilization for sanitation and hygiene promotion in urban settlements is quite complicated due to its cosmopolitan and multi-cultural nature	4.5	0.9981	1 st	
	4.3	0.9205		1 st

4.6 DISCUSSIONS

Sustainable development is a concept that is used in our daily talks but difficult to define. The Brunt Land Commission memorably defined it in its 1987 report (Our Common Future) as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (World Bank, 2005). Most authors perceive Sustainable Community-based Development Project differently. Roy (2003) viewed development as for the people and by the people. His argument was that, the essence of sustainable development is determined by the people, which can be attributed to change of people's attitudes, leading to a change in their habits. There is a growing need for the management of projects in business organizations. In recent years, researchers have become increasingly interested in factors that may have an impact on project management effectiveness. Prior research in the area has examined different ways of organizing project management (Turner et al., 1998). Critical success and failure factors in project management (Belassi and Tukel, 1996) point out the need for empirical studies of how project management tools and methods could be used to improve the sustainability of project management. However, due to certain challenges such as Limited staffing in the various institutions, Limited resources for capacity building and implementation of programmes, No clear urban basic sanitation strategy and plan, Various approaches and interventions in urban basic sanitation are not effectively coordinated and monitored and Social mobilization for sanitation and hygiene promotion in urban settlements is quite complicated due to its cosmopolitan and multi-cultural nature make community-based projects are very difficult to be sustained. In an attempt to contribute to these findings, the present study relied on sample of 100 project team members as respondents to assessing the factors influencing the sustainability of community-based

projects in Ghana. A case of Water, Sanitation and Hygiene (WASH) Project. The results obtained are discussed below:

4.5.1 Current State of the WASH Project

The findings show that current state of the project is in good shape. The project is boosting the socio-economic activities regarding the essential goods such as water, health and sanitation as well as enhancing their livelihoods people in the community. In addition, the respondents indicated that the project is achieving its intended purpose through the support interventions to communities through provision of water. The project has ensured affordability and accessibility.

4.5.2 Sustainability Parameters

Evidence indicate that responsiveness to user needs and expectation, respondents rank supports the implementation of inclusive participatory process. Again, conduct baseline information on technical, social and cultural aspects related to water and sanitation. Support the creation of affordability mechanisms for access to services. The analysis show that support the implementation of inclusive participatory process is one of the most important sustainability parameters of the WASH project. Overall, responsiveness to user needs and expectation indicating that it is very significant component of the WASH project sustainability parameters. The current findings commensurate the findings of Mazibuko (2007) who finds that improving project sustainability beyond donor support in terms of challenges and possible solutions.

4.5.3 Influential Factors of Sustainability Parameters

Given these questions the results suggest that accountability in service delivery, Clarity in service delivery, roles and responsibilities of parties and adequate information on availability and the use of funds. Again, availability of local funds was measured by quality assured infrastructure and accessibility and affordability of services to be able to progressively move up the service ladder. Accessibility and affordability of services to be able to progressively move up the service ladder. Quality assured infrastructure. With respect to climate change impact, water safety and water conservation attention to quality of water delivery and sustainability of safe and secure drinking water services. Ground water tables is monitored to ensure the durability of services. The findings agree with the findings of Roy (2003) who posits that the importance of sustainable development is determined by the people.

4.5.4 Challenges to WASH Project Sustainability

Given these questions the results suggest that handover and documentation two dimension were used. Ineffective handover of documents to communities can disorganise project sustainability which is most important for project success. The findings agree with Obbo (2013) who indicated that community development is popular participation and that popular participation deals with broad issues of social development and the creation of opportunities for the involvement of people in political, economic and social life of the nation. Again, the findings Middler et al., (2016) who argue that participation prepares a way for community participation, a concept which connotes the direct involvement of ordinary people in local affairs such as building of roads, schools, or election of local and civic leaders.

4.6 CHAPTER CONCLUSION

This chapter presented the study's results and findings. It also discusses the findings in relation to the study's objectives, underpinning theories, and the pertinent literature. The subsequent chapter, presents the summary of the findings, conclusion, and recommendation of the study.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The purpose of the study was to assess factors influencing the sustainability of community-based projects in Ghana. A case of Water, Sanitation and Hygiene (WASH) Project This chapter of the study provides summary of the study findings in congruence with the slated research objectives. The chapter also presents thorough conclusion and recommendations based on the findings discovered by the study. The recommendations of the study covered two broad areas namely policy or practical recommendations and future research recommendations. Whilst the practical recommendations cover steps to improve policy development regarding the WASH Project, future research recommendations cover information for future researchers on the topic understudy.

5.2 SUMMARY OF FINDINGS

Sustainable development is a concept that is used in our daily talks but difficult to define. The Brunt Land Commission memorably defined it in its 1987 report (Our Common Future) as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (World Bank, 2005). Most authors perceive Sustainable Community-based Development Project differently. Roy (2003) viewed development as for the people and by the people. His argument was that, the essence of sustainable development is determined by the people, which can be attributed to change of peoples" attitudes, leading to a change in their habits. In the light of this, the purpose of the study was to assess factors influencing the sustainability of community-based projects in Ghana. A case of Water, Sanitation and Hygiene (WASH) Project in Kumasi.

5.2.1 Review of Sustainability Parameters

The first objective of the study was to examine sustainability parameters of WASH Project. The study found that the sustainability parameters are recognized on the project and therefore achieving its set objectives and already providing some tangible benefits to community members.

5.2.2 Review of Influential Factors of Sustainability Parameters

The second objective of the study was to identify the influential factors of sustainability Parameters of the WASH Project. The study identified that the project has influential factors of sustainability parameters.

5.2.3 Review of the Challenges of Sustainability Parameters

The third objective of the study was to identify the challenges of sustainability parameters of the WASH Project. The study found that planning and coordination is the most significant of the WASH Project.

5.3 CONCLUSION

Water, Sanitation and Health (WASH) Project are essential in ensuring the long-term sustainability of communities in Ghana. Therefore, encouraging such project ultimately influences growth and development. The WASH Project is of great interest to communities and should therefore be better managed to provide the desired benefits to communities.

5.4 RECOMMENDATIONS

Based on the findings the following recommendations are provided;

The study found that the WASH Project is a good sustainable parameter. Therefore, it is recommended that project implementers use their project management skills solve practical challenges to enhance the benefits to communities. It is recommended strongly that the project team be given the required project management orientation in order to improve their performance and program delivery.

5.5 RECOMMENDATIONS FOR FUTURE RESEARCH

The following future research recommendations are provided;

Future researchers can examine the other project management implementation challenges of WASH Project in Ghana and how this affect economic growth and development. Future researchers can explore the implementation strategies of the WASH Project and how these contribute to socio-economic development.

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APPENDIX

QUESTIONNAIRE

Preamble

My name is **Elvis Dodoo**. I am a final year MSC Project Management student from Department of Construction Technology and Management at Kwame Nkrumah University of Science and Technology, Kumasi. As part of the requirement for the master's degree, I am conducting a research on the topic: **Assessing the Factors Influencing the Sustainability of Community-based Projects in Ghana. A Case of Water, Sanitation and Hygiene (WASH) Project.**

The objectives of the study include:

1. To examine the existing sustainability parameters of the WASH Project.
2. To identify the factors that influence the choice of sustainability parameters.
3. To identify the challenges of sustainability of the WASH Projects.
4. The implication of the findings is for the future implementation and development of WASH Project in Ghana and other countries. Information given will be treated with utmost confidentiality.
5. Thank you for your participation and assistance with this study.

SECTION A: RESPONDENT PROFILE

1. What is your education level?
 - a. SSCE/WASSCE/O Level Certificate ()
 - b. Professional Certificate ()
 - c. Bachelor's Degree ()
 - d. Master's Degree ()

2. Please, indicate your Professional Background

- a. Project Management Professional (PMP) ()
- b. Monitoring and Evaluation (M&E) Specialist ()
- c. Programmes Manager ()
- d. Portfolio Manager ()
- e. Project Manager ()

3. Professional Qualification

- a. Fellow ()
- b. Associate Member ()
- c. Full Member ()

4. Please, indicate your Professional Experience

- a. Less than 10yrs ()
- b. 10 – 19yrs ()
- c. 20 – 29yrs ()
- d. 30 and above ()

5. Please, briefly explain what WASH Project is about

6. Please, do you know the duration of WASH Project will take?

Yes ()

No ()

7. If yes, when did WASH Project start? _____

8. Is WASH Project achieving its intended purpose?

Yes ()

No ()

9. If yes, state four benefits of WASH Project

SECTION B: SUSTAINABILITY PARAMETERS

Using a scale of 1-5, where

1= strongly disagree; 2=disagree; 3=Neutral; 4=agree; 5=strongly agree,

Please indicate the extent to which you agree with the following existing sustainability parameters

Statement	1	2	3	4	5
Responsiveness to User Needs and Expectation					
Conduct baseline information on technical, social and cultural aspects related to water and sanitation					
Support the implementation of inclusive participatory processes					
Support the creation of affordability mechanisms for access to services					
Infrastructure Design and Construction					
Design of infrastructure considers users' needs					
High quality and transparent procurement processes are ensured					
External quality control and community involvement are ensured					
Service Provision/Management					
Support a process to select an adequate service providers					
Support the definition of clear service standards regarding quality of service					
Support adequate mechanism for transparent use of funds					
Regular Monitoring of Sustainability					
Build monitoring mechanisms					
Promote the inclusion of a specific sustainability indicators					

SECTION C: INFLUENTIAL FACTORS OF SUSTAINABILITY

PARAMETERS

Using a scale of 1-5, where

1= strongly disagree; 2=disagree; 3=Neutral; 4= agree; 5=strongly agree,

Please indicate the extent to which you agree with the following statements

Statement	1	2	3	4	5
Accountability in Service Delivery					
Clarity in service delivery, roles and responsibilities of parties					
Adequate information on availability and the use of funds					
Availability of Local Funds					
Quality assured infrastructure					
Accessibility and affordability of services to be able to progressively move up the service ladder					
Climate Change Impact, Water Safety and Water Conservation					
Attention to quality of water delivery					
Sustainability of safe and secure drinking water services					
Ground water tables is monitored to ensure the durability of services					
Coordination, Institutional Arrangement and Regulation					
Good accountability mechanisms based on timely access to information					
Proper regulatory functions for key elements of service delivery					
Effective and efficient institutional arrangement for service delivery					

SECTION D: CHALLENGES TO WASH PROJECT SUSTAINABILITY

Using a scale of 1-5, where

1= strongly disagree; 2=disagree; 3=Neutral; 4= agree; 5=strongly agree.

Please indicate the extent to which you agree with the following statements

Statement	1	2	3	4	5
Capacity of Staff to Undertake Projects					
Limited techniques used in acute emergency situations					
Unfavourable working conditions that do not retain experienced and capable staff					
Handover and Documentation					
Ineffective handover of documents to communities that lead to loss of valuable learning and documentation on the part of the communities					
Key document for handover to key staff at the closure of a programme is not developed					
Partnership					
No cooperation between implementers and the community stakeholders					
No institutional support enabling the partner organisations to gain experience in implementing programmes					
Planning and Coordination of Programmes					
Limited staffing in the various institutions					
Limited resources for capacity building and implementation of programmes.					
no clear urban basic sanitation strategy and plan					
Various approaches and interventions in urban basic sanitation are not effectively coordinated and monitored					
social mobilization for sanitation and hygiene promotion in urban settlements is quite complicated due to its cosmopolitan and multi-cultural nature					