FACTORS DETERMINING EFFECTIVE WaSH (Water,Sanitation and Hygiene) PROJECT IMPLEMENTATION IN WATERAID ETHIOPIA: A CASE OF AMHARA REGION

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CERTIFICATE OF ORIGINALITY

This is to certify that the project titled **"**Factors Determining Effective WaSH (Water,Sanitation and Hygiene) Project Implementation In Wateraid Ethiopia: A Case Of Amhara Region" is an original work of the student and is being submitted in partial fulfillment for the award of the Master's Degree in Business Administration Of Indira Gandhi National Open University. This Report has not been submitted earlier to this university or to any other university/Institution for the fulfillment of the requirement of a course of study.

Signature of Supervisor

Place:

Date:

Signature of Student

Place:

Date:

Acknowledgment

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Acronyms

DFID	Department for International Development
FTIs	Fiscally-Transmitted Infections
KOSFIP	Kimira Oluch Small holder Farm Improvement Project
NETSSAF	Net Work for the Development of Sustainable Approaches for Large Scale Implementation in Africa
NGO	Non-Governmental Organization
NTDs	Neglected Tropical Diseases
SDI	Service Delivery Indicators
SPA	Service Provision Assessment
SSWM	Sustainable Sanitation and Water Management
UNICEF	United Nation Children's Fund
WHO	World Health Organization
WaSH	Water Sanitation and Hygiene
WSSCC	Water Supply and Sanitation Collaborative Council

Abstract

The main purpose of this study was to find out the factors that determine effective WaSH project implementation in WaterAid Ethiopia in the case of Amhara Region. The specific objectives were to identify how communication and financial support influence project implementation; and assess how monitoring and evaluation efforts determines project implementation and to identify the possible remedial ways for effective project implementation. The target population of this study was full time and part time employees of WaterAid and partners. Different statistical tools employed while analyzing the data such as correlation analysis of chi-square test and multiple regression analysis of ordered logit model. Likert scale was the main measurement unit of the instruments, which was used to collect the data. The major finding of the study was poor communication, which was indicated by no exchange of information among stakeholders and lack of communication flow across the project. Another finding was there was enough financial support for project implementation. The study further found that results and feedback from M&E are not timely and there is no sponsor evaluation of the investment. The study recommends that WaterAid should improve integrated communications plan to improve project implementation. The organization should allocate sufficient funds to projects and ensure there is independency in utilization of the funds. It also recommends carrying out extra M&E work to meet the needs of external agencies. It should recognize that the needs of different departments and functions within WaterAid.

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Projects are widely used by many organizations and institutions in the course of conducting their business. One of the reason for this is because it has been proven that, it is effective in initiating change and translating strategic programs into daily activities. Projects also put organizations front in their respective field they are engaged (Rad and Levin, 2006). Projects used as a means of organizing activities, which aims at achieving the desired objectives which has specific and definite beginning and end schedule (Horine, 2005).

Project management is the way of managing change by describing activities that meet specific objectives by involving stakeholders and teamwork to achieve successful implementation. As Jana et al (2012) defined project management "a set of principles, methods, and techniques that people use to effectively plan and control project work. Project planning contains those processes, which take place to establish the total range of the effort from definition and refinement of the objectives and developing the course of action required to attain those objectives. The planning process develops the project management documents and implementation plans (Nyanje, 2016). Project controls needed to understand the plan of the project and environment by assuring the project involve all the necessary controls. If the project plan got any discrepancy, it should be reported and included in the master plan.

Organizations made effort for successful and effective project delivery due to the fact that project management has getting the dominant option to get things done(Grant and Pennypacker, 2006).

Measuring and evaluating project maturity helps organizations to identify gaps and enable them to identify how to improve project performance(Brookes *et al.*, 2014). According to Hillson (2003) in order to deliver effective projects with better performance organizations should evaluate the results of their completed projects continuously to identify areas which needed improvement to increase project maturity. The effort made for project delivery should have a purposeful approach, and this is done by measuring the difference between where the project management of organization stands and where it wants to go (Grant and Pennypacker, 2006). Project management maturity assessment enables organization to further improve its project management structure (Albrecht and Spang, 2014).

Implementation of a project involves those actions that are performed to accomplish the defined work in the plan of the project in order to satisfy the specified objective. The project implementation process is complex, usually requires a simultaneous attention to a wide variety of human, budgetary, and technical variables. The process includes coordinating resources and peoples and performing the activities of the project through harmonizing with the stated project management plan. On the other hand, project closing includes the formal acceptance of the project and the ending thereof to come up with lessons learned (Nyanje, 2016). The decisions made at the earliest stage of the project design have a great impact on the project management practice than the decisions made at latter stages of the project operation. If project managers are not aware of the criteria that would influence their goals set from the inception phase, then the project will not be successful (Alias *et al.*, 2014).

Successful implementation of projects have positive effect on the organization; it influences the long term development of the organization (Beleiu *et al.*, 2013). From the point of view of a

project, success means when certain expectations of a particular participants were mate, whether they are planner, contractor, operators or engineer. However, the expectations of these participants may differ from one another .The project success and the critical factors of success is sometimes considered as one of the essential ways of improving effective project delivery (Chan *et al*., 2004). According to Mir and Pinnington (2014) project success referred to as reaching the objectives and the planned results in compliance with predetermined conditions of time, cost and performance. Project success considered as a complex and multi-dimensional concept, which encompasses many, attributes. Due to the unique nature of projects the success criteria of projects are different from one project to another (Müller and Turner, 2007). During the last decades the concepts of project success become more complex due to the reason that it is approached in relationship with stakeholders' perception and being accepted that success means different things to different people (Davis, 2014). A project is generally considered successfully implemented, if it comes in on-schedule (time criterion), comes in on budget (monetary criterion), achieves all the goals originally set for it (effectiveness criterion), and is accepted and used by the clients for whom the project was intended (client satisfaction criterion). Moreover, what determines project success is considered as success factors and it is also approached and considered to be of great interest (Beleiu *et al*., 2013).

Among many projects, WaSH (Water, Sanitation and Hygiene) projects are the most common one, and it is the focus of this study. An estimated 790 million people (11% of the world's population) are still without access to a decent water supply. An estimated 1.8 billion people (25% of the world's population) are without access to adequate sanitation (Ali,2017). Hence, to eliminate inequalities in access to water and sanitation, interventions that target the most

vulnerable populations with improved water sources and sanitation facilities are required (Kamara *et al.*, 2017). However, in most project areas, there is lack of sustainability of these water and sanitation facilities, infrastructures and water supply systems, (Francisco *et. al* 2014).The implementation of projects in sustainable sanitation and water management is complex. It requires the coordination of a wide range of activities, diverse institutional arrangements, and different time frames (DFID*,* 1998).

According to Keene (2007) there are numerous factors that should be considered and caution must be taken in implementing any sanitation projects. Successful and effective projects either water supply and sanitation or any other type is those that meet business requirements, besides delivered and maintained on schedule, within budget, and deliver the expected business value and return on investment. Many factors contribute to project success, but effective project management and governance practices are particularly critical. According to Federal Transit Administration, (2017); effective project implementation has its own features such as: project participants are realistic about to the project's team performance, the project should have adequate project management plan and supporting documents, there should be adequate input during planning design and scoping. It should also involve adequate project management and project control capabilities, a well-planned schedule, and should incorporate adequate cost estimate and budget.

One of the basic challenges for water and sanitation intervention projects is their sustainability for long period of time (Sabogal *et al.*, 2015). Globally, many organizations achieved significant progress in delivering access to improved water and sanitation. However, there is limited evidence on sustainability of rural water and sanitation interventions (Montgomery *et al*. 2009).

The water supply and sanitation sector has long recognized the importance of investing more effectively to bring services to poor people around the world. In every country, advocates for sanitation and hygiene promotion now need to find locally generated information to make the case for more and better investments. Often, there is a need to show policy makers what sanitation and hygiene promotion really can achieve. Monitoring and evaluation allow the project evaluators to check whether things are done at ground level as planned and whether the expected outcome is achieved. Monitoring system are needed to generate regular reliable datasets which can provide a picture of what is happening in real time and over time (WSSCC, 2005).

Ethiopia has very low coverage of sanitation, water supply and hygiene services, which causes death for over 55,000 children each year due to diarrhea. Poorly equipped schools and health centers aggravate the problem; further, the problem has a severe impact on the lives, health and livelihood of communities in rural areas. Managing water resources such as wetlands effectively is critical to sustainable water supplies in rural areas through improving the water tables and replenishing the surface and underground water sources (Monaco Impact, 2013). In addition to this, over 71 million people don't have adequate sanitation service and around 42 million people don't have access to safe water supply; in referring to this, poor roads and low water tables accessibility makes it difficult to reach remote villages (Alandry, 2017). In pursuit of increasing the access of safe water supply and sanitation, a number of non-governmental organizations work locally as well as international in different parts of the world. WaterAid is among the largest non-governmental organizations who strive to deliver pure water supply and sanitation. WaterAid is one of the largest non- profit organization dedicated to transform world's poorest

people life through access to safe water, toilets and hygiene education. It works closely with local governments, community-based organizations and individuals in 26 countries across Asia, Africa, Central America and the Pacific region to deliver affordable and locally appropriate water, sanitation and hygiene solutions (Thirdeyemom, 2017). To date, in Ethiopia this organization has funded more than 50 water and sanitation projects which transform the lives of 1.2 million people with clean water and more than half a million people with safe sanitation. In order to address the problem the organization work with local partners such as regional governments, technical experts and other charities. It also coordinate a country-wide water, sanitation and hygiene coalition, uniting government organizations, donors, the media and private sector to help to promote the right to water and sanitation throughout Ethiopia (Alandry, 2017). WaterAid had a number of completed projects in different parts of the country including Amhara region. Among all projects the Amhara WaSH project, which is the focus of this study, is the one on which a number of projects implemented. This research is intended to assess the factors that determine effective implementation of these projects in the region.

1.2. Statements of the Problem

Project management and its use have risen to a new stand where projects started to be seen as a critical component of economic development in both public and private sectors. The main reason behind the development of project-based work basically arises due to the fact that technological development brought new challenging environment and opportunities, shifting of knowledge boundary, the dynamic nature of markets, change of environmental regulations,

shorter product life cycle, increments of customer involvement and the increased scope and complexity of inter-organizational relationships (Bredillet, 2005).

Organizations initiate a project with the best intensions to succeed. However, a number of project performances continue to fall below their targets. In fact, the overall performance of a project is the main determinant factor to ascertain the accomplishment and effectiveness of a project. This is usually determined by the attainment of the project objectives and the sustainability of the project thereafter (Nyanje, 2016). Due to the complex nature of a project, activities and challenges associated with a project, restriction or constraints of budget, and time and the ever-changing environment affects the implementation of projects. Nowadays, businesses are running under high level of uncertainty so project implementation exposed to all possible types of external influences, unexpected situations and events, increasing requirements, changing constraints and fluctuating resource flows. This clearly indicate that if the steps of project implementation are not taking place in order and in a way to manage them efficiently and effectively, the probability of failure would be high (Kuen and Zailani, 2007). According to Gharashe, (2009) project implementation is a challenging process. Some of the challenges include integrating and performing the activities of the project in accordance with the project management plan and coordinating people and resources towards the achievement of the project objectives. The ability to implement projects can be more important than the project itself; and nowadays, different stakeholders and investors have come to realize that implementation is more sensitive than the vision of the project (Charan and Colvin, 1999). Ineffective and insufficient implementation of project affects its completion on time and results in poor quality and service provision.

Unsafe water and inadequate sanitation and hygiene in small rural communities throughout the developing world are some of the world's most important, timely challenges. Hence, to eliminate inequalities in access to water and sanitation, interventions that target the most vulnerable populations with improved water sources and sanitation facilities are required (Kamara *et al.*, 2017). Implementing a project in the water and sanitation sector is a very complex mission, as it requires the coordination of a wide range of activities, the overseeing of a team, the management of budget, the communication to the public, among other issues. Understanding the factors that determine effective project implementation therefore becomes critical in successful implementation of projects. Projects sometimes focus only on delivering basic infrastructures instead of continuous functionality, such as failed water and sanitation projects (Moe & Rheingans, 2006). In most WaSH project areas, there is lack of sustainability of water and sanitation facilities, infrastructures and water supply systems (Francisco et. al 2014). In line with this, there are several challenges to efficiently transforming aid money into tangible results in development projects, and sanitation is no exception (Seetharam, 2015). According to Gleik (2006), most of the water projects fail to achieve the intended objective of providing communities with safe water soon after the funders close the project. In order to make water supplies investment more effective, failure rates of these systems should be reduced. According to Gebrehiwot (2006), sustainability of water projects could originate from the project environment, lack of sufficient resources and management related issues. One of the critical problems concerning projects is the frequent and lengthy delays that occur during implementation. In order to improve this situation, it is necessary to first identify the major causes of poor implementation, or non-implementation.

As a number of projects being implemented increases widely in the community, most of the WaSH projects are delayed and are not completed within the planned schedule. It is therefore, vital to identify factors that contribute to the effective implementation of project and to identify their relative importance as the project journeyed throughout its life cycle. In this regard, the study sought to evaluate the factors, which influence the effective implementation of WaSH projects in Amhara region.

1.3. Research Questions

This study is conducted to answer the following research questions

- How does communication determine effective WaSH project implementation?
- How does financial support determine effective WaSH project implementation?
- To what extent does monitoring and evaluation determine effective WaSH project implementation?
- What are the possible remedial ways for better effective WaSH project implementation?

1.4. Objectives of the Study

1.4.1. General Objective

The general objective of this study is to identify factors that determine WaterAid Ethiopia's effective WaSH project implementation in Amhara Region

1.4.2. Specific Objectives

In pursuit of the major objective, this research intended to answer the following specific objectives

- To identify how communication determines effective WaSH project implementation.
- To examine how financial support influence effective WaSH project implementation.
- To find out how monitoring and evaluation efforts determines WaSH project implementation
- To forward possible remedial ways for better effective WaSH project implementation

1.5. Significance of the Study

First and for most this study has a great importance for WaterAid and other non-governmental organizations who engaged on WaSH projects since it clearly identifies and show some of the factors that determine effective project implementation, and also contributed to ensuring a higher rate of project success through exerting much effort on the areas which needed much attentions. Furthermore, the study will assist the organization to know how to make implementation effective on their next projects. This study also be used as a source of information for practitioners and fund raisers; it will use as a first hand source of information if any assessment is not done so far, and as supplementary if there is a study already. Further, this study also have great relevance to project management teams in any related organizations since it will give them some insight to understand the pillars of effective project implementation. The last but not the least, this study will be useful for academicians as a source of further studies if there is anyone who would like to use it.

1.6. Scope of the Study

With regard to the scope of the research, it mainly focused on literature review and questionnaire survey. In terms of concept, the study focused on factors that determine effective WaSH project

implementation. The study carried out in the Amhara region of Ethiopia, apart from other, of which WaterAid Ethiopia has different projects.

1.7. Limitation of the study

Due to time and financial constraints, it is out of the reach to incorporate all of WaSH projects implemented in WaterAid so the research is limited to Amhara region. It is prudent to carry out the research on all WaterAid projects in Ethiopia too rather than sampling some few projects. The researcher also ensured that all the relevant data collected within the available time.

1.8. Organization of the Study

This thesis organized into five chapters; chapter one deals with the background of the study. The chapter also discusses statement of the problem, objectives, research questions, significance, limitations, and organization of the study. Chapter two cover literature review where related studies and their findings were discussed. The chapter also covered the knowledge gaps in the literature review; the theoretical and conceptual framework of the study was also been presented.

Chapter three covers research methodology touching on research design, target population, sample size and procedure, research instruments, piloting, validity and reliability of the instruments data collection instruments, data collection procedures and methods of data analysis techniques. Chapter four presents the analysis of the data collected from the field. Chapter five is the final chapter for the study; it describes the summaries of findings with regard to the objectives of the study. This chapter also provides a conclusion of the study and suggested possible recommendations of the study problem.

CHAPTER TWO

LITERATURE REVIEW

2.1. Theoretical Review

2.1.1. Project, Project Management and Implementation

Different scholars, organizations and various stakeholders define project in a different way at different time. Among the numerous definitions of project, two of them defined by "Association of Project Management" and "Project Management Institute" were taken and explained below which is believed they are suitable for this particular study.

> *"Project is a unique, transient endeavor undertaken to achieve planned objectives, which could be defined in terms of outputs, outcomes or benefits"* (Association for Project Management, 2012)

The other definition of project given by Project Management Institute, (2013)

> *"A project is a temporary endeavor undertaken to create a unique product, service or result. The temporary nature of projects indicates that project has a definite beginning and end."*

According to Maylor (2010) comparison of different definitions gives common features of projects as unique, temporary and task focused.

Project management is the application of processes, methods, knowledge, skills and experience to achieve the project objectives (Association for Project Management, 2012). According to Wideman and Eng, (1991) project management is a process by which certain predetermined

goals are achieved. It is simply the means to an end. In related with these, Institute of Project Management , (2006) define project management as it is a process of planning, scheduling and controlling of a project to meet set objectives. This does not include the critical human relations and project evaluation performed after project completion. Project brings about change and the management of change in an efficient way is realized as project management. Ntamere, (1995) also define project management as a managing and directing time, materials and costs to complete a particular project in an orderly and economical manner, so as to meet established objectives in time, budgeted amount and to achieve technical results.

The very reason what makes project management different is its necessity to involve many people in planning and implementation of the project, and at the same time, it is its weakness. This is because those involved in the project may not all be familiar with this unique form of management. This may be attributed to the players often having their individual conflicting agendas, but in any case the number of people in most large projects who fully understand the process and broader purpose of project management is still quite limited (Wideman and Eng, 1991). Successful project greatly depends on how the project has been managed and controlled. The main problem with projects management practices have always been mentioned as planning, project implementation, cost and time overruns and quality non-achievement (Alias *et al.*, 2014). Within the field of project management the concepts of efficiency and effectiveness are commonly used, but rarely defined. According to Hyväri, (2006) project management effectiveness related to organizational design and characteristics of effective project managers.

Project implementation is the most resource consuming and visible phase of the project life cycle involving heavy financial outlay (Ubani, Nwachukwu and Nwokonkwo, 2010); and it involves

project planning and project implementation, organizing, directing and controlling of the company's resources for a relatively short term objective that has been established to complete specific goals and objectives (Amade and Ogbonna, 2012).

Project implementation is a complex process usually comprising of multiple variables, which influence implementation including resources management, the operational systems, the organizational culture and the leadership of the organization. Projects are designed, planned and implemented in tandem with the sequence displayed by the project cycle. The log frame is the specific planning tool that is used to design, appraise, manage, monitor and evaluate the passage of a project through the project life cycle from policy framework to final evaluation (Odoyo, 2013)

> "Effective project implementation refers project delivered that meets the original objectives within the constraints and specifications of budget, time and quality (Kogi, 2013)."

So far, project implementation has been defined in many ways to include a large variety of criteria. However, according to Anyango, (2016) at least project implementation should incorporating four basic facets. A project is generally considered to be successfully implemented if it comes in on schedule (time criterion), comes in on budget (monetary criterion), achieves all the goals originally set for it (effectiveness criterion), and is accepted and used by the clients for whom the project was intended (client satisfaction criterion). By its basic definition, a project comprises a defined time frame to completion, a limited budget, and a specified set of performance characteristics. Further, some client, either internal or external to the organization

and its project team, usually targets the project for use. It seems reasonable therefore; that any assessment of project implementation should at least include these four measures among others. Project management has evolved over the past couple decades as researchers and practitioners have attempted to identify the causes of project failure and the various factors that lead to project success. Traditional project management skills were developed from the requirements of construction and defense industries to plan, control and manage large and complex 'tangible' projects (Bourne and Walker, 2004). According to Jugdev *et al*, (2005) the growing understanding of project success based on measurements such as cost, time and specifications. Project success currently is viewed from the conceptual stages of the project life cycle to close down of the projects product cycle. Goldratt, (1984), used the theory of constraints to explain organizational performance. Constraints prevent organizations and projects from maximizing performance and reaching their goals. Constraints are either external or internal and comprises of human resources, supplies, information, policies and equipment. The theory says that every system or project no matter how well it performs has at least one constraint at a time that limits its performance. Other areas of weakness in project implementation are non-constraints until they become the weakest links (Nyanje, 2016). The overall performance of a project is a key factor to ascertain the effectiveness of a project

2.1.2. Background Concept of Wash Projects

According to WHO (2015) WaSH projects incorporate water, sanitation and hygiene where, water is the presence of a water source or water supply in or near (within 500m) the facility for use for drinking, personal hygiene, medical activities, cleaning, laundry and cooking; however, does not consider safety, continuity or quantity. Sanitation is the presence of latrines or toilets within the

facility and does not consider functionality or accessibility (e.g. for small children or the disabled). Hygiene is the availability of hand washing stations with soap or alcohol based hand rubs within the facility. WHO and UNICEF, (2014) WaSH technologies refer to the specific technologies, hardware, tools or devices that support consumption of safe drinking water, effective containment and/or deactivation of human fences, or improved hand washing practices. Specific examples include:

- Household water treatment and storage, including: filter technologies, point-of-use water treatment with chemicals additives, ultraviolet filtration devices, solar disinfection, boiling, and modified or improved water storage containers
- Sanitation, including: improved latrine/toilet designs, ecological sanitation technologies, child potties, sani-pads (for infant faneces disposal)
- Hand washing hardware, includes: hand washing stations that include soap and water, hand sanitizers, and soapy water
- Water supply includes specific hand pump technologies, small-scale treatment and distribution systems, rainwater harvesting interventions, protected and/or improved wells, and other technologies specifically designed to improve water availability or distribution at the community or household level.

An increasingly robust body of evidence further highlights the importance of WASH within the global development agenda. Rapid and effective WaSH interventions are critical for saving the lives of children across a range of crises and complex humanitarian situations due to conflict, forced migration, disease outbreaks and public health emergencies, acute and chronic malnutrition, and natural disasters. These interventions are increasingly needed: over the last

ten years, the number of people who need humanitarian assistance has more than doubled (Unicef, 2016). Poor WASH is the main cause of Fiscally Transmitted Infections (FTIs), including cholera and diarrheal disease, which remains the second leading cause of morbidity and mortality among children under the age of five, and the leading cause of death in sub-Saharan Africa. Poor WASH is also strongly associated with malaria, polio and neglected tropical diseases (NTDs) such as guinea worm, schistosomiasis, helminthes and trachoma that have a debilitating effect on children and their families (Mills and Cumming, 2016)

Various assessments defined what it means by having access to an improved water source, exact definitions varied between surveys. For example, Service Availability and Readiness Assessment (SARA) define access as having an improved water source available within 500 meters of the facility. Service Delivery Indicators (SDI) defined water access as having access to an improved water source while Service Provision Assessment (SPA) recorded year-round availability of water from an improved source within 500 meters of facility. Thus, in both SARA and SPA datasets a health care facility without any water source on-site would be considered to have water services if the source was within 500 meters (WHO, 2015). An improved drinking water source should incorporate which is located on premises, available when needed, compliant with national water quality standards with respect to fiscal contamination and chemical contaminants, including arsenic and fluoride (Unicef, 2016).

The concepts of sanitation incorporate safe collection, storage, treatment and disposal/re-use/recycling of human excreta, management/re-use/recycling of solid waste (rubbish), and collection and management of industrial waste products, management of hazardous wastes (including hospital wastes, chemical/ radio-active and other dangerous substances) (TEARFUND,

2007). An improved sanitation facility is a sanitation not shared with other households, and where excreta (including infant and child fasces) are safely disposed in situ, or transported and treated off-site, and a hand washing facility with soap and water is present (Unicef, 2016). While most assessments defined the physical sanitation facility applying the uniform criteria of improved sanitation, definition of access varied. Sanitation includes access as availability of one or more functioning flush toilets or latrines as observed by an enumerator (WHO, 2015).

Hygiene is the practice of keeping yourself and your surroundings clean, especially in order to prevent illness or the spread of diseases (Reverso, 2010). The most common indicator for hygiene was availability of soap and water or alcohol based hand rubs at key points of care (WHO, 2015). Hygiene includes four key areas hand washing, menstrual hygiene management, safe water handling, and the safe disposal of excreta (Unicef, 2016). Furthermore, hygiene should include safe water storage, safe hand-washing practices and safe treatment of foodstuffs (TEARFUND, 2007). According to Curtis (2003) hygiene is mainly seen as cleanliness, keeping people and the house clean. Tidy and ordered things are considered as hygienic while untidy, dirty things are considered unhygienic. These are things that contain fasces or food waste and that smells bad and could spread disease. Hygiene is supposed to protect and fight bacteria in the toilet and kitchen and involve some personal effort.

The use of safe drinking water and sanitation facilities, together with improved hygiene practices, has a direct impact on poverty by reducing the vulnerability of the poor people. It is clearly spelled out that most wash related strategies were to address issues related only to unhygienic defecation. The Strategies specified the definition of 100 percent sanitation as no open defecation, hygienic latrines available for all, use of hygienic latrines by all, proper maintenance

of latrines, and improved hygienic practices. In addition, the strategies defined the basic minimum level of sanitation service as every household having access to a safe hygienic latrine, either a separate household latrine, shared latrine by two households, or a community latrine. The importance of coordination and formation of strategic partnerships with NGOs and civil society organizations is emphasized (Mahmud and Mbuya, 2016).

Defining strategies will guide to progressive realization of human rights to water and sanitation, with a focus on priority interventions for children. The articulated strategies defines how will different stakeholders will support each other to achieve universal and sustainable water and sanitation services and the promotion of hygiene, with a focus on reducing inequalities especially for the most vulnerable children, wherever they are, both in times of stability and crisis. The strategy may informed by a comprehensive review of the evidence of the impact of WASH interventions; lessons learned over the previous strategy period; a meta-analysis of evaluations over the past years; a review of works in emerging areas such as urban and climate change; and an extensive consultation process involving different external stakeholders (Unicef, 2016).

UNICEF adopts a strategic framework, which elaborate vision, objective, and principles that could guide different program approaches, which also be useful for determining specific interventions.

Several international development agencies assert that attention to WASH can also improve health, life expectancy, student learning, gender equality, and other important issues of international development. Access to WASH includes safe water, adequate sanitation and hygiene education. This can reduce illness and death, and also reduce poverty and improve socio-economic development.

2.1.3. Determinants of Effective Project Implementation

WaSH projects are a conceptual representation of three components; sanitation, water and hygiene (WHO, 2015). Sanitation means promotion of hygiene through the prevention of human contact with hazards of wastes especially faces, by proper treatment and disposal of the waste, often mixed into wastewater. These hazards may be physical, microbiological, biological or chemical agents of disease. Wastes that can cause health problems include human and animal excreta, solid wastes, domestic wastewater (sewage or grey-water), industrial wastes, and agricultural wastes. Hygienic is a means of prevention which involve engineering solutions (e.g., sanitary sewers, sewage treatment, surface runoff management, solid waste management, excreta management), simple technologies (e.g., pit latrines, dry toilets, urine-diverting dry toilets), or even simply by behavior changes in personal hygiene practices, such as hand washing with soap (Wikipedia, 2017). Compared to water, sanitation and hygiene have been long ignored, but both have received more attention and investment in recent years. More and more good research on why development interventions fail and what can be done about it is becoming available. If a demand for water supply and sanitation is met, improve the prospects of a project being sustainable in the longer term. However, one of the main concerns arising from the field research is that project activities are largely focused on determining and meeting current demands. Longer-term sustainability may be compromised because the associated management structures and systems are not designed to meet future demand (Deverill *et al.*, 2001).

Executing a project in the water and sanitation sector is a very complex mission, as it requires the coordination of a wide range of activities, the overseeing of a team, the management of budget,

the communication to the public, among other issues. Whether it is a social project to raise the awareness and promote hygiene or it is a construction project for service delivery, there is a certain process that has to be followed (Sustainable sanitation and water management (SSWM), 2017).

The implementation of projects in sustainable sanitation and water management is complex. It requires the coordination of a wide range of activities, diverse institutional arrangements, and different time frames (DFID 1998). There is not one typical project in water and sanitation, as the actions may vary from the construction of a new infrastructure, to the introduction of new ways of working. Projects in this area cover issues such as social development, health, environmental sustainability, institutional strengthening, technical implementation, pilot plants, service delivery, social marketing, hygiene promotion, sanitation promotion and capacity building. Further, It is important to take into account that besides the nature of the project, implementation takes time, usually more than it is planned, and that many external constraints can appear, which should be considered when initiating the implementation step (i.e. seasonality in availability of community engagement/resources) (NETSSAF 2008).

There are several factors affecting project implementation process and these have been discussed from different perspectives by different authors. The possible factors could be either external or internal. According to Odoyo (2013) the external or internal influences are known as the project environment. The external factors making up this environment are the client (customer), consultants, contractors, suppliers, competitors, politicians, national and local government agencies, public utilities, pressure groups, the end users and the public. Internal

influences include the organization management, the project team, internal departments, and stakeholders. On the other hand, White and Fortune (2006), argue that adequate communication channels are the main critical success factors of projects; further, Chan *et al*. (2001) also concluded that effective control, such as monitoring and updating plans are the important factor that determine the effectiveness of a give project. In addition to these, insufficient capital and inflation are the other main determinants of effective project implementation (Metzger, 1983).

Among all the listed variables on literatures, the researcher selects the following important variables, which are believed suitable for this particular research. These are insufficient capital or financial support, adequate communication channels and monitoring & evaluation.

2.1.3.1. Adequate Communication Channels

Proper and adequate communication channels are important for effective project implementation. Communication ensures that the project team functions very well within themselves while also ensuring that the team maintains needed contact and exchange with the rest of the organization and the user. Though several modes of communication exist, verbal communication has been found to be a very efficient means, more than written communication (Tushman, 1979). High performing teams have such features as a high degree of administrative communication. Communication is not centered on provision of feedbacks alone, but exchange of vital information; communication of policy changes and new procedures, goals, updates, etc. Communication does not always standalone but normally applied in the execution of other components of the PIB (Nwankwo, 2006).

The need for adequate communication channels is extremely important in creating an atmosphere conducive enough for successful project implementation. According to Pinto and Slevin (1988) communication is not only essential within the project team itself, but between the team and the rest of the organization as well as with the client. Communication to provide feedback and technical evaluation to areas outside the project within the host organization tends to be highly specialized for more effectively managed research projects. Huges (1986) argued that the improper focus of a management system by rewarding the wrong actions and the lack of communication of project goals were the major reason for the failure of any project.

2.1.3.2. Financial Support

Every project needs financing to implement and run successfully. Project finance is nothing but sourcing funds to a long-term infrastructure project, or any other project, and using the cash flow generated from the project to payback the financing procured. Availability of fund is a major issue for all projects. Projects suffer from lack of funding even after budgetary provisions were made for their funding. This is because the mere fact that a sum of money was budgeted for does not mean that the said amount will be ultimately released for the project, due to other considerations. For example, government revenue may dwindle in the face of oil doom, and this massive shrinkage in revenue may affect the ability of government to meet its financial obligations to contractors. Cancellation of funding agreements is also another frequently encountered factor. Indeed a project could be starved of funding just because the sums of money initially agreed upon as kickbacks were not remitted. In many countries in the last decade, economic meltdown occasioned massive cases of project abandonment (Fidelis, Justina and Esther, 2015).

Project Financing includes the processes required to ensure that the project is completed within the approved budget. The major processes are Resource Planning, Cost Estimating, Cost Budgeting and Cost Control. Project Cost Management is primarily concerned with the cost of the resources needed to complete project activities. The project success definition has been studied and developed from the simple attainment of cost. Efficiency of project execution determined by the degree to which targets of time and cost were met.

A properly constructed budget must be capable of being baselined and used as the basis for performance measurement and control. It must reflect the way that resources applied to achieve planned objectives over time. It must be structured in relation to the build-up of estimates, and to the collection of actuals (Anayango, 2016).Grants are given to individuals or a business for a specific project. They do not need to be paid back, but they do need to be applied for, and the application process can be highly competitive and time consuming

A major problem in evaluating the success of any project is specifying an appropriate benchmark or budget. The measure is useless if a lot of slack has been built into the targets. The targets against which the actuals are compared to the objective. This can be achieved by specifying technical and time details to execute the projects. The detail must clearly define responsibility for risky costs (e.g., what constitutes a variation versus a contingency; hedging of foreign exchange risks or rise and fall on capital equipment purchase). Given the competitive nature of a market tender, an indication of the cost of each item and the uncertainty surrounding the cost of each item (by the size of contingencies) is far more objective than the perceived uncertainty of one target setter. This will result in a target cost, which is an objective market estimate at that time, and, therefore, a more effective target against which the actual costs can be compared.

The project manager measures success as the difference between the proceeds from the sponsor (net of the management fee) under the fixed price contract and the actual costs of the project. Where the sponsor also manages the project, 'success is measured as the sum of the effect of any timing over- or underrun and the effect of any cost over- or underrun. Projects are often rated as successful because they have come in on or near budget and schedule and achieved an acceptable level of performance. These characteristics may be used because they are the easiest to measure (quantify) and they remain within the realm of the project organization.

Cost overruns in project scheduling are problems that are often experienced in projects. While there is no clear way of avoiding cost overruns, proper planning and estimating can decrease the chances of these (Mark, 1992). Contributions to delays emanating from the client may include late decision making, late release of funds and changing of the scope. The effectiveness of a project measured as the difference between the revised venture and the budgeted venture.

2.1.3.3. Effective Control, Monitoring and Evaluation

Monitoring refers to a continuing function that uses systematic collection of data on a specified indicators to provide management and the main stakeholders on an ongoing development intervention with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds (Austrian Development Agency, 2009). It is systematic and continuous assessment of the progress of a piece of work over time, which checks that things are going as plan. This refers to the project control process by which at each stage of the project implementation, key personnel receive feedback on how is the project, comparing to initial projection. Monitoring and controlling helps to track, review, and regulate the progress project

performance regularly and consistently to identify variances from the project management plan. Continuous monitoring provides the project team the insight into the health of the project and identifies any areas requiring additional attention. For instance, a missed activity finish date may require adjustments to the current staffing plan, reliance on overtime, or trade-offs between budget and schedule objectives (Cynthia, 2008). Monitoring is undertaken on a continuous base to act as an internal drive for efficiency within the organization's project implementation processes and its main agenda is to develop a control mechanism for projects (Crawford and Bryce, 2003).

Evaluation is a definite and systematic approach geared towards reviewing an ongoing project to ensure that it meets the goals or objectives that were fundamental to its undertaking (Uitto, 2004). It is an assessment at one point in time of the impact of a project or programme and the extent to which the stated objectives have been achieved. Monitoring and evaluation should offer comprehensive and relevant data that will support decision-making. A monitoring and evaluation system is a component designed to screen, track and make a comparison of the project outcomes against the stated or planned targets (Cummings and Worley, 2005). It is a comprehensive undertaking that offers guidance in the screening and tracking of an ongoing project, recording data and systematically evaluating the data for comparison purposes in line with the project goals and objectives (Kerzner, 2013). The primary purpose of M&E is to enable it to learn from current and past practice in order to improve future performance. In so doing, an organization will go a long way towards ensuring that it is accountable to its main stakeholders both downwards to partners and poor people and upwards to governments, donors and supporters.

2.2 Empirical Review

Anyango (2016) conduct a study, which sought to investigate factors that determine effective implementation of health projects in Gedo region of Somalia. Descriptive and inferential statistics used for data analysis. The study found that poor communication minimizes the chance of creating an understanding, an approval of the implementation and sharing information between the project team and communicating to the whole organization thus resulting in ineffective project implementation. The study further found out that there was enough financial support for project implementation. It also found that making allowances for adequate monitoring and evaluation gives the project manager and field officials the ability to anticipate problems to oversee corrective measures and to ensure that no deficiencies are overlooked thus resulting in effective project implementation. The study recommends that integrated communications plan should improve in order to improve project implementation.

Nyanje, (2016) analyze factors affecting the implementation of non-governmental organization projects in Nakuru county, Kenya. The study analyzed the role of communication, planning, monitoring and controlling play in implementation of NGO projects in Nakuru County, Kenya. Descriptive survey design was employed with a target population of 307 NGOs. A sample size of 76 project managers was selected using probability sampling. The study revealed that exchange and availability of information among stakeholder has impacts on decision-making. Application of project management tools was moderate. The study also found out that there was adequate project scheduling. Sponsor evaluation of the investment was considered the most important component of monitoring and control. Though inferential statistics; communication, planning, monitoring and controlling were found to be positively correlated with implementation of NGO

projects. Findings suggest that NGOs should address project scope, communication planning, budgeting and project scheduling to reduce delays in project implementation.

Fidelis *et al*., (2015) used factor analysis to assess factors that are responsible for successful project implementation in Anambra State, Nigeria. The aim of the research was to appraise the factors critical for project success, with a view to help in lowering the high incidence of project failure. Primary information used in the research sourced from a survey of one hundred (100) project professionals. Structured questionnaires based on the Likert-5-Point Scale of Responses were used to capture their opinions on the reasons for project success, while Secondary information was sourced from a review of literature. The analysis concluded that the most important factor for project success is ability to handle unexpected crises above client commitment. It is recommended that the results of this research be disseminated and used in community enlightenment, and in further policy guidance and regulation. It is also recommended that the study be applied to the entire South Eastern states of Nigeria in order to generate better client satisfaction in subsequent projects.

Amade & Ogbonna, (2012) adopted analytical techniques in order to identify the determinants of successful project implementation in Nigeria. The study was motivated by the very low success rate of project delivery in the country, which has created obvious problems of economic waste and end user dissatisfaction. The study sampled the opinion of fifty selected project professionals presently working in six project sites. Weighted scores of respondents to the factors were analyzed using factor analysis, while the effects of the quantified weight of the critical factors were analyzed using the regression tool. Results of the analysis indicate that among others environmental factors are more critical to the success of project implementation than skills

portfolio of the project team. Collective responsibility among project stakeholders is a necessary condition for successful project implementation; Ability of project professionals to generate accurate designs, cost and time estimates will minimize the negative effects of economic instability on successful project delivery. Commitment of Clients to project financing obligations is a necessary condition for contractor commitment to project plans. The recommendation is that there is need for adequate environmental scanning, monitoring and evaluation at the planning stage of projects.

Odoyo, (2013) used OLS to assess the factors affecting the implementation of community projects at Kimira Oluch Small Farm Improvement Project (KOSFIP) in Homa Bay County, Kenya. A case study research design was used to collect data from 3,000 households in the project's area of coverage. The study established that: natural occurrences such as floods and daily coordination of activities were major causes of delay. Similarly, demand for compensation and resettlement, mitigation of floods and inflationary fluctuations were the major factors of cost escalation. However, there was minimal interference with project implementation from the community, which indicates community members were not a hindering factor. Finally, there was a weak positive linear relationship between local leaders support for implementation of project and their strong belief in handouts and reduction in variations implementation of project can be explained by local leader's belief in handouts. Further, there was a strong significant positive effect of implementation of project by leaders' belief in handouts. The study is useful to project planners, stakeholders and financiers who are in need of relevant information on factors affecting project implementation. It will also be useful to researchers and scholars who wish to generate more knowledge or fill gaps on implementation of community projects.

Legesse & Takele, (2016) analyze factors affecting the Performance of Construction Project under Oromia Industry and Urban Development Bureau, Ethiopia. In Oromia the number of building construction projects is increasing from time to time. However, it becomes difficult to complete projects in the allocated cost, time and quality. Taking this into consideration, cost, time, and quality and leadership performance problem is one of the major problems in industry and urban development bureau building construction projects. Therefore, this research was carried out to investigate factors that affect cost, time, and quality and leadership style performance during construction projects under Oromia industry and urban development Bureau. From the results, it was found that the building construction projects suffered both time and cost performance. The actual rate of cost performance ranges from a minimum of 12% to the maximum of 60% of the contract amount and the actual time performance ranges from a minimum of 7% to the maximum of 170% of the contract time. The extremely significant factors of affecting time performance were delay to furnish and deliver the site, financial problems and improper planning. Whereas the extremely significant factors affecting cost performance were design changes, fluctuations in the cost of most significant factors affecting quality performance were construction project educated personnel, relevant work experienced personnel, quality of materials and equipment used in the project construction and conformance to specification. The most significant factors affecting the leadership performance were leader's professional education, leader's relevant work experience and training.

Mbachu & Nkado, (2007) used a descriptive survey to identify the factors constraining successful building project implementation in South Africa. The paper presents the results of investigations into the nature, magnitudes and frequencies of occurrence of these constraints. The descriptive

survey method was used with qualitative data gathering through semi-structured interviews, and quantitative data gathering using structured questionnaires. Multi-attribute methods and rank correlation tests were used in the data analyses. A data is shown as the most influential and most frequently occurring factor constraining successful project delivery in the South African building industry. The controllable factors account for 67% of the perceived discrepancies between expected and actual outcomes of project development. An Influence–Frequency matrix was developed and applied as a conceptual framework for establishing the risk levels of the identified project constraints. The application of this framework is recommended as an effective approach to risk analysis and risk response development in project management.

Ogwueleka, (2011) employed a descriptive analysis in order to identify the critical success factors influencing project performance in Nigeria. The objectives are to identify success factors existing in projects and to examine the important index of these success factors on project performance in Nigeria. Twenty-two success factors were selected from the literature for the research with sample size of 188 professionals. The data obtained from the questionnaire are analyzed using frequency, severity and important indices. Based on the result, objective management, management of design, technical factors, top management support and risk management were selected as the most critical success factors in project performance. The findings are focused to assist practitioners' gain better understanding on the key areas based on prioritized success factors in order to improve performance in project delivery.

2.3 Conceptual Frame Work

The purpose of conducting this study was to find out the different factors that determine effective wash project implementation; hence, developing a base framework for this particular study is needed. Accordingly, there are several factors affecting project implementation process and these have been discussed from different perspectives by different authors. Metzger (1983) listed problems mostly encountered as: Poor planning, undefined contract, unstable problem definition, inexperienced management, political pressure, ineffective change control and unrealistic deadline. According to Alias *et al.*, (2014), the success of project management is critically determined by different factors such as support from senior management, skilled designers, skilled project managers, strong/detailed plan effort in design and construction, adequate communication channels, effective control, such as monitoring and updating plans and adequate financial budget.

This paper develops the conceptual framework through adopting some parts of the success determining factors mentioned above. Accordingly, four variables was employed and included in the conceptual framework. Hence, three of the instruments such as, adequate communication, adequate financial budget & monitoring and evaluation were adopted as a conceptual framework for this particular study. Therefore, the independent variables are Communication, Financial budget & support and Monitoring & Evaluation; and the dependent variable will be overall Project effectiveness (Figure 1).

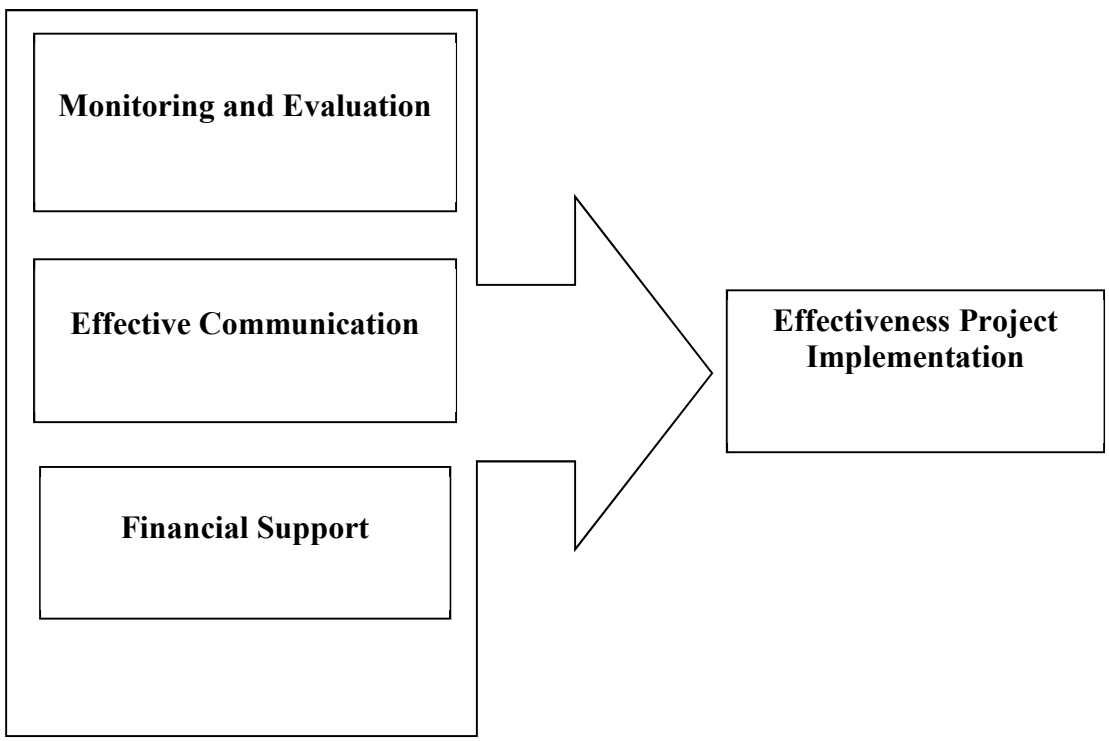

Fig 1 Conceptual Framework
Source: Adopted and developed by the researcher

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Research Design and Approach

The objective of this study was to examine the relationship between effective project implementation and factors that affect effective project implementation of WaSH projects. Mixed research approach was adopted to identify the key factors that affect effective project implementation. Furthermore, descriptive research was employed to describe the characteristics of the population and to explain the criteria's used to measure the success of community based projects; and inferential statistics will be used to test the hypothesis. Particularly, for the purpose of this study causal/explanatory research design was adopted to identify the variables that affect effective WaSH project implementation. The researcher used mixed method of research approach, specifically, convergent parallel mixed method. Convergent parallel mixed methods is a form of mixed methods design in which the researcher converges or merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem. In this design, the investigator typically collects both forms of data at roughly the same time and then integrates the information in the interpretation of the overall results. Contradictions or incongruent findings are explained or further probed in this design (Creswell, 2013).

3.2. Population and Sampling Design

The main target of this research was evaluating different factors that determine the effective WaSH project implementation. Hence, the target population of this study are those who are full-time and part-time employees of WaterAid, partners, contractors and sub-contractors who work

together with the organizations. In Amhara region, there are 6 Zones, 19 Woredas and 55 Kebeles on which WaterAid has 104 WaSH projects. However, for this particular study only two Zones will be selected, North Shoa & North Gonder Zone; due to two basic reasons, the first one is there are better numbers of WaSH in these two districts than other Zones, and the second reason is due to time and resource constraint it is not possible to reach all the zone's. In these two zones there are 65 projects in 10 Wereda's and 31 Kebeles. To complete these projects 50 contractors and 22 supervisors were participated; in addition to these, WaterAid has 36 staffs that have direct concern with these projects. According to Lindeman *et al.*, (1980) and Loo, (1983) cited on Kashan (2012) a minimum sample size of 100 to 200 is often recommended in order to run a regression. Hence, in order to run the regression the researcher will take all of the participants of the project and employees of the organization; which means the researcher used census instead of sample. Therefore, 50 contractors, 22 supervisors, and 36 fulltime employees, a total of 108 individuals were questioned. Accordingly, 108 questionnaires were distributed and 96 questionnaires were returned successfully.

3.3. Research Methods Used

3.3.1. Data Collection Procedure

Primary and secondary data was collected in order to analyze factors that affect effective WaSH project implementation. In this research, the researcher collect primary data through questionnaire survey from WaterAid staffs, partners, contractors, sub-contractors, and different stakeholders. Secondary data was also collected from previous studies and different publications.

3.3.2. Method of Data Analysis

The study utilized both quantitative and qualitative data analysis techniques. Descriptive statistics such as mean values, percentage, and frequency tables was used to describe the data. Inferential statistics such as ordered Logit model were employed in order to test the hypothesis. Totally, there was three independent and one dependent variables in which all of them was measured on a 5-point Likert-Scale, with "1" stands for strongly disagree and "5" stands for strongly agree. Furthermore, STATA version 13 was employed for the purpose of data analysis.

3.3.2.1. Model Specification: Ordinal Logistic Regression

If the dependent variable has ordered categories, you can use ordered logit. For some variables, the order is much clearer than for others, but always it is important to take care of whether it is the only possible order or if something else is there which makes sense better (Sarkisian 2004).

In this study, effective WaSH project implementation was measured using a single-item measure. Employees asked to rate how much the WaSH projects were effective on a five-point Likert scale, 'Strongly Disagree', 'Disagree', 'Undecided', 'Agree' and 'Strongly Agree'. The independent variables were "Communication", "Financial support", and "Monitoring and evaluation" in which all of them measured in Likert scale. Since the outcome variables for effective project implementation is ordered and categorical, the most appropriate econometric estimation method to apply is ordinal logistic regression (Green 2000). The ordered logit models have come in to wide use as a framework of analyzing ranked responses (Parasuraman *et al.* 1988).

Hence, this study will employ ordinal logistic regression model. The functional form of ordered logit model for effective project implementation will be specified as follows:

$$Y* = \sum_{k=1}^{k} \beta_k \mathrm{X}_{ki} + \varepsilon_k \qquad (1)$$

Y*= is a continuous, unobserved and unmeasured latent variable whose values determine what the observed ordinal variable Y equals

Ɛ= is a random disturbance term with zero mean and a standard normal or logistic distribution: Ɛ~N (0, 1). The continuous latent variable Y* has various threshold/cut-off points. (κ is the Greek small letter Kappa.)

The value on the observed variable Y depends on whether or not you have crossed a particular threshold/cut-off points. Thus, when M=3, what we do observed is;

$$\left.\begin{array}{l} Y = 1, \text{ if } Y^* \leq \mu_1 \\ Y = 2, \text{ if } \mu_1 < Y^* \leq \mu_2 \\ Y = 3, \text{ if } \mu_2 < Y^* \leq \mu_3 \end{array}\right\} \qquad (2)$$

Where: Y, is observed in j number of ordered categories, μs are unknown threshold/cut-off point parameters separating the adjacent categories to be estimated with βs. The continuous latent variable Y* can be rewritten as;

$$Y* = \sum_{k=1}^{k} \beta_k \mathrm{X}_{ki} + \mathrm{Ɛ} = \ Z_i + \varepsilon_i \qquad (3)$$

The Ordered Logit Model estimates part of the above:

$$Y* = \sum_{k=1}^{k} \beta_k \mathrm{X}_{ki} + \mathrm{\Epsilon} = \quad E(Y*) \qquad (4)$$

Note that, because of the random disturbance term, the unmeasured latent variable Y* can be either *higher* or *lower* than Z. Note also that there is no intercept term. You then use the estimated M-1 cut off terms to estimate the probability that Y will take on a particular value. In this case since M=3, the formulas are:

$$\mathrm{P(Y = 1)} = \frac{1}{1 + e^{Zi-k1}}$$

$$\mathrm{P(Y = 2)} = \frac{1}{1 + e^{Zi-k2}} - \frac{1}{1 + e^{Zi-k1}}$$

$$\mathrm{P(Y = 3)} = 1 - \frac{1}{1 + e^{Zi-k2}}$$

The cumulative probabilities can also be computed using the form:

$$\textit{Prob}\ (\mathrm{Y = j}) = 1 - \mathrm{L}\ (\mu_{j-1} - \sum_{k=1}^{k} \beta_k \mathrm{X}_k\ )$$

Where: L (.) represents cumulative logistic distribution

CHAPTER FOUR

RESULT AND DISCUSSION

4.1. Demographic Characteristics of Respondents

4.1.1. Gender and age of Respondents

The age category of the respondents classified in to four groups. The firs age group covers respondents who were between 20 and 25 years of age; in this group there were 24 respondents in which 41.66 percent of them were male and the rest 58.33 percent were females. The second group incorporates individuals who are in the age group of 26 to 30. This group involves 40 respondents of which 67.5 percent of them were male and 32.5 percent were females. The third group comprises persons who are in the age group of 31-35 years of age; in this age group, 88.23 percent of the respondents were male, and the rest 11.77 percent of them were female. The last age groups of the respondents were above 35 years, out of these 93.33 percent of the respondents were male and the rest 6.67 percent were females. Apart from these, totally there were 96 respondents, out of these 68.75 percent of them were male and the rest 31.25 of them were females.

Table 4.1 description of gender and age of respondents

Age of respondents	Sex of respondents					
	Male		Female		Total	
	Freq	%	Freq	%	Freq	%
20-25	10	41.66	14	58.33	24	100
26-30	27	67.5	13	32.5	40	100
31-35	15	88.23	2	11.77	17	100
Above 35	14	93.33	1	6.67	15	100
Total	**66**	**68.75**	**30**	**31.25**	**96**	**100**

Source: Survey result

4.2. Determinants of Effective Project Implementation

4.2.1. Descriptive Statistics

4.2.1.1. Communication

The first identified factors were effective communication. Accordingly, more than 42 percent of the respondents replied that there is no exchange of information among stakeholders during the project implementation time; conversely, 21.88 percent of the respondents agreed that information is exchanged properly between stakeholders, on the other hand considerable (35.42%) amounts of respondents could not decide on this issue. Moreover, 46.88 percent of the respondents also confirmed that the necessary feedback to/from project staff to/from users was not delivered; on the other hand, more than 21 percent of the respondents agreed on the statement that there is feedback to/from project staff to/from users. Apparently, 41.67 percent of the respondents responded that information was not available for decision-making, conversely, 21.88 percent of the respondents replied that enough information is provided for decision-making; the rest 36.46 percent of the respondents did not decide with regard to information availability.

Around 52.8 percent of the respondents replied that any raised issues were not resolved effectively by the right people and time; however, 14.58 percent of respondents agreed that issues were resolved effectively by the right people and right time. Furthermore, more than 51 percent of the respondents replied that the information system didn't provide necessary reports concerning department's performance relative to established objectives, including relevant external and internal information, on the other hand 14.59 percent of the respondents said that the information system provide necessary reports with regarding department's performance

relative to established objectives. Apart from these, 51.4 percent of the respondents were confirmed that the information provided to the right people was not sufficient and also was not on time to enable them to carry out their responsibilities efficiently and effectively; however, more than 16 percent of them agreed that sufficient information was provided for the right people. More than 55 percent of the respondents suggested that communication flows across the project implementation did not adequately enable people to discharge their responsibilities effectively; conversely, 10.40 percent of them said that communication flow across the project implementation was adequately enables people to discharge their responsibilities effectively. a chi-square test was performed and a relationship was found between effective project implementation and communication, $X^2(120, N= 96) = 180.09, p < .001$.

From the above analysis, one can classify the response of respondents as positive, negative and neither of them; one thing that makes it far from perfection is the negative response of significant amounts of respondents. In fact majority of the respondents replied that the flow of communication had creates a significant obstacle on the achievement of the project, in terms of time, resource and objective. It is obvious that effective communication is the key to success. Communication is said to be effective when the receiver of a message understands the message exactly the way the sender wants him.

On the other hand, the positive response of respondents confirmed that the communication channel in the project still progressed well. This means from the beginning to the end of project implementation the right information delivered to the right stakeholder properly at the right time; however, this does not mean that communication channel is free from strange. The comparison of positive and negative response tells us, although encouraging things are observed

in the communication channel however, it has parts that needs to be observed and improved. In line with this finding, Anyango, (2016) project has got a difficulty to finish in the specified time due to lack of communication. This indicates that most employees found it difficult to finish projects as a result of poor or lack of communication. Poor communication or lack of communication can minimize chances of creating an understanding, an approval of the implementation and sharing information between the project team and communicating to the whole organization thus resulting in ineffective project implementation. The need for adequate communication channels is extremely important in creating an atmosphere for successful project implementation.

Table 4.2 description of effect of communication on project implementation

Items	1	2	3	4	5	Mean	Std. Dev.
There is Exchange of information among stakeholders	11.46	31.25	35.42	16.67	5.21	2.27	1.0410
There is Feedback to/from project staff to/from users	10.42	36.46	31.25	13.54	8.33	2.27	1.0904
Availability of information for decision-making	9.38	32.29	36.46	17.71	4.17	2.25	.9947
Issues resolved effectively by the right people and timely	12.50	39.58	33.33	8.33	6.25	2.43	1.0240
Project progress communicated appropriately and timely	12.50	39.58	31.25	9.38	7.29	2.40	1.0620
Application of project management tools	18.75	48.96	23.96	3.13	5.21	2.72	.9784
Difficulty to finish projects in the specified time due to lack of communication	15.63	10.42	25	40.63	8.33	2.44	1.1320
The information system provide necessary reports on the department's performance relative to established objectives, including relevant external and internal information	18.75	32.29	34.38	10.42	4.17	2.51	1.0462
The information provided to the right people is sufficient and on time to enable them to carry out their responsibilities efficiently and effectively	20.83	30.21	32.29	8.33	8.33	2.46	1.1603
Communication flow across the project implementation adequately enable people to discharge their responsibilities effectively	21.88	34.38	33.33	7.29	3.13	2.64	1.0050

Source: survey result

4.2.1.2. Financial Support

Under this sub-topic, how the availability of financial support influence effective project implementation was assessed. Accordingly, more than 56 percent of the respondents agreed that with a greater extent there is enough financial support for project implementation at WaterAid, conversely, 13.54 percent of the respondents replied that financial support is delivered at a lower extent for project implementation. On the other hand, 30.21 did not agree on this issue at any extent. 64.58 percent of the respondents confirmed that the organization ensures the timely provision of funds for project implementation; however, 23.99 percent of the respondents confirmed that the organization ensures the timely provision of funds at a lower extent. 44.8 percent of the respondents agreed with a great extent that project activities were delivered in terms of time-taken; on the other hand, 23.96 percent of the respondents agreed with a lower extent with regard to project delivery. Furthermore, financial support had effect on project staff relations adequacy and timeliness of remuneration; this is confirmed with a great extent by 45.84 percent of the respondents, conversely, 27 percent of the respondents agreed with a lower extent.

75 percent of the respondents believed that financial support had effect on the overall implementation effort, system and efficiency of the project at greater extent; on the other hand, 8.33 percent of the respondents were replied that financial support didn't have as such effect on the system and efficiency of the project. 61 percent of the respondents also confirmed that budgets are prepared for all significant activities in sufficient detail to allow meaningful monitoring of subsequent performance; 10.7 percent of the respondents on the other hand

replied that budgets were not prepared for all significant activities in sufficient detail to allow meaningful monitoring of subsequent performance. More than 57 percent of the respondents were said that the project plans and budgets of project activities were realistic, based on valid assumptions, and developed by knowledgeable individuals; conversely, 11.46 percent of the respondents were said that the project plans and budgets were not based on valid assumptions and knowledge. In addition to this, 36.46 percent of the respondents confirmed that the budgets were useful for assessing the performance of the organization; however, 20.83 percent of them replied that the budgets were not useful for assessing the performance of the organization.

Eleven items were employed in order to find out the effects of financial support on project implementation. Accordingly, 19.69 percent of the respondents were select “Very Great Extent”, 34.65 percent of the sample respondents select “Great Extent”, 28.22 percent of the respondents select “Neutral”, and 10.13 percent of the respondents select “Low Extent”, and the rest 7.29 percent of the respondents select “Very Low Extent”. Furthermore, the grand mean score was 3.48 with a standard deviation of 1.085. Furthermore, a chi-square test was performed and a relationship was found between student satisfaction and nonacademic service aspect, $X^2(60, N= 96) = 144.98, p < .001$.

Finance is the backbone of any project, in fact whenever there is a problem in the financial wing of a project; the implication would be seen directly in the successfulness of the project. The analysis of the above paragraphs indicates that there is no financial problems, which create obstacle on the effectiveness of the projects. Although, considerable amounts of positive response were generated, however, the statistics shows that the financial support and its flow did go smoothly.

Table 4.3 description of financial support activities

Item	1	2	3	4	5	Mean	Std. Dev.
There is enough financial support for project implementation at Water-Aid	5.21	8.33	30.21	45.83	10.42	3.47	.9731
The organization ensures there is timely provision of funds for project implementation	5.21	8.33	21.88	51.04	13.54	3.59	1.0008
There is delivery of project activities in terms of time-taken	8.33	15.63	31.25	35.42	9.38	3.21	1.0877
There is independency in the budgetary decisions for project implementation unit	14.58	13.54	16.67	33.33	21.88	3.34	1.3520
Effect on project staff relations – adequacy and timeliness of remuneration	9.38	17.71	27.08	28.13	17.71	3.27	1.2181
Effect on overall implementation effort - system and efficiency	7.29	1.04	16.67	34.38	40.63	4	1.1332
Sponsor evaluation and estimation of the return on investment	5.21	1.04	19.79	32.29	41.67	4.04	1.065
Budgets are prepared for all significant activities in sufficient detail to allow meaningful monitoring of subsequent performance	2.08	7.29	29.17	37.50	23.96	3.73	.9759
the project are plans and budgets of project activities realistic, based on valid assumptions, and developed by knowledgeable individuals	4.17	7.29	31.25	38.54	18.75	3.60	1.0102
The budget process procedures are in place to plan project activities, collect information from the units in charge of the different components, and prepare the budgets	10.42	18.75	43.75	19.79	7.29	2.94	1.050
the budgets are useful for assessing the performance of your organization	8.33	12.50	42.71	25	11.46	3.18	1.069

Where, ***1 = Very low Extent 2 = low Extent 3 = Neutral 4 = Great Extent 5 = Very Great Extent***

Source: Survey result

4.2.1.3Monitoring and Evaluation

Monitoring and evaluation in this research context mean how the monitoring and evaluation activities affects the project effectiveness; accordingly, more than 62 percent of the respondents replied that monitoring and evaluation is considered as an important factor during project implementation at greater extent. In this regard, 28.13 percent of respondents replied that the organization monitoring and evaluation is considered as an important factor during project implementation neither at a greater extent nor at lower extent. However, 9.38 percent of the respondents replied the organization monitoring and evaluation activities are not considered as an important factor during project implementation. 15 percent of the respondents confirmed that the results and feedback from monitoring & evaluation were responded timely at a greater extent; conversely, more than 41 percent of the respondents replied that results and feedback of monitoring & evaluation were not timely delivered.The most important thing in monitoring and evaluation activities is feeling the gap indicated by the assessment analysis. Accordingly, around 29 percent of the respondents confirmed that based on the monitoring evaluation result corrective action on deviations is clearly shown; on the other hand, 26 percent of the respondents did not agree with this, corrective action on deviations was clearly shown.

The rest majority of the respondents feel that they neither agree nor disagree with regard to corrective action on deviations was clearly shown or not. Furthermore, with regard to whether projects product meets project objectives and user descriptions, more than 41 percent of the respondents feel that project product were meet their designed objectives. However, 23.96 percent of the respondents replied that project product didn't meets their objective; and the rest

34.8 percent of the respondents neither agree nor disagree concerning whether project were meet or not their objectives.

Generally, six items were employed for measuring how monitoring and evaluation activities were determining effective project implementation. According to the result of the mean score, it is possible to conclude that monitoring and evaluation was taking place during and after project completion (Table 4.4). Moreover, a chi-square test was performed and a relationship was found between student satisfaction and nonacademic service aspect, $X^2(112, N= 96) = 164.34, p = .001$. Monitoring projects is the best and effective way of mechanisms for either to complete projects effectively of controlling and allocating resources properly. According to the result of the mean statistics possibly to say monitoring and evaluation was taking place properly. This indicates projects were monitored properly from the beginning to the end; however, one thing that makes the monitoring and evaluation far from perfection is the complement response of significant amount of respondents. Considerable amounts of responses were generated that the monitoring and evaluation activities were not taking place properly and timely, this is maybe because of to some extent sponsor evaluation of the investment didn't take place and corrective action didn't take on deviations is clearly shown. Nwankwo (2006) emphasized that importance of monitoring and fine tuning of each stage of the project implementation. This means the necessity for key personnel to receive feedback on how the project is fairing in comparison with initial projections. Allowances must be made for adequate monitoring and feedback channels between the project manager and the user and between the project manager and top management. It is important in WaterAid to monitor not only project schedule and budget but also the activities of the project implementation team. Furthermore, The above analysis indicate that during monitoring and

evaluation, there should be a great importance on tools & techniques, relationship, team work, which slowly reduced during the last phase i.e. 'corrective actions', which can be said as a culmination of all the efforts and energy. This phase also brings out the importance of creativity and leadership roles, which can again be seen in next section i.e. skills requirements.

Table 4.4 description of monitoring and evaluation activities

Item	1	2	3	4	5	Mean	Std. Dev.
Monitoring and evaluation is considered an important factor during project implementation	6.25	3.13	28.13	37.50	25	3.71	1.0731
Results and feedback from Monitoring & Evaluation are timely	8.33	40.63	35.42	5.21	10.42	3.39	1.0308
User assessment of outcome/product is very useful	5.21	7.29	58.33	22.92	6.25	3.17	.8583
There is sponsor evaluation of the investment	8.33	17.71	35.42	28.13	10.42	3.14	1.0952
Corrective action on deviations is clearly shown	10.42	16.67	43.75	22.92	6.25	2.97	1.0359
Project product meets project objectives and user descriptions	10.42	13.54	34.38	34.38	7.29	3.14	1.0855

1 = Very low Extent 2 = low Extent 3 = Neutral 4 = Great Extent 5 = Very Great Extent

Source: Survey result

4.2.1.3. Effective Project Implementation

This section represents how respondents see the overall success of projects generally. Accordingly, more than 60 percent of the respondents agrees at a greater extent that the overall WaSH projects were effective, however, 17.70 percent of the respondents confirmed that the overall the WaSH projects were not effective; the rest 20.83 percent of them neither agree not disagree with regard to the overall completion of the project (table 4.5).

Table 4.5 description of respondent's agreement on overall project effectiveness

Item	1	2	3	4	5	Mean	Std. Dev.
Over all the wash projects were effective	5.21	12.50	20.83	46.88	14.58	3.51	1.0558
1= Very low Extent 2 = Low Extent 3 = Neutral 4 = Great Extent 5 = Very Great Extent							

4.2.1.4. Summary Statistics of all Variables

Under this sub-topic, the summary statistic of all variables were discussed. A five-point Likert scale was employed in order to measure the effectiveness of project implementation, where, 1 stands for "Very low Extent" and 5 stands for "Very Great Extent". Furthermore, Mean was used as a measure of central tendency. According to Boone & Boone (2012), Likert scale data are analyzed at the interval measurement scale. Likert scale items are created by calculating a composite score (sum or mean) from four or more type Likert-type items; therefore, the composite score for Likert scales should be analyzed at the interval measurement scale. Furthermore, according to Scott (1999), for Likert scale data from 1 (strongly disagree) to 5 (strongly agree) if the sample is approximately normally distributed the interpretation should be for mean up to 2.8 is "Disagree", mean between 2.9 and 3.2 is "Neutral", and mean above 3.2 is "Agree". Therefore, the summary statistics was made based on these criteria.

Three different determining factors were identified, namely: Communication, Financial Support, Monitoring, and Evaluation. Looking in to the descriptive statistics more than 42 percent of the respondents agreed that there was no good communication on the project process. According to the analysis, communication had a mean score of 2.43 with a standard deviation of 1.053; hence, since the mean score lies on disagree level it is possible to conclude that on the process of project implementation there was no good flow of communication. Majority (54%) of the respondents also agreed the financial support of the project was good. Furthermore, the financial support had a mean score of 3.48 with a standard deviation of 1.085 which lies on agree/great extent level that leads to conclude the financial offer and support were also good and released on time. Above 41 percent of the respondents also agreed that the monitoring and evaluation activities of the project were good; this particular factor score a mean of 3.25 with standard deviation of 1.029. The mean score of this service aspect lays on agree/great extent level, which indicates the monitoring and evaluation of the projects were good (Table 4.6).

Table 4.6 Summary statistics of determining factors

List of variables	Mean	St. Deviation
Communication	2.43	1.053
Financial Support	3.48	1.085
Monitoring And Evaluation	3.25	1.0298
Over all the wash projects effectiveness	3.51	1.0558

Source; Survey result

4.2.2. Results of Multiple Regression Analysis

4.2.2.1. Preliminary Tests

This study conducted mainly in order to measure the determinants of project implementation effectiveness of wash projects. Hence, with regard to the detection of the determinants of project effectiveness ordered logit model was employed. Before running the regression, a preliminary test of multicollinearity was performed. Multicollinearity means the existence of a perfect linear relationship among some or all explanatory variables of a regression model. The larger the value of VIF_j, the more collinear the variable X_j, if the variance inflation factor (VIF) of a variable exceeds 10, which will happen if R_j^2 exceeds 0.90, that variable is said to be highly collinear (Gujarati, 2003). Accordingly, the results of the test indicates the highest VIF 1.71 with Pseudo R^2 = 0.2852; which indicates the model performed with no major multicollinearity problem among the explanatory variables (table 4.7). Furthermore, looking at the model fit, a highly significant chi-square statistic (*p<.001*) indicates that the overall model is statistically significant.

Table 4.7 VIF analysis output

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. vif
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Variable	VIF	1/VIF
Finance	1.81	0.553405
Communicat~n	1.69	0.590833
Monitoring	1.62	0.615643
Mean VIF	1.71	

4.2.2.2. Model Estimation Results: Ordered Logit Model

As indicated in the theoretical sections, the key research question was to test how different factors determine project implementation effectiveness. Specifically, this study analyzes how Effective Communication, Financial Support and Monitoring & Evaluation determine project effectiveness. Furthermore, project effectiveness was estimated using Ordinal logistic regression (Ologit) model. The coefficient of determination (R^2) for the model was 0.5833 showing that the model explained 58.33% of the variation in the level of project effectiveness and the overall model is statistically significant. In addition to this Cronbach‟s Coefficient Alpha method was also used to test the reliability of the data, therefore, the data was 69% reliable.

The results of the econometric model estimation revealed that effective communication and monitoring and evaluation had significant effect on project effectiveness, whereas, enough financial capital didn't show significant relationship with effective project implementation. Accordingly, one of the independent variables that affected effective project implementation is effective communication. This variable is positively and significantly associated with effective project implementation. Furthermore, given all the other variables in the model held constant, odds ratio greater than one suggested that, effective project implementation are more likely to be influenced by effective communication. In line with this finding Anyango, (2016) found out that there is a positive relationship between communication and effective project implementation, which he suggests that better and efficient communication enhances effective project implementation positively and vice versa. Communication is related to monitoring and feedback discussed previously. Proper and adequate communication channels are important for

successful project implementation. Communication ensures that the project team functions very well within itself while also ensuring that the team maintains needed contact and exchange with the rest of the organization, and also the user (Fidelis, Justina and Esther, 2015). In one way the other, the analysis of this study implied that with the current level of communication projects are more likely to be in the category of highest level of effectiveness, which means increasing the effectiveness of communication determine highly the effectiveness of the project.

In terms of project monitoring and evaluation, the regression result revealed that this variable is also positively and significantly associated with effective project implementation. Given all the other variables in the model held constant, an odd ratio greater than one suggested that projects are more likely to be effective with the current monitoring and evaluation system. This implies with high monitoring and evaluation activities the implementation of projects are more likely to be effective at highest rate, increasing the quality of monitoring and evaluation activities leads to increase the effectiveness of project implementation. The same as with this finding Jha and Iyer, (2006) monitoring and evaluation has positively influence the success of project effectiveness; they further argue that proper monitoring and timely feedback help in controlling the workmanship and they enhance the quality of a project. If each part of the activity of a project is monitored effectively and instances of poor workmanship and improper usage of resources – be it material, labor or plant and machinery – are reported promptly, it aids in achieving the desired quality level. Committed participants would stick to the quality plan and they would follow the accepted technical practices to carry out the different project activities.

The other variables which were hypothesized were financial support. Even though the correlation analysis show a significant association between financial support and effective project

implementation, however, the regression analysis doesn't show significant relationship between communication and effective project implementation (table 4.8).

Table 4.8 Description of estimation result/determinants of effective project implementation

```
. ologit Effectivness Monitoring Communication Finance

Iteration 0:   log likelihood = -116.98235
Iteration 1:   log likelihood = -66.972292
Iteration 2:   log likelihood = -50.401038
Iteration 3:   log likelihood = -48.757666
Iteration 4:   log likelihood = -48.750813
Iteration 5:   log likelihood = -48.750812

Ordered logistic regression                     Number of obs   =         96
                                                LR chi2(3)      =     136.46
                                                Prob > chi2     =     0.0000
Log likelihood = -48.750812                     Pseudo R2       =     0.5833

------------------------------------------------------------------------------
 Effectivness |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------+---------------------------------------------------------------
   Monitoring |   1.550242   .3901315     3.97   0.000     .7855979    2.314885
Communication |   2.101738   .3511159     5.99   0.000     1.413563    2.789912
      Finance |  -.0691703   .1060354    -0.65   0.514    -.2769959    .1386552
--------------+---------------------------------------------------------------
        /cut1 |   9.968711   2.038673                      5.972984    13.96444
        /cut2 |   14.77231   2.290686                      10.28265    19.26197
        /cut3 |   19.20403   2.787079                      13.74146    24.66661
        /cut4 |   25.89536   3.523286                      18.98984    32.80087
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CHAPTER FIVE

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Key findings

Based on the analysis and the stated objectives the following are the key findings

- The analysis found out that there is significant and positive relationship between communication and effective project implementation. The study found that there is no exchange of information among stakeholders, which makes it difficult to finish projects. And also the study found out that the communication flow across the project implementation didn't enable people to discharge their responsibility effectively. These indicate as long as there is smooth and effective communication in the process of project implementation the success rate of the project is increases. Despite the positive relationship between communication and effective project implementation, communication is still the main challenge for the effectiveness of projects.
- Despite many literatures show a significant relationship between the financial matter and effective project implementation, surprisingly, this study doesn't show a significant relationship between these two variables; this is may be due to a small sample size. Most of the respondents stated that there was enough financial support for project implementation at WaterAid thus effective project implementation since finances are essential in the running of a project initiative in terms of facilitating execution of implementation tasks.

- The study found that WaterAid consider monitoring and evaluation as an important factor. The study further found that results and feedback from M&E are not timely and there is no sponsor evaluation of the investment. Finally, the study found that monitoring and evaluation must be undertaken on a continuous base to act as an internal driver of efficiency within the organization's project implementation processes. Monitoring and evaluation is also influence positively the effectiveness of project implementation. Whenever, the monitoring and evaluation activities become stronger and stronger, the more will be the success rate of project effectiveness

5.2 Conclusions

WaterAid made deliberate effort to collect feedback on project accomplishment; this research could be considered as a part of this initiation. Despite the fact that a number of researches have been made regarding effective project implementation, however, the purpose of this study was measuring effective project implementation from the point of view of three basic aspects, effective communication, financial support and monitoring and evaluation.

The study found out that the level of communication to a great extent affect the effectiveness of project implementation. It is noted that proper flow of communication is essential within the project team both internally and externally. In addition, it is most important and crucial factor to implement project on time and budget.

The study shows that financial support does not have a significance on effective project implementation. However, financial support has been consistently identified as the most important and crucial success factor in project implementation

Besides the study found that WaterAid consider monitoring and evaluation as an important factor in project implementation. A properly designed monitoring and evaluation system gives the ability to anticipate problems thus resulting in effective project implementation. Apart from the raised issue on this research there are a variety of opportunities for further examination that are closely associated with this study as a separate or similar study. Further, it would be better to replicate this study with a larger sample and additional variables.

5.3 Recommendations

This research was carried out in order to find out the significant factors that determine the effectiveness of project implementation in WaterAid WASH projects, accordingly, based on the observed problems the researcher forwards the following recommendations;

- The finding indicates that flow of communication on the project had some gaps. The study recommends WaterAid Ethiopia need to check and revise the current communication flow. Hence, the overall project communication plan should be revised and improved in line with standard project implementation plans. These ultimately, enhance the performance of communication flow and contribute to the overall all project objective achievement. Further, the communication flow plan should be clear, brief and well organized; apart from these, it should be distributed and assigned for every project implementation stakeholder, from lower to higher level. These make each individual know their duties and responsibilities, know to/from whom to report and extra. These ultimately, enhance the performance of communication flow and contribute to the overall all project objective achievement.

- WaterAid Ethiopia should not only allocate budget for projects, it should also follow up each project spending. In addition to these, the budget process procedures should be in place to plan project activities, collect information from the units in charge of the different components, and prepare the budgets. Moreover, the budget breakdown should be prepared for all significant activities in sufficient detail to allow meaningful monitoring of subsequent performance, which finally helps to monitor the overall flow of the budget.
- WaterAid should recognize that in order to be accountable it might also have to carry out extra M&E work to meet the needs of external agencies. It should identify that the needs of different departments and functions within WaterAid might also require extra M&E work to be undertaken from time to time. It should create M&E system to generate and record relevant, timely and accurate information that can be analyzed in order to inform decision-making at all levels. For this purpose, it needs to ensure the effective implementation and management of projects either at the sub offices or with partners for achieving the desired impact. Monitoring and evaluation are core management functions in a sense that they indicate where to give priority, mobilize resources, and take timely actions.
- Due to time and other resource limitation the study conducted only on selected districts of Amhara regional states, northern Ethiopia; given the basic shortfalls of cross-sectional data which is the inability to control for unobserved heterogeneity and the small sample size, inference to the entire project stakeholder population may not be valid. Though further study may require which consider the whole regional projects may show and identify the gap clearly.

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ANNEX 1

Odds Ratio Analysis out put

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. ologit Effectiveness Communication Monitoring Finance, or

Iteration 0:   log likelihood =  -132.1501
Iteration 1:   log likelihood = -99.155476
Iteration 2:   log likelihood = -93.686895
Iteration 3:   log likelihood = -93.470652
Iteration 4:   log likelihood = -93.469923
Iteration 5:   log likelihood = -93.469923

Ordered logistic regression                     Number of obs   =         96
                                                LR chi2(3)      =      77.36
                                                Prob > chi2     =     0.0000
Log likelihood = -93.469923                     Pseudo R2       =     0.2927
```

Effectiveness	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Communication	1.029393	.0360002	0.83	0.407	.9611981	1.102427
Monitoring	1.206763	.0538399	4.21	0.000	1.105721	1.317038
Finance	1.333409	.102458	3.74	0.000	1.146985	1.550133
/cut1	6.680823	1.402723			3.931536	9.430109
/cut2	9.191191	1.537606			6.177537	12.20484
/cut3	11.10494	1.670938			7.829961	14.37992
/cut4	14.6309	1.927566			10.85294	18.40886

ANNEX 2

QUESTIONNAIRE

Factors determining effective WaSH Project Implementation In WaterAid Ethiopia:A case of Amhara region

Instructions
For certain questions, you are required to choose by ticking (√) one answer among the alternatives. Also feel free to write helpful comments where appropriate in the margins.

SECTION A

PERSONAL INFORMATION

Please Select by Circling

1. Gender of the respondent

   A. Male B. Female

2. What is your age

   A. 20-25 years C. 31-35

   B. 26-30 years D. above 35

SECTION B

These Sections Are Related To Certain Aspects Of Factors Determining Effective Project Implementation You Experienced In Water-Aid Projects. Please Mark the Appropriate Response to Indicate Your Own Personal Feeling By Making Tick (√) On The Following Scale

Where,

1 = Very low Extent 2 = low Extent 3 = Neutral 4 = Great Extent 5 = Very Great Extent

B.1. COMMUNICATION

For each of the statements provided state the extent to which communication determines effective implementation of your projects?

1 = Very low Extent 2 = low Extent 3 = Neutral 4 = Great Extent 5 = Very Great Extent

S/N	**item**	1	2	3	4	5
1	There is Exchange of information among stakeholders					
2	Feedback to/from project staff to/from users					
3	Availability of information for decision-making					
3	Project issues were resolved effectively by the right people and in a timely manner					
4	The status of project problems, delays, and cost increases were communicated appropriately and in a timely manner					
5	Application of project management tools					
6	Difficulty to finish projects in the specified time due to lack of communication					
7	the information system provide management with necessary reports on the department's performance relative to established objectives, including relevant external and internal information					

8	Is the information provided to the right people in sufficient detail and on time to enable them to carry out their responsibilities efficiently and effectively					
9	communication flow across the project implementation adequately (e.g. from department to department) to enable people to discharge their responsibilities effectively					
10	I used the project team meetings to raise and resolve my issues.					

B.2. FINANCIAL SUPPORT

1 = Very low Extent 2 = low Extent 3 = Neutral 4 = Great Extent 5 = Very Great Extent

S/N	**Item**	1	2	3	4	5
1	There is enough financial support for project implementation at Water-Aid					
2	The organization ensures there is timely provision of funds for project implementation					
3	There is delivery of project activities in terms of time-taken					
4	There is independency in the budgetary decisions for project implementation unit					
5	Effect on project staff relations – adequacy and timeliness of remuneration					
6	Effect on overall implementation effort - system and efficiency					

7	Sponsor evaluation and estimation of the return on investment					
8	Budgets are prepared for all significant activities in sufficient detail to allow meaningful monitoring of subsequent performance					
9	the project are plans and budgets of project activities realistic, based on valid assumptions, and developed by knowledgeable individuals					
10	The budget process procedures are in place to plan project activities, collect information from the units in charge of the different components, and prepare the budgets					
11	the budgets are useful for assessing the performance of your organization					

B.3. MONITORING AND EVALUATION

1 = Very low Extent 2 = low Extent 3 = Neutral 4 = Great Extent 5 = Very Great Extent

S/N		1	2	3	4	5
1	Monitoring and evaluation is considered an important factor during project implementation					
2	Results and feedback from Monitoring & Evaluation are timely					
3	User assessment of outcome/product is very useful					
4	There is sponsor evaluation of the investment					
5	Corrective action on deviations is clearly shown					

6	Project product meets project objectives and user descriptions					

B.4: <u>EFFECTIVE PROJECT IMPLEMENTATION</u>

1 = Very low Extent 2 = Low Extent 3 = Neutral 4 = Great Extent 5 = Very Great Extent

S/N		1	2	3	4	5
1	Over all the WaSH projects were effective					