INFLUENCE OF PROJECT LIFE-CYCLE MANAGEMENT ON PERFORMANCE OF WASH PROMOTION PROJECTS: A CASE OF SAFE WATER ENTERPRISE HYGIENE PROMOTION PROJECT IN MARAGUA, KENYA.

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A Research Project Report Submitted in Partial Fulfillment for the Requirements for the Award of Degree of Masters of Arts in Project Planning and Management of the University of Nairobi

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DECLARATION

I declare that this research project report is my original work and has not been submitted for a degree or any other award in any university for examination or academic purposes.

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This research project report has been submitted for examination with my approval as the university supervisor.

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DEDICATION

This research project report is dedicated to my late father Mr. Hebron Mlisho, who had a vision for my higher academic pursuit and urged me to study hard and join university. I thank my husband Alexius Rugabela for his inspiration throughout my study. He has been patient, understanding and supportive as I took time off to focus on my academic pursuits. I will forever be grateful for his outstanding moral support.

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ABBREVIATION AND ACRONYMS

CDF: Constituency Development Fund

CHVs: Community Health Volunteers

EU: European Union

FGD: Focus Group Discussion

GBD: Global Burden of Disease

ICWE: International Conference on Water and the Environment

KPLs: Key Performance Indicators

KWAHO: Kenya Water for Health Organization

MDGs: Millennium Development Goals

NALEP: National Agricultural and Livestock Extension Programme

PMI: Project Management Institute

SPSS: Statistical Packages for Social Sciences

SWE: Safe Water Enterprise

UN: United Nations

VFM: Value for Money

WASH: Water Sanitation and Hygiene

WHO: World Health Organization

WSS: Water Supply and Sanitation

ABSTRACT

Performance of projects is determined by genuine commitment of the manager in considering project life cycle management right from project inception to completion, which is considered as very significant for long-term success of an organization. Project management has been an essential aspect for improving organizational efficiency. This research had aimed to examine project life-cycle management's influence on water, sanitation and hygiene (WASH) promotion projects' performance in Kenya with focus on Safe Water Enterprise (SWE) hygiene promotion project in Maragua town. This was elicited by the observation that many of WASH promotion projects in Kenya fail because they do not go through proper project stages as a result of failure to consider the required project management approaches. The research intentions were; to assess influence of project planning phase management on Safe Water Enterprise hygiene promotion project's performance, to find out the implementation phase management's influence on Safe Water Enterprise hygiene promotion project's performance, to assess project monitoring phase management's influence on performance of Safe Water Enterprise hygiene promotion project and to establish how project evaluation phase management influence performance of Safe Water Enterprise hygiene promotion project. This study suggested three key theories namely social ecological model, system theory and stakeholder's theory on which this study was anchored. The study adopted qualitative investigation approach where data was gathered from respondents to describe the present population's status with regard to the variables. The population targeted in this research was 347 who were directly or indirectly related to SWE project, that is, KWAHO project officers, Siemens Stiftung consultant, public health officers, community multipliers (Community Health Volunteers (CHVs), teachers and safe water kiosk operators) and household members. From the population, 186 sample sizes were selected to gather information through stratified simple random method. Respondents comprised 2 KWAHO project officers, 1 Siemens Stiftung consultant, 1 public health officer, 11 Community Health Volunteers (CHVs), 8 teachers, 2 safe water kiosk operators and 161 household members. Instruments used to collect data were questionnaire and checklist for focus group. Information gathered was analyzed simultaneously quantitatively and qualitatively by editing, coding, classification and tabulation using computerized SPSS - Statistical Packages for Social Sciences, version 21. Details were entered into appropriate tables before being used for descriptive statistics that is, rate of recurrence, percent, average, standard deviation and correlations. This report provides results of the study where findings show that the evaluation stage had more influence on performance of SWE hygiene promotion project at 86.8%. Implementation stage influences performance of WASH projects by 78.6% while monitoring and planning influence by 72.3% and 68.8% respectively. The study provides significant assistance to hygiene promotion project implementing organizations in understanding the benefits associated with management of project life-cycle on projects' performance and benefit of utilizing them. Policy makers, particularly those dealing with development of WASH approaches and project implementation procedures in the public and private sectors will have valuable information on how project life cycle management influence performance of WASH promotion projects that can be put in to consideration during policy formulation process.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Performance in water sanitation and hygiene promotion projects is considered successful when people's behavior is changed by using the most effective and valuable project management practices, which in turn can prevent them from diarrheal and infectious diseases. Numerous studies have suggested that the effect of hygiene promotion projects of improved health in regard to water and sanitation-related illnesses can be as great as that of the actual provision of water and sanitation facilities. Despite a lot of efforts and resources being channeled to hygiene promotion projects, the majority of the projects do fail. In an article contributed by Dani B., Rebecca S., Esther S. and Susan D., (2018) on sharing failures in WASH programs, global development projects do not all the time go as intended, and the WASH sector is no exemption. WASH projects may not accomplish their specified goals, and in some cases causing destruction to the intended beneficiaries. Many programs still squander donor funds with little progress to show for it, and often continue to fail due to flawed expectations, management issues, and lack of caution, all of which can be addressed in project life cycle management. In 2015, the UN General Assembly brought forth the Sustainable Development Goals (SDGs) that would guarantee accessibility and sustainable water and sanitation management without leaving no one behind, under goal 6 of the SDGs based on the fact that people throughout the world lack basic water and sanitation services. Management of Project life-cycle plays crucial part in the context of such projects for successful completion through following crucial stages and approaches that would help to improve the chances of reaching the project's goal. The way a project is planned and laid out in its phases and milestones will be a bit different depending on the preference of an organization or company's methodology. Project life cycle management is an increasingly important area in organizations for performance of projects as it together brings different units, staff, disciplines and knowledge which is part of the project to organize their tasks to timely and deliver a project within budget, Matt M., 2020. The past decade has seen rapid progress of project life cycle management in workplaces as it is the area where there is needs to address how project life cycles are managed. Recent evidence suggests that one of the main reasons that affect

projects' performance is project management, where project life-cycle management is beyond management of projects. According to Bonnie E., (2018) on Complete Collection of Project Management Statistics 2015, only 64% of projects achieve own set objectives. Projects that are delivered on time, within budget and with desired purpose are 39%, 43% are challenged as they are delivered late, over budgeted and unable to achieve the purpose, while 18% fail. Project managers have an expected responsibility of successfully ending a project and receiving key stakeholder desires that see project performance and failure differently. Debate continues about the best way for management of projects life cycle. There is need to consider dynamically how project life cycle management is evolving where the project linked to it is too complex hence the need to careful planning, implementation, monitoring and evaluation.

Project life cycle management is the handling of a project or projects progressively throughout the distinct phases of the project life cycle, Matt M., 2020. According to Stuart C., 2021, project life cycle management is a process founded on years of development, aimed at planning and organizing projects by basic set stages. These steps include the inception and planning of the project to its evaluation and closure. Project life cycle management assists managers on how to approach tasks in each phase, and how to structure and determine the stages of the project; hence it may help when handling numerous projects. In this case, the assumption is that when project managers use the appropriate project management approach in the project planning stage, project implementation, project monitoring, and project evaluation, they can manage the project effectively and successfully. Failure indicates a lack of attention to these stages. Since project management approach is critical to improving the performance of WASH projects, it is crucial to identify key indicators of performance and understand interrelationships between them to determine ways to improve project performance under each stage. Most studies in the field of management of project life-cycle focus on factors that enhance projects' performance. What was not yet clear was the level of influence of project life cycle management to ascertain enhancement of WASH promotion projects' performance. This research therefore aimed to examine project life-cycle's influence in management of planning, implementing, monitoring and evaluating phases on enhancing performance of WASH promotion projects, a case of Safe Water Enterprise (SWE) hygiene promotion project in Maragua area, whose main objectives were; to train community multipliers on water, sanitation and hygiene, to improve knowledge, attitude and practice on hygiene and reduce diarrheal diseases.

Hygiene refers to those practices or behaviors that help in maintaining health by preventing the spread of disease-causing micro-organisms. In general, WASH promotion involves the strategies used to improve people's hygiene behavior related to supply of water and sanitation in preventing spread of illnesses. Many developing countries have limited accessibility of WASH resources resulting to poor hygienic practices in communities that emulate to serious global health challenges. According to Schlein, the United Nations reports that approximately 850,000 persons pass on annually because of insufficient water sanitation and hygiene (2017). Diarrheal is the third top basis of diseases and loss of children younger than five years of age in Africa, resulting to an estimate of 330,000 deaths in 2015. According to recent data by World Health Organization published in 2018, diarrheal illnesses deaths were 14.75% of the total deaths in Kenya. World Health Rankings placed Kenya position four with a rate of 154.53 per 100,000 diarrheal deaths. The industry has therefore received much attention around the world as it has become a major threat to the lives of many people in developing countries. To solve the concerns, a number of global organizations and bodies have aided in giving charitable assistance, helping to promote access to and use of drinking water that is safe, proper sanitation and hygiene to all. This research examined the hypothesis that there was no significant connection between planning of projects, implementation, monitoring and evaluation in project life cycle management, and WASH promotion project's performance in Kenya.

Safe Water Enterprise (SWE) - Hygiene Promotion project was implemented by Kenya Water for Health Organization (KWAHO), a Kenyan non-governmental organization, to contain significant hygiene promotion component that would result in health changes focusing on specific hygiene practices of drinking safe water, hand washing and safe disposal of human waste. This was after Siemens Stiftung (a Germany foundation) supported communities to access safe water through Maji Safi Kiosks equipped with SkyHydrant water filtration units, that removes suspended solids, bacteria, virus and operate on the basis of a social business model in order to become financially self-sustainable. The seven-year Hygiene Promotion project funded by Siemens Stiftung was implemented in 13 sites in eight Counties of Kenya from 2014 to 2020. The project's main interventions were; – to conduct hygiene training to community multipliers (science teachers or School Health Club patrons, Community Health Volunteers (CHVs) and safe water kiosk operators); to conduct hygiene promotion through social marketing activities on hygiene including door-to-door campaigns, community dialogues and WASH fair events; to

develop and distribute WASH promotion materials; and to support selected schools with hygiene and sanitation facilities. The project directly reached over 30,000 rural and peri-urban people including pupils, and 58,737 pupils from 88 primary schools indirectly. The overall goal of the project was to assist local communities reduce cases of waterborne and communicable diseases to improve their health status.

1.2 Statement of the Problem

Regardless of the accepted importance of hygiene promotion as most effective means to reduce instances of diarrhea diseases, less emphasis is given to management of such projects in planning, implementation, monitoring and evaluation compared to the traditional water supply and sanitation activities in development setting (Water Engineering and Development Center, Guide 13). Without hygiene, millions of people, especially children would be at risk of getting WASH-related diseases. However, Kenyan hygiene promotion projects have risks of budget increase and late completion of projects as a result of poor planning, implementation, monitoring and evaluation. The letdowns are due to ineffectual management approaches and controls of budget resulting from inadequate simple project planning and requirements, (Zwikael&Ahn, 2011). For an assured project goals' achievement, appropriate management approaches should be stressed in project implementation irrespective of the project scope (Hwang et al. 2013).

According to Diarrhea Diseases Collaborators in a methodical examination for the GlobalBurden ofDisease Study (2015), the top cause of death in all ages was diarrhea. Hygiene promotion projects need to be planned and carried out in a suitable manner for good performance and sustained behavior change. In project management, the performance of a project is a key matter that ensures the right anticipations are set around what can be achieved, by when and at what cost. One of the reasons that may cause a major delay in attaining project goal or even cancellation of the project is inappropriate project management. Still, there are limited studies that have suggested that performance of hygiene promotion projects depend on project life-cycle management.

A number of studies both locally and globally have tried to find out the challenges facing hygiene promotion projects success as far as project management approaches are concerned, and many of such investigations were carried out with different objectives from the current research.

Limited work was conducted on project life-cycle management's influence on Kenyan hygiene promotion projects' performance, particularly focusing on the Siemens Stiftung and the KWAHO project. It is therefore from the above perspective that it was important to assess project life cycle management's influence on Safe Water Enterprise hygiene promotion project's performance. This aroused the researcher's concern that if nothing was done; then diarrhea will continue to lead as the main reason of death among all ages in local communities in Kenya. This rose up the researcher's inquisitiveness and hence it was necessary to establish project life cycle management's influence on hygiene promotion projects' performance in Kenya.

1.3 Purpose of the Study

This research aimed to find out influence of project life-cycle management on performance of Safe Water Enterprise hygiene promotion project, in Maragua area.

1.4 Objectives of the Study

Generally, this research was directed to investigate influence of project life-cycle management on performance of water sanitation and hygiene promotion projects in Kenya, specifically referring to Safe Water Enterprise hygiene promotion project in Maragua town. Specific objective were;

1. To assess the influence of project planning phase management in project life cycle on performance of Safe Water Enterprise hygiene promotion project in Maragua.
2. To establish the influence of project implementation phase management in project life cycle on performance of Safe Water Enterprise hygiene promotion project in Maragua.
3. To determine the influence of project monitoring phase management in project life cycle on performance of Safe Water Enterprise hygiene promotion project in Maragua.
4. To establish the influence of project evaluation phase management of project life cycle on performance of Safe Water Enterprise hygiene promotion project in Maragua.

1.5 Research Questions

The following questions guided this research;

1. How does management of project planning phase in project life cycle influence performance of Safe Water Enterprise hygiene promotion project in Maragua?
2. How does management of project implementation phase in project cycle life influence performance of Safe Water Enterprise hygiene promotion project in Maragua?
3. To what extent does management of project monitoring phase in project life cycle influence performance of Safe Water Enterprise hygiene promotion project in Maragua?
4. What is the influence of management of project evaluation phase in project life cycle on performance of Safe Water Enterprise hygiene promotion project in Maragua?

1.6 Research Hypothesis

The following were prediction statements that were tested in the study.

- H_o - there is no significant relationship between project planning phase management in project life cycle and performance of SWE hygiene promotion project in Maragua.
- H_o - there is no significant relationship between project implementation phase management in project life cycle and performance of SWE hygiene promotion project in Maragua.
- H_o - there is no significant relationship between project monitoring phase management in project life cycle and performance of SWE hygiene promotion project in Maragua.
- H_o - there is no significant relationship between project evaluation phase management in project life cycle and performance of SWE hygiene promotion project in Maragua.

1.7 Significance of the Study

Results of this research are of great implication in the following ways; the study was anticipated to be helpful to the Siemens Stiftung and KWAHO management as they will be in a good position to understand more of the benefits associated with project life cycle management in successful project implementation process and benefit of utilizing them. The study was

considered beneficial policymakers particularly those dealing with development of water sanitation and hygiene policies and project implementation procedures whereby they will use valuable information and recommendations of this research in producing effective model of factoring in project life cycle management during policy formulation process. In practice, they will appreciate and consider the impact of project life cycle management during the policy formulation process. The findings would also provide a useful reference document to stakeholders in the WASH sector since it will provide insight to the sector on awareness of influence of project life cycle management for projects on WASH promotion projects' performance and how to utilize the opportunities offered, as well as measures to reduce errors.

In addition, the study is of value to the academicians. This study is expected to serve as a guide and help future researchers, and as long as project life cycle management has influence on performance of WASH promotion projects can be bridged by some previous researchers. Scholars interested in studies on the same topic can also use the results of this study. For groups of these individuals, the results of this research may prompt further investigation in this area. This can be the reference starting point and the basis of the secondary data for further investigation in the field. Finally, the study would be informative to the government and other stakeholders in project implementation in terms of policy, administration and provision of funds and facilities required for successful implementation of government sponsored WASH projects. The results of the research is highly informative to the government as it will understand the importance of project life cycle management on project implementation and the preventive measures to be implemented if there is a shortcoming in management skills.

1.8 Assumptions of the Study

Assumptions were that the sample population represented the general population of Maragua area. Data collection methods were accurate and valid to improve acquiring relevant information and that chosen respondent freely gave information. The study estimated being no drastic variations in the population targeted, especially in targeted primary school teachers involved in the Safe Water Enterprise hygiene promotion Project, which will impact the sample. Lastly, the researcher assumed COVID-19 pandemic will not worsen during data collection process that

would impede the researcher from reaching respondents and for the respondents to ineffectively give relevant information.

1.9 Limitations of the Study

Due to COVID-19 pandemic that has globally affected normalcy on way of life following restriction measures to minimize the spread of corona virus, this study did not conduct interviews to a few respondents face-to-face, to minimize contact. Strict Kenyan government health guidelines were followed during primary data collection, these were, observing physical distancing, putting on mask and hand washing or sanitizing regularly. The research anticipated fear from some respondents to withhold important information necessary for the study due to fear of protecting the confidentiality of such information and any form of harassment. So the researcher had to go to a level and explain the value of the study to the respondents and convinced them to give all the necessary information. In addition, respondents were guaranteed confidentiality of the information they provided in order to allay their fears.

1.10 Delimitation of the Study

The study paid attention to project life-cycle management's influence on WASH promotion projects' performance, specifically on Safe Water Enterprise (SWE) hygiene promotion project in Maragua in Kenya. The study focused on four project life cycle management phases, that is; project planning in reference to scope of work, work plan, design planning and resource planning aspects; project implementation with regard to team competency, team work, adequate resources and delivery approach; project monitoring focusing on input and output monitoring, progress reports, monitoring schedules and monitoring outcomes; and project evaluation with regard to efficacy, relevance, impact, and sustainability. The indicators of performance of water sanitation and hygiene promotion project were delimited to; community multipliers trained and skilled in WASH promotion, improved knowledge, attitude and practice on hygiene and reduced diarrheal illnesses.

Respondents comprised SWE project staff at Kenya Water for Health Organization, Siemens Stiftung consultants, public health officers, teachers, CHVs, safe water kiosk operators and household heads who served or were served by the project for more than two years. The scope of

the study was considered adequate for data collection and for coming up with meaningful suggestions about performance of WASH promotion projects.

1.11 Definition of Significant Terms Used in the Study

Projects life cycle management - These are business practices that help project managers to handle and manage events throughout the stages of project life cycle. Specific stages that will be used in this study are planning, performance, monitoring and evaluation.

Performance of water sanitation and hygiene promotion projects– This can be judged by effective hygiene practices that reduce main risky behaviors and conditions of children, women and men. It does so in measurable way such as community multiplier trained and skilled in water sanitation and hygiene promotion, improved knowledge, attitude and practice on WASH, and reduced diarrheal illnesses, as in the study.

Project planning – It is a stage where activities are scheduled from one step to another to achieve the specific goal of creating an alert system to keep the plan on track. In this study, they include the scope of work, work plan, design planning and resource planning.

Project implementation – It is a stage in which the ideas and plans actually translate into actuality. It is where project managers and project teams work on the project to generate deliveries. The indicators for project implementation in this study are team competency, team work, adequate resources and delivery methodology.

Project monitoring – It is where ongoing process of gathering and analyzing information to track advancement alongside the scheduled activities, and regular monitoring implementation of projects is done. It includes input and output monitoring, progress reports, monitoring schedules and monitoring outcomes as will be used in this research.

Project Evaluation – Assessment of the project to gauge if it has attained expected objectives is done in the evaluation stage. Aspects that will be used in this study to measure project evaluation are beneficiary efficacy, relevance, impact and sustainability.

1.12 Organization of the Study

The entire structure of this research comprises of five chapters. The first section provides; background of the research, problem statement, study purpose, objectives of the research, research questions, study's significance, study limitations, scope of research, study assumptions, key terms' definition and the organization of the research. Section two describes the literature review by deliberating the variables studied in relation to previous studies, the theoretical review section discussing the principles under study, and the conceptual framework discussing the relationships between variables. Chapter three describes design of research, the number of people targeted, size of the sample and sample procedure, tools for collecting data, validation of tools and reliability, processes for collecting data and methods of analyzing data. Chapter four provides research results, analysis and discussion regarding research objectives. Research results related to previous empirical studies are discussed. Lastly, chapter five summarizes the results, makes conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The second section gives empirical as well as theoretic information of the study, leading to a framework of concepts in which this study was established. It includes a literature review of the studies because it is important to link the studies with different authors regarding project life cycle management' influence on water sanitation and hygiene promotion projects' performance. It provides an empirical literature of theories related to project life cycle management' influence on WASH promotion projects' performance.

2.2 Performance of water sanitation and hygiene promotion projects

WASH promotion projects' performance is judged by effectiveness of hygiene practices that reduces main risky behaviors and conditions of children, women and men. WASH promotion projects aim to change hygiene behavior to a healthier lifestyle so that the full benefits of water and sanitation reforms are realized. The project manager has several responsibilities that fall into the various stages or project life cycle's processes: instigating, preparation, implementing, monitoring, evaluation and phasing out. At each of these stages, the project manager starts the project from conception to completion. However, studies have shown different results. Previous studies on this issue have focused on proper awareness of the right practices as a fundamental factor for unsuccessful management of projects. Nyamasege E.B.and Mburu D.K.(2015) case study approach on project life-cycle management's effect on water development projects' performance in Kitui County, Kenya, research shows that project initiation stage, planning stage, execution and closure phases lead to water development projects' performance in Kenya. Another research that attempted to examine practices of project management impact on performance of public projects in Mombasa region, Kenya is by Peter M. and Lucy N. (2020). Findings suggested the public sector should effectively appoint effective project managers in project management for good planning of project and management. Effective management practices are very essential to guarantee successful performance of projects. Poor approach and wrong costing or planning prediction may simply seize anticipated profits into losses. This is

particularly correct for hygiene promotion projects, which have short-term cycles and project activities are obscured by complex behavioral issues that are less likely to improve in the approach chosen or followed incorrectly. Maunda, (2016), suggests that management of project life-cycle has noteworthy influence on completion of public projects in Kenya. He added that project planning, implementation and phase-out stages in project life cycle management are directly associated.

Project performance is related to the achievement of technical requirements and objectives in meeting customer satisfaction. In the case of Safe Water Enterprise hygiene promotion, the project focused on training community multipliers on hygiene, conducting social marketing activities on hygiene and improving knowledge, attitude and practice on hygiene; The study seek to assess project life cycle management' influence on WASH promotion projects' performance in Kenya. Project success can be calculated and assessed by numerous success metrics, including time, customer support and change, organization performance, health and safety, cost, and quality. Turner and Müller (2003: 6) argue about the rising confirmation that expertise in the ordinary sections of the project management body is the entry ticket required for a project management game, nevertheless better performance is not provided. They are critical components, a prerequisite for performance of project management, although non-competitive elements that leads to better efficiency for better performance. These measures measure project performance in successful implementation and organizations should exercise restraint in not limiting performance measurements by using efficiency measurements as they do not indicate overall project performance. Other project performance elements can have an impact on beneficiaries and how it can help the company transform and manage in the future.

2.3 Project planning phase and performance of water sanitation and hygiene promotion projects

One can have a good idea of a project, however, with no planning; it will always remain an idea. Planning is a serious stage in taking a project from visionary concept to a concrete outcome. The choices made at the beginning sets out the tactical outline. Bonnie E., (2018) denotes some of the most common reasons for project failure in project planning stage which include imprecise needs (38%), indeterminate project goals (30%), insufficient budget approximation (29%) and

inaccurate estimation of project tasks (27%). To develop a project, a project manager requires compiling a plan. Planning of project may be defined as the process involved in deciding on the best project approaches, as well as timely project planning to improve the chances of project success. Galvin & Williams, 2014 explains planning viability as the degree to which a project attains its strategic goals. Planning of project defines the range of work, costs and resources required, and the project plan. It specifies actions and responsibilities needed, including resources required, employees, tools, finance, and place to be obtained from. Design of project, structure, key features, criteria for success, and major deliveries are all planned to achieve the desired project goal. Nyakundi N., (2015) in their study on process of project management's influence on results; public sector infrastructure project at Telkom Kenya limited case, found that 67% of participants responded that initiation and project planning had a significant effect on project's outcome. S. Naeem, (2018) shows that project planning is absolutely correlated to success of the project. The researcher's study concurs with preceding literature that better planning of project in the initial phase of the life cycle has significant effect on the end of project results. If planning is done effectively, it promotes performance of the project. The research aimed at examining impact of planning on project success. Nyamasege E. and Mburu D., (2015) established that project planning stage had more significant influence on success of water projects in Kenya, in their research to assess management project life-cycle's influence on water development projects' performance in Kenya. In a review of literature by Serrador P., (2013), to assess planning's impact on achievement of projects and to provide guidance on the amount of effort to be expended in preparation, highlight reported the connection that is there in planning and project achievement. Serrador takes view of post-positivist where connection can be seen between steps in planning of projects and overall alleged achievement of projects. He reviews the literature on project management and general management, and finds that; overall, there is a solid relation in planning and success of projects. There has been a confirmation of the advantages of planning in management of projects and research.

An effective project planning takes into account different information necessities on job statement, terms of project, specific work structure as well as milestone plans. Development of project schedule employs process of outcomes to describe series of undertakings, resources needed and approximate timeline of events, together with the planning tool which makes the schedule model (PMI, 2013). A well-designed project execution plan describes and makes clear

deliverables of the project in specific timeline. Project managers are able to know list of requirements to attain goals within time, within costs and quality, as well as meeting project deliverables, (Gido& Clements, 2011). Project performance measurement criteria are determined during the first project stage, providing a guide to activities of the project so that everyone is focused on the same process.

2.4 Project implementation phase and performance of water sanitation and hygiene promotion projects

Implementation of hygiene projects has become a major issue worldwide. However, it has been revealed that majority of water, sanitation and hygiene projects have not been implemented as required. This is mainly caused by organization changing priorities (accounting to 40%), inexperience project managers (20%) and postponement within team (13%) as noted by Bonnie E., (2018). The implementation stage involves taking action on the project plan where coordination and direction of resources is done by project team led by the project manager to achieve set goals. This stage, as stated by Adhikari S., (2020) is supported by all other stages within the project life cycle. The aim of this stage is to deliver project results, attain the goal and effectively contribute to the general objective of the project. Recent survey by Muriuki and Severina, (2021), in their study to explore factors of effective WASH implementation in Kenyan projects: examining selected projects in Kibera, Nairobi County, showed that implementation of the projects was positively influenced by staff competence. It examined how project team competency had an impact on effective project implementation to assure sustainability and beneficiary satisfaction. In research by Wangeci N., (2010) to find out factors contributing to agricultural projects' performance; the case of National Agricultural and Livestock Extension Program projects in Ruiru District in Kiambu, Kenya, has shown that implementation of project is key to project's success because it warrants actions on planned actions.

Appointment of a leading project team will improve project performance, but good project players should be directed by the right team leader, a project manager in this case. Eighty percent of "high performing" projects are steered by a qualified project manager, (Bonnie E., 2018). Project managers in this case are responsible for the overall success of delivery of hygiene promotion activities within the cost, timeline, quality, training and meeting practices required to

promote hygienic use of water which is safe especially for drinking and cooking, better sanitation amenities and handwashing using ash or soap at crucial times (for example, after visiting latrines and before taking meals). Study by Minjeong and Sungyong, (2020), have confirmed that the higher the capacity of project team, the higher the project's success will be. Project team should have the necessary capability, which is resource management, realize the set objectives and apply appropriate knowledge and skills to enhance best practices, to ensure the efficiency of the project. According to PMI, teams not cooperating well enough account to over one-third of all projects that fail. When there is good teamwork and collaboration, it goes a long way towards making everyone satisfied. Effective implementation strategies attempt to make gradual, repetitive progressions related to implementation of projects across all players and sectors. Institutions that have fruitful strategies for implementation of projects define works in terms of economics of repetition. The growing awareness for the process of behavioral change in hygiene promotion projects has led to the use of bottom-up approaches that focus on gaining understanding of the target community and acknowledging the various factors that encourage people to improve sanitation and hygiene at home. Delivery mechanisms should allow project team to make appropriate and sensitive changes to cultural differences based on gender, beliefs, race, culture and the different attitudes held by those living in both metropolitan and countryside areas. A review of the Water Supply and Sanitation Collaborative Council on hygiene and sanitation practices suggests that participatory methods are common and well-used. Participatory and social marketing approaches have been integrated into various hygiene promotion projects. Financial resources and staff availability are also an important requirement to ensure the implementation of project. Implementing successful projects creates positive results for an organization that not only affects short-term and medium-term growth but also long-term development. Effective implementation of community projects according to Kiragu, (2015) relies heavily on design of the project, management of the resources, monitoring and evaluation, and stakeholders' involvement. A research by Nyabera T., (2015) establishing stakeholder involvement's influence on implementation of Kenyan projects: in projects assisted by Compassion International case in Mwingi region, findings showed projects that had involvement of stakeholders in governance of project structure during commencement of project, significantly impacted implementation. To ensure good working relationship and project ownership,

organizations should promote a culture of transparency and accountability when involving stakeholders.

2.5 Project monitoring phase and performance of water sanitation and hygiene promotion projects

Monitoring means the general undertaking of gathering and examining information to track project advancement, compared to a fixed system for assessing conformity. It helps manager identify patterns and styles and help them make informed decisions. The data collected forms important information for analysis, discussion, evaluation and reporting. Monitoring is a vital practice in management of projects, as it helps to strengthen effective actions and initiate remedial actions. Input is resources required to execute a project. Monitoring inputs can be seen as an obvious first step; however, a project may fail when required capitals are unavailable at the correct place in precise timing. These concerns about for hygiene promotion projects in Kenya where inadequate funds, insecurity and poor infrastructure could hamper efforts to deliver vital equipment, personnel and other items to project sites. Coming up with input indicators to track the obtainability of vital goods and services may offer prompt caution to these challenges. For instance, Safe Water Enterprise hygiene promotion project in addressing accessibility of safe water for drinking and improving hygiene behaviour in Kenya, the Siemens Stiftung provided SkyHydrant water filter to selected communities and mass handwashing facilities at selected primary schools. However, many communities and public schools especially in rural areas do not have reliable water resources, which further limit the impact of the project. Monitoring inputs and outputs provides information needed to perform value for money assessment. Value-for-money considers project inputs acquired at a fair value, the connection between inputs invested and outputs results and effectiveness to know whether the outputs lead to the intended results. Value-for-money notes in governance programming say that "value-for-money is great once there is a good evenness between economy, efficiency and efficacy, where costing are very minimal, outputs are maximum and results are achieved." Monitoring can build confidence in hygiene promotion projects, for example and demonstrate effectiveness to the donor, government and taxpayers. Project progress report as described by Katrina Balmaceda, (2018) is a document that describes in detail how far one has traveled to complete a project. It sets out the tasks completed and milestones achieved in the project plan. Ruairi O'Donnellan (2018) adds that

reports are arguably the most valuable tool available to project teams and stakeholders. Reporting benefits the project by tracking current project progress against the initial plan, identifies risks, cost management, controlling, learning and driving project success resulting to improved project performance. The monitoring process can enhance project results by constantly reviewing who is involved and who benefits the project. This requires projects to always contemplate the need for quality and equitable services or to deliberately focus on disadvantaged groups of individuals. For example, to identify a community group that currently has no accessibility to water sanitation and hygiene services and subsidies due to geographic segregation, cultural and economic discrimination, which are entitled to it. Irene Guijt (2006), in her guidance paper on Participatory Monitoring and Evaluation Monitoring, states that monitoring outcomes lead to increased equity among respondents and participants, equal distribution of benefits from service delivery, especially to the marginalized and the poor. It also addresses discrimination and promotes the status of sidelined groups.

According to Muchelule et al., 2017, monitoring applied to a project has significant impact on performance of a project. The main study's objective was to establish whether project monitoring techniques improves project performance for Kenyan State Corporations. Although project monitoring and assessments present technical challenges that should not have existed in the first place, one cannot simply out rule its essential role in ensuring that a project is implemented as planned. In another study by Kemboi and Muchelule, (2019) on the impact of project monitoring on Constituency Development projects funded by the National Government (NG) performance in Elgeyo Marakwet county, findings showed that project monitoring was significant and had statistically significance on performance. Monitoring remains an ongoing procedure in the life cycle of a project, and ought to be incorporated with project design. In accordance to Ndegwa P., (2020), goals of the projects can be achieved through effective and efficient project tracking and controlling. Therefore, a properly implemented project monitoring will provide a clear sign of the project's well-being.

2.6 Project evaluation phase and performance of water sanitation and hygiene promotion projects

Project evaluation stage gauges if the project has attained its expected objectives. According to Center for Civil Society and Nonprofit Management, evaluation is aimed at giving references and lessons learnt for improvements on the forthcoming course of the projects or for other projects. Assessment helps to assess progress and value of the project, what is being learned and provides accountability. Adrienne, (2014), argues that in this stage, the wisdom of experience is restored to the organization. The most common and effective evaluation of WASH projects is the summative evaluation that assesses the objectives and outcomes of a project, and the level of the outcomes. Evaluation can be done based on the goals and objectives set or not set at the beginning of the project. Evaluations without set goals at project initiation aim at studying emerging and unintended consequences. Major indicators checked during evaluation are relevance, efficiency, impact and sustainability of the project. Whether the project interventions respond to the needs of the beneficiaries and other key stakeholders or not, it is crucial to check the indicators, project relevance in line with the mandate, policies and goals of social responsibility. The resources that were utilized in all stages including the planning, execution and monitoring stages are assessed to gauge if they were used efficiently to achieve quality intervention, and whether the intended results were attained. Impact, on the other hand, refers to effects that are intended or unintended, delivered directly or indirectly through development intervention whether primary or secondary, negative or positive. It is the consequence that connects to the project goals as outlined in the project document. Impact is long-term and therefore project outcomes must be well planned to achieve the expected impact. In the life cycle of a project, there is need for a shift in responsibilities to the ongoing results of a project, where influence of the project greatly reduced while the comparative effect of project participants increases to improve capacity and take ownership of the project. This process is gradual and can result to long-term sustainability.

Bagabo J., (2020) searches monitoring and evaluation effects on Rwandan projects' success and finds that conformity to project quality of standards, cost and time has significant relation to project performance. The most important factor in project performance is compliance with quality standards as noted by Bagabo. He adds that evaluation has various purposes such as

knowing what works and what does not work, making informed decisions about the project, supporting and meeting donor interests, measuring the level of impact, and creating transparency. The study also brings to attention challenges related to evaluation that hinders efforts to precisely examine effect of particular projects. These are, vague project objectives, lack of or poor baseline information, insufficient checking of project and reports, including low priority given to the evaluation task. In a study conducted by Kikoech P.T., (2017), findings showed positive impact of monitoring and evaluation on performance of water projects in his research on the same.

2.7 Theoretical Framework

Theory refers to a systematic way of understanding behaviors, events or situations. This section suggests three key theories namely social ecological model, system theory and stakeholder's theory on which this study was anchored. The three theories combined were argued to provide a solid theoretical foundation for performance of hygiene promotion projects.

2.7.1 Social Ecological Model

The main goal of hygiene promotion projects is behavior change among end users, especially on hygiene practices related to water and sanitation. Most successful public health programs such as the hygiene promotion projects are established on an understanding of health behavior and context in which they operate. Hygiene improvement interventions can be better designed by understanding the appropriate behavior change theory, such as the social-ecological model. The social-ecological model was initially created by UrieBronfenbrenner in 1970s and afterwards formalized in 1980s as a theory for understanding human development. The model has highly been embraced by numerous health promotion scholars; the most common is the Ottawa Charter for Health Promotion (WHO, Geneva, 1986) that advocates for integrated action at the individuals, community and society level. This theory has been important as it directs searches to understand why people do or do not practice health promotion measures. It helps detect information required in designing an effective intervention approach and provide insight on how to develop a successful program through social environment. The Safe Water Enterprise hygiene promotion project used this theory to explain how activities on hygiene improvement may work

if an ecological perspective is adopted and consider best practices as McKinlay'sdescribes in his chapters on appropriate research methods. That the mediations do not target the individual only but also affect the co-operative, organizational and environmental factors that contribute to hygiene behavior. The nature of socio-ecological approach highlights many stages of effects namely societal, organizational, interpersonal, individual, and public policies. Meaning that social environment shapes and constructs behaviors.

Promoting an environment which is favorable to change is important in making it easier to embrace healthy behavior as advised by ideologies in this model. The fact that there is high prevalence of diarrhea diseases in Kenya, especially among children, more attention has been focused towards improving hygiene promotion interventions in communities and households. The Safe Water Enterprise hygiene promotion project focused on improving individual knowledge, attitude and skills on hygiene through hygiene training for community multipliers (community health volunteers, teachers and safe water kiosk operators), primary school learners, water vendors and food vendors. In the interpersonal level, the project collaborated with social networks such as Community Health Units and safe water management committees to connect them with community members so as to share hygiene information, ideas and messages. Safe Water Enterprise hygiene promotion project with financial support from Siemens Stiftung, improved accessibility and affordability of safe water to target communities, hygiene and sanitation facilities to target primary schools.

Therefore, this theory helped determine the performance of Safe Water Enterprise hygiene promotion project by determining how hygiene behavior has been shaped in the different levels. It also assisted to determine how project management strategies have improved performance of hygiene promotion projects through changing hygiene behaviors.

2.7.2 System Theory

Ludwig Von Berlanffy (1968) developed the system theory. Later, it was advocated through efforts of Daniel Katz and Robert Kahn who came up with the general and social ecological systems. Understanding the world in terms of complex interrelating units with natural features resulting from perfection rather than structural components is what system thinking means. Systems' view is that true systems are free, sharing with their surroundings and may discover the

latest benefits by appearing, which further leads to continual evolution. There is a growing advocacy for systems theory within the WASH sector to sustain service delivery given the state of financial, institutional, environmental, technical and social factors that impact project performance. The Safe Water Enterprise hygiene promotion project used this speculation to test the usefulness of their systems and project in achieving planned goals.

Systems provide intelligence to empower project team members to make decisions and execute projects successfully. Systems are also responsible for the information response to compare actual progress with planned progress and implementation of remedial measures as required in project monitoring. The wholeness in hygiene promotion projects can bring about improved performance of the project as this theory supports the participation theory advocacy for involvement of stakeholders. The approach in managing hygiene projects involves concepts of systems during planning, implementation, monitoring and stakeholder's involvement, which are useful in influencing project performance.

2.7.3 Stakeholder Theory

Stakeholder approach as defined by Harrison and Freeman, (1999) corporate executives to include any group or staff that may influence the performance of the institution or stakeholder in achieving the objectives of the organization. Organizations ought not to focus intently on their strategic management decisions on building shareholder value; but rather expand their intentions to address the expectations and interests of the majority of key stakeholders. According to these theorists, a stakeholder refers to any person or category of people who may be concerned by the accomplishment's project goal. Only those who are well incorporated in the projects' undertakings or their interest might be impacted by the project's implementation or effective accomplishment, (PMI, 2004). Sunindijo, (2005), adds that participants can affect organizational performance, goals, development and even its existence. Stakeholder opinion views the organization as part of a larger public body and not a separate unit. It emphasizes the linkage between the project and all stakeholders: in the case of Safe Water Enterprise hygiene promotion, internal stakeholders include the project team members, manager, KWAHO as the implementing partner and Siemens Stiftung (donor). External stakeholders were community members, safe water management committees, public health department, ministry of Education,

CHVs, teachers and water costumers. The project is accountable to individuals and groups other than the working organization or its owners, to enhance people's quality of life in the target areas. This project has as impact on the lives of people such as clients and community members, as well as project team members who rely on an active organization. The project also has an impact on groups such as organs of state, which have had an impact on the country and residents.

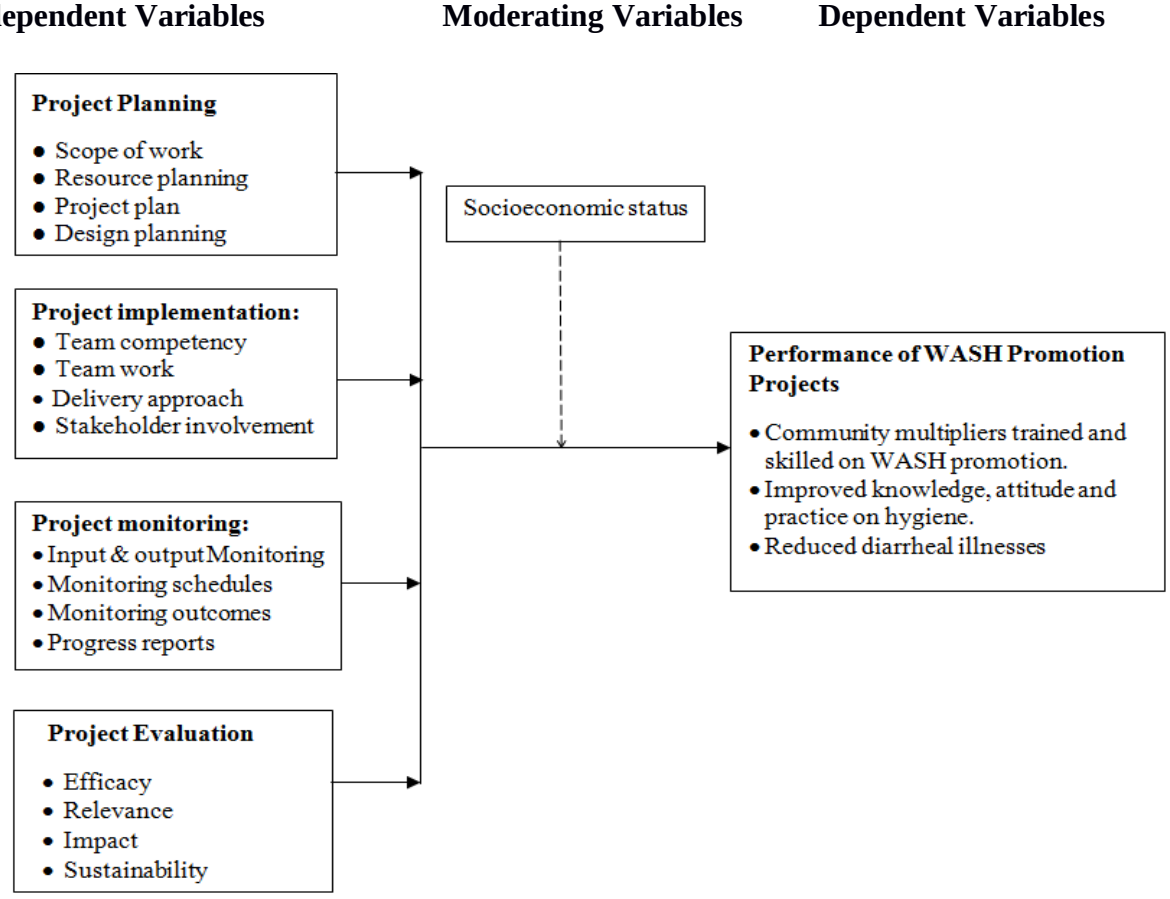
The opinions and influence of all stakeholders can help to shape hygiene promotion projects, thereby in a better position for successful performance of the projects. This model assists to increase understanding on the aspects affecting project planning, implementation, monitoring and evaluation in management of project life-cycle on hygiene promotion projects' performance. A valid criticism on this theory is that selected parties are left out; initially because they had no financial effect on the project and currently because the theory holds an anthropocentric opinion where it does not allow animals, plants or geology to have a say as participants, but then again to the significance gain in relation to category of people or persons.

2.8 Explanation of relationships of Variables in the Conceptual Framework

Performance of a project is determined by many factors. Project planning, implementation, monitoring, and evaluation phases are variables considered as one of the many aspects of project life cycle management that play a crucial part in contributing to performance of projects. The key issue is that the project manager must apply the best project management practices that would help to effectively and efficiently achieve objectives of the project. The framework shown in the below figure shows how project performance (dependent variable) is influenced by a number of independent variables such as planning of project stage, implementation stage, monitoring stage and the evaluation stage. The following conceptual considerations are set out.

2.9 Conceptual Framework

Figure 1: Conceptual Framework



2.10 Gaps in Literature Reviewed

Table 2.1: Gaps in Literature Review

Variable	Authors	Research title	Methodology used	Findings	Knowledge gap	Focus of current study
Performance of water sanitation and hygiene promotion projects	Peter Mathenge and Lucy Ngugi, (2020)	Project management practices' effects on performance ofpublic projects in Mombasa region, Kenya	Descriptive research design and data analyzed using qualitative and quantitative techniques	Effective management practices are very vital to assure successful projects' performance	The research focused on one area Mombasa County.	There is need to verify these findings using other projects and other parts of the country apart from Mombasa
	Nyamasege E. &Mburu D., (2015)	Effects of project life-cycle management on water development projects' performance in Kenya: experience from Kitui County.	Questionnaire survey form and data analyzed using qualitative and quantitative method.	Project life cycle management leads to a greater project success.	It's important to establish if project life-cycle management was considered to influence performance of project.	There is need to ascertain how the application of the project life-cycle management influence project success.
	Maunda&Moronge, (2016)	Management of Project life-cycle's influence on Kenyan public projects, case of	A descriptive research approach was adopted to collected data using census	Management of project life cycle contributes to completion of public projects in Kenya.	There is need for study on private organization too	To assess project life-cycle management influence on Safe Water Enterprise hygiene promotion

		Makueni area.	survey design and analyzed qualitatively			project's performance.
Project planning phase	Nyakundi N., (2015)	Effects of project management processes on outcomes: public sector infrastructure project at Telkom Kenya limited case.	Used descriptive survey with stratified random sampling method. Information collected from Telkom staff through questionnaires and analyzed statistically	Project initiation and planning had positive effect of project outcomes.	There is need to involve customers or end users to evaluate their views on the outcomes.	To determine management of project planning in project life-cycle influence on Safe Water Enterprise hygiene promotion project's performance.
	S. Naeem, (2018	Impact of planning on project success, in Pakistan	Adopted descriptive study method with non-probabilistic sampling technique. Data collected using questionnaires and analyzed using regression and correlation techniques	Planning of project has positive result on projects' success.	The study focused on mediating and moderating variables	Determine management of project planning in project life-cycle influence on WASH promotion projects' performance.
	Nyamasege&Mburu,	Project life cycle	Descriptive	The most important	Need to consider if	To determine

	(2015)	management's influence on water development projects' performance in Kenya –Kitui region case.	research design adopted and information collected using questionnaire. Data analyzed qualitatively and quantitatively.	factor on performance of water projects is project planning phase	project life cycle management was considered.	management of project planning stage influence on performance of WASH promotion projects in Kenya.
	Pedro S., (2013)	A literature review on project planning impact on success of project.	Qualitative study; post-positivist views that a relation can be found connecting measures of project planning and alleged general project success	There is solid connection linking project planning and project success	There is need to know the amount of effort spent in planning.	To assess management of project planning influence on hygiene promotion projects' performance.
	Muriuki and Severina, (2021)	Explore effective implementation factors of Kenyan WASH projects.	A descriptive design using stratified random sampling, and descriptive statistics used to analyze the information.	Staff competence influenced positively the implementation of the projects	Need to look at staff competence level and use projects from different parts of Kenya.	To find out effect of management of implementation stage on Safe Water Enterprise hygiene promotion project's performance in Kenya.
	Wangeci N., 2010	Factor influencing	Descriptive	The process of	There is need to	To determine

Project implementation phase		agricultural projects' performance; a case of National Agricultural and Livestock Extension Program projects in Ruiru, Kiambu county in Kenya	research design and data analyzed using both qualitative and quantitative techniques	project planning highly influenced NALEP projects' performances followed by project instigation, execution, monitoring and assessment, then involvement of stakeholders	study other development projects in the country.	influence of project implementation on performance of Safe Water Enterprise hygiene promotion project in Kenya.
	Minjeong&Sungyong, 2020	Project team members' competence and success factors with open innovation	Case study in-depth analysis. Used questionnaire survey technique to collect information. Confirmatory factor analysis and structural equation modeling was used to analyze data.	Team members' competence impact success of the project	Need to study other factors and broader aspects of project success	To find out management of project implementation phase effect on Safe Water Enterprise hygiene promotion project's performance.
	Kiragu, (2015)	Project management strategies' influence on	Descriptive research design. Used questionnaire to	Positive correlation was found between project implementation	Need to consider other aspects of project	To find out influence of team competency, team work, project

		performance of community projects, Kenya.	collect information and analyzed data using statistically.	strategies and performance of community projects	implementation.	approach and stakeholder involvement in project implementation phase on performance of Safe Water Enterprise hygiene promotion project.
	Thomas M. Nyabera, 2015	Stakeholder participation's influence on implementation of projects in Kenya	Descriptive survey study approach was applied and data analyzed parametrically.	A positive relation linking stakeholder participation and project implementation was found	A study based on urban projects is important and to also find out the barriers to effective stakeholder involvement in projects	The basis of this study will be on both urban and rural areas where Safe Water Enterprise hygiene promotion project intervened.
	Muchelule et al., 2017,	Effective monitoring methods on Kenyan State Corporation projects' performance	Descriptive research design used with simple random sampling. Descriptive and inferential statistics used in analyzing the data.	Monitoring techniques applied to a project show substantial effect on project performance	There is need for further empirical study in other part of the country and build study from quantitative and qualitative way.	The study will use quantitative and qualitative research in Maragua, Murang'a county.

Project monitoring phase	Kemboi and Muchelule, 2019	Influence of project monitoring on success of Constituency Development projects funded by the National Government in ElgeyoMarakwet county, Kenya	Descriptive research approach was applied. Information was collected by survey forms and subsequently analyzed using descriptive and inferential statistics.	Project monitoring had a constructive as well as statistical significance on national government CDF projects' performance.	The focus of the study was on one aspect of project management (monitoring) in influencing performance of CDF project.	Focus of this study will be on influence of four project management strategies (planning, implementation, monitoring and stakeholder involvement) on performance of projects.
	Ndegwa P., 2020	Effect of M&E on implementation of Kenyan WASH projects, Kajiado UNICEF program	Descriptive research design. Interview guide was used to gather information. Data analyzed statistically using SPSS.	Monitoring has significant relationship with implementation of projects.	Need for study on other aspects of monitoring that influence performance of projects in general	Find out influence of input and output monitoring, monitoring schedules, monitoring outcomes and progress reports in project monitoring on performance of Safe Water Enterprise hygiene promotion project.
	Bagabo J., 2020	Effects of M&E on success of Rwandese projects; a case of	Information gathered through questionnaire, interview and	World Vision Rwanda has capability of improving	Need to study on how project evaluation manipulates	To determine management of project evaluation phase influence on

Project evaluation phase		World Vision.	analyzing reports. Respondents selected purposely and using universal sampling. Data was analyzed statistically through correlation.	compliance to cost, time and quality standards techniques which help to improve performance of project.	performance of projects	performance of Safe Water Enterprise hygiene promotion project.
	Kipkoech P.T., 2017	Influence of M&E on water projects' performance in Kenya; Mwala water project in Machakos case.	Qualitative and quantitative research design with purposive and simple random sampling. Descriptive statistics used to analyze data.	There is a relationship between M&E and performance of water projects.	There is need to study how other M&E aspects influence project performance	To find out the influence of project evaluation stage in project life cycle management on Safe Water Enterprise hygiene promotion project' performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the process for conducting project study by describing steps which were followed in conducting this study. It presents design of the study, target population, the sampling process, size of sample, techniques for collecting data, research procedures and methods for analyzing data. This part provides a guide to how a research study was conducted to achieve research objectives.

3.2 Research Design

The research gathered information from respondents in the target population to find out their present state in relation to variables through descriptive approach. Hossein N., (2015), explains descriptive research as one that endeavors to describe and interpret situations with its current characteristics. The aim of descriptive research is to examine what is happening in a particular place and time. In addition, descriptive design approach allows the use of a mixed research approach in balancing the causal link between learning variables. It was the right design for this research because it supported the provision of a phenomenon, how and where it occurs as well as to identify categories, features, tendencies and occurrences (Shona M., 2020). Traditionally, project life cycle management has been assessed by measuring the relationships between variables using the descriptive research design of case studies and surveys. According to Shona, case studies can be used in the descriptive research design to define features of an individual, group or an event. The main advantage of case studies is that it uses data from various sources, making it a vital instrument for descriptive design and for analyzing data. Therefore, the case study approach remained ideal for this research as it allowed a thorough investigation of the Safe Water Enterprise hygiene promotion project to provide conclusions and recommendations that can be generalized to serve Kenya. However, a drawback associated with the use of case studies is that it is a poor case of generalization, as it may not be sufficient to make accurate predictions for large groups.

3.3 Target Population

A complete set of individuals which the investigator desires to get some references from is the population target, as referred by Saul M., (2019). For example, all office workers in the firm compose a population of interest. The target audience is members of an actual group of persons, occurrences or items that the investigator desires to infer for results. Focus population for this research was 347 respondents in one Safe Water Enterprise hygiene promotion project site in Maragua, Murang'a County. The target population for this study focused on a population that was directly or indirectly related to SWE hygiene promotion project. They comprised the KWAHO project officers (SWE - project manager, project officer and project assistant), Siemens Stiftung consultants, Public Health Officers, community multipliers (CHVs, teachers and safe water kiosk operators) and household head (including food and water vendors). The table below shows distribution of the populace.

Table 3.*1*: Target Population

Group	Population
KWAHO Project officers (SWE - project manager, project officer, Project assistant)	3
Siemens Stiftung consultants	2
Public Health Officers	2
Community multipliers	40
Household heads	300
TOTAL	**347**

3.4 Sample Size and Sampling Procedure

3.4.1 Sample Size

Sample size is a group or subset of the target population in a research study where information is obtained. Sample members are known as study subjects or respondents (Mugenda & Mugenda, 2003). Mugenda & Mugenda pointed out that the sample size is the number of people selected for research purpose. The size of a sample according to them should be from 10 percent to 30 percent which is regarded sufficient for a comprehensive study, offering adequate depiction of the targeted audience. This study comprised186respondents, which is 14% of the target population as specified in table 3.2. The sample size for every respondent was calculated using Slovin's formula of RSS = (RPS/N) * n, where 'RSS' is respondent sample size, 'RPS' is respondent population size, 'N' is population size and 'n' is desired sample size.

Table 3.*2*: Sample size

Category	**Population**	**Sample Size**
Project staff	3	2
Siemens Stiftung consultants	2	1
Public Health officers	2	1
Community multipliers	40	21
Household heads	300	161
TOTAL	**347**	**186**

3.4.2 Sampling Procedure

Selection process considered in this research was stratified random selection, whereby the population was distributed into homogeneous small groups and a simple random sample undertaken from the small groups. Sample process is the technique used to select a sub-group of the population of interest to participate in a study (D.P. Turner, 2020). It involved dividing a

population into discrete units known as strata (category in this case, as shown in table 3.2) based on shared characteristics or behavior. The strength associated with this technique is that it provides more precise estimates than simple random sampling as it captures key attributes of a population, hence produces features in the sample that are equal to the general audience. A desired sample size was determined from a population of 347, using a simple formula provided by Yamane (1967:886) where $n= N/1+Ne^2$. Where 'n'= number of sample, 'N' = targeted population and 'e' = error (0.05%). The researcher calculated the sample size of all the strata using the stratified random sampling technique, that is, the frequency of the category divided by the total population then multiplied by the total sample size.

3.5 Data Collection Instruments

Instruments for collecting data are tools used to gather information; they are fact finding strategies, (Godfred A., 2017). The researcher used a questionnaire for each respondent and focus group checklist to selected group of the sample size. Data that was collected from the target population who understood the Safe Water Enterprise hygiene promotion project using these methods gave insight of the research problem. The tools contained questions that were factual and straight-forward, questions that asked for respondent's opinion. Focus group discussion is a way of bringing people with similar experience together to discuss a particular topic of interest. A checklist was developed based on the four objectives to guide the facilitator in the discussion. The advantage with this tool is that it permits people in the group to agree or disagree, thus provide an understanding of how the group thinks about the issue, the range of opinions and variations that exists.

3.5.1 Pilot Testing of the Instruments

In accordance to Matt & Nick (2021) testing of instruments for gathering data on few respondents to check for faults and possible ambiguities before conducting the main study is known as pilot test. It ensures that data collection tools are well-structured in terms of flow, content, viability and reliability. A pre-test was therefore conducted to at least 10% of the sample size, summing up to 15 respondents two weeks prior to the main study. The pilot testing for questionnaire was carried out in Mukuru slum in Nairobi County, in KWAHO's WASH First

project, to 4 CHVs, 2 PHOs, 3 teachers, 5 community members and 1 KWAHO project officer. One focus group discussions was also carried out to test the FDG tool. The researcher selected Mukuru area because of the WASH First project which is a hygiene promotion project similar to the Safe Water Enterprise hygiene promotion project. It also had similar category of this study's respondents and it is within the researcher's vicinity. The process was redone until the researcher was contented that the tool did not differ, thereby improving efficiency.

3.5.2 Validity of the Instrument

For a tool to be valid, it should measure what it claims to measure, and outcomes should nearly match practical values. Validity of an instrument implies to the level test that measures what is intended to measure. It tells how accurately an instrument measures something (Fiona M., 2019). In addition, information should be gathered from trustworthy sources and the language used in the tool form should be easy to prevent any misinterpretation and vagueness. The aim of testing validity of tools was to check out complicated parts for informants when responding to queries for correction. The legitimacy of the content as defined by Kothari, (2004) is the way in which a research tool adequately integrates a research topic. Validity of the content was achieved by ensuring that there was a relationship between the questions in the survey form and study objectives, meaning that questions were relevant, clear and purposeful. In this regard, the researcher sought the assistance of a research supervisor and two other research experts to evaluate the effectiveness of research tools. Construct validity was also considered to ensure the measurement technique matches the construct to be measured. The indicators and measurements was keenly created based on the pertinent present information where the research instruments had questions that measured influence of project life-cycle management on WASH promotion projects' performance. This ensured that the measuring principles produced information on specific project life cycle management and could be measured to reflect the degree of influence on project performance.

3.5.3 Reliability of the Instrument

Reliability of a tool means it is consistent, stable, predictable and accurate. It means the consistency of scores or responses from one tool handled to another. A researcher must ensure

that research tool has some validity before using it, he/she. Mugenda and Mugenda (2003), see consistency as the strength of an instrument to test similar variable many times and produce outcomes that are same, even though random error may affect this. This study's instruments were developed to duplicate same and precise results a number of times using the same group in the study. Testing and retesting method can improve reliability. The researcher in this study tested the tools during pilot test to make meaningful adjustments after the pilot study to ensure that the tools were uniform and structured in a way that evaded vagueness.

3.6 Data Collection Procedures

After validation and reliability of data instruments were assured, instruments were ready for collection of data. Information gathered for this study was informed through sampling technique and requirements of descriptive test design. Before starting the data collection process, phone calls were made leaders of the target respondents expressing desire to do the study. The researcher sought authorization from National Commission for Science, Technology and Innovation, and a university-certified introduction letter to ensure that respondents trust the study exercise. Dates were then be set for the study and focus group discussions. Data collection was conducted with help from qualified research assistants engaged and oriented about research ethics and the tools. Research assistants were oriented with the right research skills such as communication, attention to details, data collection and analysis, maintaining quality and safety control standards. The researcher provided a copy of the research permit to each research assistant, who was required to display it to all respondents and any concerned person or authority when required.

Questionnaires were administered to 170 respondents, where the research assistants used face-to-face technique. Electronic transfer of information was used for Siemens Stiftung consultant, KWAHO project officers and some teachers who sent their filled questionnaire online. Respondents did not have their names recorded, which motivated them to freely participate in the study and thus give precise and reliable data without any bias. Each questionnaire took a minimum of 20 minutes at respondents' respective areas to avoid inconveniencing their day-to-day schedule. Information gathered was documented through note-taking and audio recording with consent from the respondent. After getting information from each respondent, research

assistants took a few minutes to note down additional information and consolidate initial findings. The researcher also conducted two (2) focus group discussions with 21 community members in Maragua Safe Water Enterprise hygiene promotion site.

3.7 Data Analysis Techniques

Analysis data is a process where the fundamental components of data preparation, entry, cleaning, analysis, and tabulation are carried out. After data collection, the information was thoroughly assessed to be complete and comprehensible before analysis. The descriptive statistical technique that was used was the frequency distribution and simple percentages. Descriptive statistics allows narration to be used to interpret the data on variables. Narration is used to interpret the data on variables in descriptive statistics. Mugenda, (2003) explains that use of descriptive statistics enables an accurate definition of scores or measures using indicators or statistics. As supported by Creswell, (2011), data analysis for this study was undertaken concurrently both qualitatively and quantitatively. Information collected was cleaned and coded using IBM SPSS (Statistical package for social sciences) software version 21, then followed by descriptive analysis of data occurrence and presented in frequency distribution table; starting with social demographic characteristics of respondents as preliminary analysis. Further analysis was done through cross tabulation of variables in the basis of the objectives followed by the inferential which was conducted at 95% level of significance by using Structural Equation Model (SEM) that uses the path analysis model which specifies a model fitness by using chi-square of association between dependent and independent variables. This aimed to provide estimates of the magnitude and significance of hypothesized causal connections between sets of variables. Qualitative analysis was also organized according to the study themes analysis that were described by using a summarized table basing on thematic and content analysis by using Microsoft Excel package year 2016.

3.8 Ethical Considerations

The researcher strived to maintain scholarly integrity and seek cooperative support. The researcher endeavored to reach conclusions based on interpretations that were guided by the data collected. The study involved requesting for respondents' consent to administer the

questionnaires. All respondents were first informed of the motives for the research and reasons for being selected as part of the data collection process. Respondents were also notified of the expected day to participate in the study and the procedure to be followed. No name was provided for all respondent's prerequisites during interviews, and discussions were accomplished without causing a major destruction in work activities. Welfare of respondents was also being taken care of, whereby the researcher and the research assistants reduced respondent's level of harm to which interviewees may be exposed. The study was conducted impartially, respected the respondents' information privacy and treated them with dignity. Information provided was applied for research aim only, respondents were guaranteed this.

3.9 Operational Definition of the Variables

Table 3.3: Operational Definition of the Variables

Study objectives	Kind of variable	Indicator	Assessing of indicator	Methods of data collection	Scale level	Analyzing tools	Type of analysis
Measure influence of project planning phase on performance of Safe Water Enterprise hygiene promotion project in Maragua	Independent variable	project planning phase	• Scope of work • Work plan • Design planning • Resource planning.	Questionnaire FGD	Ordinal Nominal	Percentage, mean score	Descriptive statistics Inferential statistics
To find out project implementation phase's influence on performance of Safe Water Enterprise hygiene promotion project in Maragua	Independent variable	project implementation phase	• Team competency • Team work • Adequate resources • Delivery approach	Questionnaire FGD	Ordinal Nominal	Percentage, mean score	Descriptive statistics Inferential statistics
Determine project monitoring phase's influence on performance of Safe Water Enterprise hygiene promotion project in Maragua	Independent variable	project monitoring phase	• Input and output monitoring • Progress reports • Monitoring schedules • Monitoring outcomes	Questionnaire FGD	Ordinal Nominal	Percentage, mean score	Descriptive statistics Inferential statistics
Investigate project evaluation phase's influence on performance of Safe Water Enterprise hygiene promotion project in Maragua	Independent variable	Project evaluation phase	• Efficacy • Relevance • Impact • Sustainability	Questionnaire FGD	Ordinal Nominal	Percentage, mean score	Descriptive statistics Inferential statistics

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, AND INTERPRETATIONS

4.1Introduction

Chapter four provides analysis as well as discussion of research findings as per the study's design determined according to the research themes. The chapter includes rate of questionnaires returned, respondents' demographic characteristics, analysis of study findings, discussion and interpretation. Main findings and outcomes of the research as obtained from the questionnaires are also provided. Analysis of data was done using the Statistical Package for Social Sciences (SPSS) software version 21 and information grouped based on the research objectives.

4.2 Questionnaire return rate

Questionnaire return rate shows the rate in percentages at which the questionnaires given to respondents were filled and returned. Data in this study was gathered qualitatively and quantitatively using questionnaires with open and close-ended questions that were administered to a group of respondents. Analysis was done to returned questionnaires only. This study targeted to administer questionnaires to 170 respondents out of which 24 questionnaires were not returned as shown in table 4.1 below.

Table 4.1: Questionnaire Return Rate

Research Instrument	**Sample Size**	**Percent**
Questionnaires issued	170	100
Questionnaires returned	146	85.88
Questionnaires not returned	24	14.12
Total	**170**	**100**

The return rate of 85.88% of the total questionnaires was outstanding. This conforms to Cooper and Schindler, (2015) assertion that a response rate of 50% - 60% is acceptable for analysis and reporting; 60% - 70% rate is good; a rate of 70% - 80% is very good, while above 80% is excellent. Therefore, this study's return rate can be said to be excellent as well as it sufficiently represented the target population. This was due to the good relationship between the respondents and the Safe Water Enterprise hygiene promotion project. This response rate was highly capable of making meaningful inferences.

4.3 Demographic characteristics of the respondents

Background information of respondents was established in this research by looking at gender, age of the respondents, literacy level, category they are in and the number of years they have known the Safe Water Enterprise hygiene promotion project.

4.3. 1 Gender of respondents

From the findings, 38.32% of the respondents, including those that participated in focus discussion were men and 61.68% were women. This indicates that the Safe Water Enterprise hygiene promotion project is in compliance with the two thirds and one third rule which ensures gender balance in project involvement by stakeholders. It also indicates that WASH is women's issue (J. Nolan, 2021). The findings were as indicated in table 4.2 below.

Table 4.2: Gender

Gender	Frequency	Percentage
Male	64	38.32
Female	103	61.68
Total	**167**	**100**

4.3.2 Age of respondents

The researcher sought to know the age bracket of respondents. Findings revealed that, out of 167 respondents including those in focus groups, 5.99% were in age bracket of less than 20 years,

20.96% were in age bracket 21-30, 31.74% were in 31 - 40, 26.95% in 41 – 50, 11.98% 51 – 60 and 2.4% were above 60 years old. It is evident from the results that most respondents were adults, denoting that they have potential workforce as they are energetic enough to take care of development projects in their community when empowered. The findings are shown in table 4.3 below.

Table 4.3: Age of respondents

Age bracket	Frequency	Percent
Less than 20 years	10	5.99
21 - 30	35	20.96
31 - 40	53	31.74
41 - 50	45	26.95
51 – 60	20	11.98
61 and above	4	2.4
Total	**167**	**100**

4.3.3. Level of Education

Specification on the highest academic qualifications of respondents was inquired. The findings show that respondents accounting to 9.58% had reached university level, 18.56% had reached college level, 52.1% in secondary, 18.56% primary level while 1.2% had reached other level. Findings highlight that respondents were literate and had knowledge on Safe Water Enterprise hygiene promotion project in the community. The findings are as indicated in table 4.4 below.

Table 4.4: Respondent's level of Education

Level of education	Frequency	Percent
University	16	9.58
College	31	18.56
Secondary	87	52.1
Primary	31	18.56
Other	2	1.2
Total	**167**	**100**

4.3.4 Category of respondents

The study had 83.6% of respondents who filled questionnaires being household members, 14.4% were community multipliers who comprised of teachers from target primary schools, community health volunteers and safe water kiosk operators, 0.7% were public health officers, 0.7% Siemens Stiftung consultants and 0.7%, KWAHO project officers. This means that the researcher was able to gather viable information from different categories involved in the Safe Water Enterprise hygiene promotion project using random sampling, as per table 4.5 below.

Table 4.5: Category of respondents

Category	Frequency	Percent
KWAHO project officers	1	0.7
Siemens Stiftung consultant	1	0.7
Public Health Officer	1	0.7
Teachers	6	4.1
Community Health Volunteers	13	8.9
Safe water kiosk operators	2	1.4
Household members	122	83.6

Total	**146**	**100**

4.3.5 Length of involvement in the project

The researcher quest to know the number of years the respondents had known or they had been involved in the Safe Water Enterprise hygiene promotion project. The finding as shown in table 4.6 below indicated that 19.76% had known the project between 1 – 2 years, 34.13% had known it for 3 – 4 years, 34.73% had known it for 5 – 6 years and 11.38% had known it for more than 6 years. Most respondents as per the findings have known Safe Water Enterprise hygiene promotion and were involved for 5 – 6 years meaning that they are aware of the projects progress and development from inception.

Table 4.6: Respondents length of involvement in the project

Length of involvement	Frequency	Percent
1 – 2 years	33	19.76
3 – 4 years	57	34.13
5 – 6 years	58	34.73
Beyond 6 years	19	11.38
Total	**167**	**100**

4.4 Performance of water sanitation and hygiene promotion projects

Respondents who filled the questionnaire gave their view on their level of agreement or disagreement with the statements in the objectives in a likert scale where 5 represented strongly agree, 4 represented agree, 3 represented neutral, 2 represented disagree and 1 represent strongly disagree.

The study's objective number one was to determine the influence of project life cycle management on water sanitation and hygiene projects' performance. The research sought to examine the extent to which respondents agreed with the statements in table 4.7 below concerning performance of

WASH promotion projects particularly the Safe Water Enterprise hygiene promotion project in Maragua area, Murang'a County in Kenya. Findings are as indicated in table 4.7 below.

Table 4.7: Performance of hygiene promotion projects

Statements	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)	Mean	Standard deviation
Teachers, CHVs, kiosk operators in SWE project are trained and skilled on hygiene	54.1 (79)	38.4 (56)	4.8 (7)	2.7 (4)	0 (0)	1.5616	0.7141
Learners in SWE project target primary schools are sensitized on hygiene	47.9 (70)	45.2 (66)	4.1 (6)	2.7 (4)	0 (0)	1.6164	0.6974
SWE project has improved hygiene knowledge in schools and community	61 (89)	30.1 (44)	6.2 (9)	2.7 (4)	0 (0)	1.5068	0.7358
SWE project has improved attitude towards hygiene behavior in schools and community	59.6 (87)	32.9 (48)	6.2 (9)	1.4 (2)	0 (0)	1.4932	0.6772
SWE project has improved hygiene practices in schools and community	49.3 (72)	34.9 (51)	14.4 (21)	1.4 (2)	0 (0)	1.6781	0.7696
Diarrheal illnesses have reduced in community and community	61 (89)	26 (38)	11.6 (17)	1.4 (2)	0 (0)	1.5342	0.7535
There were other unintended outcomes	34.9 (51)	29.5 (43)	30.1 (44)	4.8 (7)	0.7 (1)	2.0685	0.9516
Composite mean and average standard deviation						**1.637**	**0.757**

Most respondents, that is, 61% strongly agreed that SWE hygiene promotion project has improved WASH knowledge in schools and community with a mean of 1.5068 and standard deviation of 071412, and that diarrhea diseases have reduced in schools and community having an average of 1.5342 and standard deviation of 0.75351. 45.2% agreed that learners in the project targeted schools are sensitized on WASH having a mean of 1.6164 and standard deviation of 0.69739. 30.1% had a neutral opinion on whether there were unintended outcomes in the project, 4.8% disagreed while 0.7% strongly disagreed that there were unintended outcomes.

Talking of training community multipliers, sensitizing learners at schools, improving knowledge and attitude towards hygiene behavior in schools, and having diarrhea reduced in community, had mean scores and standard deviation that were lesser than the composite mean of 1.637 and average standard deviation of 0.757. This implies that they have lower effect on WASH promotion projects' performance. Whereas, on statements that the project has improved hygiene practices in schools and community, and diarrheal illnesses have reduced in schools, had higher mean scores and standard deviationthan the composite meanand average standard deviation implying that they have higher influence performance of WASH hygiene promotion project.

Results from focus group discussions indicated that management of the project planning, project implementation, monitoring and evaluation phases have improved the performance of the Safe Water Enterprise hygiene promotion project. They noted that the community health volunteers, teachers and kiosk operators have been trained and are skilled with WASH knowledge that they would multiply it to community members and school learners. They agreed that WASH knowledge, attitude and practices have improved among community members around the project sites and that case of diarrheal diseases such as cholera and typhoid are rare. It was noted that the project has created employment for water vendors, security guards, cleaners and operators in maji safi kiosks.

4.5 Project planning phase and performance of water sanitation and hygiene promotion projects

Concerning project planning phase and WASH promotion projects' performance, the study sought to establish the level of agreement of respondents with the statements below. The findings are as shown in the table 4.8 below revealing that 41.1% of respondents strongly agreed that the project's resources were adequately planned. 36.3% agreed that there was project initiation activities in SWE project, 28.1% were neutral on the statement that stakeholders were involved in planning of SWE project and that SWE project resources were adequately planned. 4.1% disagreed that there was initiation activities in the project while 3.4% strongly disagreed that the hygiene promotion project stakeholders were involved in planning.

Table 4.8: Project planning phase

Statements	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)	Mean	Standard deviation
There was project initiation activities in SWE project	37.7 (55)	32.9 (48)	22.6 (33)	4.1 (6)	2.7 (4)	2.0137	1.0102
The scope of work for SWE project was defined	31.5 (46)	36.3 (53)	26 (38)	3.4 (5)	2.7 (4)	2.0959	0.9779
Project activities and tasks for SWE project were defined	38.4 (56)	33.6 (49)	21.9 (32)	3.4 (5)	2.7 (4)	1.9863	0.9965
SWE project activities were planned	39.7 (58)	29.5 (43)	24.7 (36)	3.4 (5)	2.7 (4)	2	1.0171
Stakeholders were involved in planning of SWE project	40.4 (59)	24.7 (36)	28.1 (41)	3.4 (5)	3.4 (5)	2.0479	1.0657
SWE project was appropriately designed to achieve project goal	40.4 (59)	30.8 (45)	22.6 (33)	3.4 (5)	2.7 (4)	1.9726	1.0099
SWE project resources were adequately planned	41.1 (60)	24.7 (36)	28.1 (41)	3.4 (5)	2.7 (4)	2.0205	1.0404
Composite mean and average standard deviation						**2.0196**	**0.0168**

Line statements on whether SWE project activities were initiated, defined and designed to achieve project goal, had mean scores and standard deviation that were lower than the composite mean of 2.0916 and the average standard deviation of 0.0168, implying that they have lower influence on performance ofWASH hygiene promotion projects. Statements on whether the project scope of work was defined, activities were planned, stakeholders were involved and resources adequately planned, had higher mean scores and standard deviationthan the composite mean and average standard deviation, implying that they had influence on performance of WASH hygiene promotion project.

Participants in focus group discussions had equally positive views on influence of project planning phase on performance of the Safe Water Enterprise hygiene promotion project. They were in agreement that planning was well done in terms of the initial community entry meetings that were conducted before the project commenced. Although some participants were not there when the project was starting, they believe and agree that the design, resources and activities were well

organized to ensure the stage and the preceding stages are successfully managed hence improve performance of the Safe Water Enterprise hygiene promotion project. Key stakeholders in the community especially village elders and government officers from the ministry of health and ministry of education were involved in the initial setting of the project. Project planning stage makes work easier and saves time during implementation.

4.6 Project implementation phase and performance of water sanitation and hygiene promotion projects

The respondents were requested to indicate how project implementation phase influence performance of WASH promotion projects where 5 stand for strongly agree, 4 symbolize agree, 3 stand for neutral, 2 stand for disagree and 1 symbolize strongly disagree. Results indicate that 51.4% of respondents strongly agreed that SWE hygiene promotion project activities were based on experiential or participatory approach, 43.2% of respondents agreed that there was good teamwork among all stakeholders while 29.5% were neutral about if all project planned undertakings were implemented. 2.7% disagreed that SWE project had adequate resources during implementation and that SWE project activities were based on experiential or participatory approach while none of the respondent strongly disagreed to all the statements about project implementation. The findings are as shown in table 4.9 below.

Table 4.9: Project implementation phase

Statements	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)	Mean	Standard deviation
SWE project team was competent	45.2 (66)	38.4 (56)	14.4 (21)	2.1 (3)	0	1.7329	0.7816
There was good teamwork among all stakeholders	37.7 (55)	43.2 (63)	17.8 (26)	1.4 (2)	0	1.8288	0.7644
SWE project had adequate resources during implementation	45.2 (66)	33.6 (49)	18.5 (27)	2.7 (4)	0	1.7877	0.8404
All SWE project activities were conducted with quality	45.2 (66)	36.3 (53)	16.4 (24)	2.1 (3)	0	1.7534	0.8014
Implementation of SWE activities was timely	45.9 (67)	28.8 (42)	23.3 (34)	2.1 (3)	0	1.8151	0.8631

SWE project activities were based on experiential or participatory approach	51.4 (75)	30.1 (44)	15.8 (23)	2.7 (4)	0	1.6986	0.8335
All the SWE project planned undertakings were implemented	37 (54)	32.2 (47)	29.5 (43)	1.4 (2)	0	1.9521	0.8496
Composite mean and average standard deviation						**1.7955**	**0.8191**

Statements on whether project team was competent, whether project had adequate resources, activities conducted with quality and were based on participatory approach, had mean scores and standard deviation that were lower than the composite mean of 1.7955 and average standard deviation of 0.8191. This implies that they have lower influence on performance of water, sanitation and hygiene promotion projects. Whereas statements about good teamwork among stakeholders, implementing all planned activities and on time, had mean scores and standard deviation higher than the composite mean and average standard deviation which show that they have influence on performance of WASH promotion projects.

Participants in focus groups agreed that project implementation stage was carried out well and that activities were conducted as planned. Community multipliers were trained on WASH issues, who then did sensitization to the rest of the community members around Safe Water Enterprise hygiene promotion project sites. Activities were implemented cooperatively and with quality as the team involved was knowledgeable, had morale and were self-driven. Participants highlighted major activities conducted by the project such as WASH fair events, pupils making tippy taps for washing hands at home, WASH sensitization by Community Health Volunteers and door-to-door hygiene sensitization. They agree that the project had adequate resources, right tools and had the capacity to improve performances. Additionally, they acknowledged high involvement of community health volunteers during this phase. Therefore the project implementation phase influenced performance of Safe Water Enterprise hygiene promotion project in Kenya.

4.7 Project monitoring phase and performance of water sanitation and hygiene promotion projects

The study inquired about project monitoring phase influence on WASH promotion projects' performance in Maragua as shown in table 4.10 below. The respondents specified their level of agreement with statements related to project monitoring phase. Results tabulated indicate that

41.1% of the respondents strongly agreed that SWE project activity inputs and outputs were checked and trucked while 42.5% agreed to the same statement. 38.4% agreed that costs of SWE project were tracked, 1.4% disagreed that stakeholder's feedback were considered and 0.7% strongly disagreed to the same statement.

Table 4.10: Project monitoring phase

Statements	**Strongly agree (%)**	**Agree (%)**	**Neutral (%)**	**Disagree (%)**	**Strongly disagree (%)**	**Mean**	**Standard deviation**
SWE project activity inputs and outputs were checked and trucked	41.1 (60)	32.2 (47)	26.7 (39)	0	0	1.8562	0.8136
Schedules of SWE project activity were tracked	34.9 (51)	42.5 (62)	22.6 (33)	0	0	1.8767	0.751
SWE project activities were regularly inspected	39.7 (58)	39.7 (58)	20.5 (30)	0	0	1.8082	0.7549
SWE project processes were recorded or documented	36.3 (53)	37.7 (55)	26 (38)	0	0	1.6973	0.7855
Costs of SWE project were tracked	28.1 (41)	33.6 (49)	38.4 (56)	0	0	2.1027	0.8112
The outcomes of the SWE project were monitored	39.7 (58)	36.3 (53)	24 (35)	0	0	1.8425	0.7851
Stakeholder's feedback were considered	38.4 (56)	26 (38)	33.6 (49)	1.4 (2)	0.7 (1)	2	0.9173
Composite mean and average standard deviation						**1.9119**	**0.8027**

Statements on whether project inputs and outputs were checked, schedules tracked, activities were inspected, project processes were recorded, and outcomes were monitored, had mean scores and standard deviation that were lower than the composite mean of 1.9119 and average standard deviation of 0.8027, hence meaning that they have lower influence on performance of WASH promotion projects. Statements on cost of project being tracked and stakeholder feedback being considered, had mean scores and standard deviation higher than the composite mean and the

average standard deviation, implying that they had higher influence on water sanitation and hygiene promotion projects' performance.

According to results of interviews with focus groups, the monitoring stage in project life cycle also influences performance of Safe Water Enterprise hygiene promotion project in that it helped to track the progress of the project. Participants agreed that the Safe Water Enterprise hygiene promotion project was monitored well to ensure its objectives were achieved. The exercise was done participatory through the self-reflection meetings which involved door-to-door follow-ups. This stage, as explained by the focus groups, also takes care of unintended risks or barriers to good performance, and helped in knowing the strengths and weakness, and how to address them

4.8 Project evaluation phase and performance of water sanitation and hygiene promotion projects

Respondents gave their opinion on the level of influence project evaluation phase had on water sanitation and hygiene promotion projects' performance. The table 4.11 below indicates the findings of the research where a majority of 54.1% of the respondents strongly agreed that Safe Water Enterprise hygiene promotion has lasting hygiene behavior changes, beliefs and attitudes, and that School and community WASH infrastructure are functional. 38.4% agreed that the project addressed the needs of the community, while 21.2% were neutral that hygiene promotion continues after project closure. 1.4% disagreed that has lasting hygiene behavior changes, beliefs and attitudes and promotion continues after project closure and 1.4% strongly disagreed that WASH promotion continues after project closure.

Table 4.11: Project evaluation phase

	Strongly agree (%)	**Agree (%)**	**Neutral (%)**	**Disagree (%)**	**Strongly disagree (%)**	**Mean**	**Standard deviation**
Safe Water Enterprise hygiene promotion project achieved targets on hygiene promotion as per project plan	48.6 (71)	34.9 (51)	16.4 (24)	0	0	1.6781	0.74218
Safe Water Enterprise hygiene promotion project addressed the needs of the community	52.1 (76)	38.4 (56)	9.6 (14)	0	0	1.5753	0.66266
Value judgment of Safe Water Enterprise hygiene promotion project to community members is	52.1 (76)	37 (54)	11 (16)	0	0	1.589	0.68149

high							
Safe Water Enterprise hygiene promotion project has positive effects in community and schools	52.1 (76)	37.7 (55)	10.3 (15)	0	0	1.5822	0.67217
Safe Water Enterprise hygiene promotion has lasting hygiene behavior changes, beliefs and attitudes	54.1 (79)	34.9 (51)	9.6 (14)	1.4 (2)	0	1.5822	0.72165
School WASH infrastructure are functional	54.1 (79)	35.6 (52)	10.3 (15)	0	0	1.5616	0.67438
Hygiene promotion continues after project closure	45.9 (67)	30.1 (44)	21.2 (31)	1.4 (2)	1.4 (2)	1.8219	0.90733
Composite mean and average standard deviation						**1.6272**	**0.7231**

Statements on whether the SWE project achieved its targets, and whether hygiene promotion continues after project closure had high mean scores and standard deviation than the composite mean of 1.6272 and the average standard deviation of 0.7231, showing that they have influence on performance of WASH promotion projects. Talking about project addressing needs of the community, high value judgment by community on the project, project having positive effects, lasting hygiene behavior and functional WASH infrastructure, these statements had lower mean and standard deviation than the composite mean and the average standard deviation. This shows that they have lower influence on performance of WASH promotion projects.

According to the focus group participants, it was agreed that evaluation stage was crucial as it helped in assessing the outcomes and impact of the project. They revealed that community showed ownership of the project through participation, they value the project and that the project has high probability of continuity even after phase-out.

4.9 Inferential Statistics

Inferential statistics helps one to come up a conclusion and make predictions based on data collected, P. Bhandari, 2021. It makes reasonable guesses about the population by using random selected sample as it makes estimates and draws conclusion about the populations. This study used interval to estimate population from the sample statistics whereby it gave range of values where the parameters are expected to lie, while taking into account the sampling error. It also made comparison of the relationships between independent variable; project planning, project

implementation, project monitoring and project evaluation phases, and the dependent variable; performance of water, sanitation and hygiene promotion projects.

4.9.1 Model Estimates

This study used the likelihood-ratio test to assess the goodness of fit of structural equation model. Likelihood-ratio test was used in this study as it provides effective comparison between latent variables. It provides good estimates in nested model since it compares its statistics to that of the Chi-square, (Du and Wang, 2020). Table 4.12 shows the standardized estimate of the direct effect of project life cycle phases which are project planning, implementation, monitoring and evaluation on WASH promotion projects' performance.

Table 4.12: Standardized estimate - n=146, R2 =0.9684

Project performance	Coefficient	Std. Err.	z	P>z	[95% confidence interval]	
Project planning	0.697	0.050	14.010	0.000***	0.599	0.794
Project implementation	0.264	0.062	4.250	0.000***	0.142	0.386
Project monitoring	0.019	0.064	0.300	0.763	-0.105	0.144
Project evaluation	0.052	0.063	0.830	0.409	-0.072	0.176

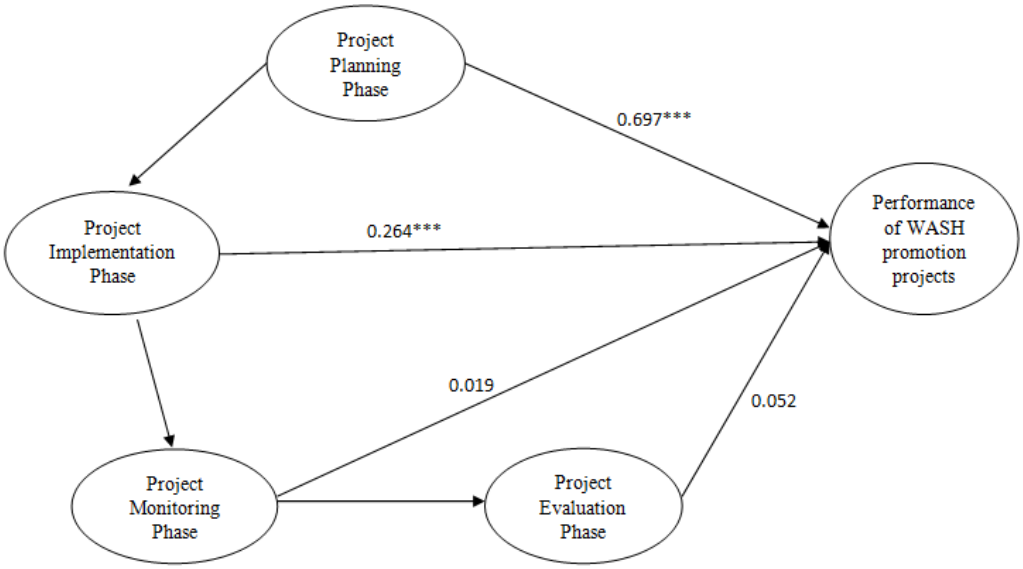
LR test of model vs. saturated: chi2 (553) = 1946.21 Prob> chi2 = 0.0000 *** p<0.001, ** p<0.05, * p<0.1

Structural equation model was used to examine the effect of independent to the dependent variable by using the standardized coefficient at 95% level of significance indicated as ** p<0.05. Results on table 4.12 below shows that the model is significant and has best fitted by using likelihood ratio test as the probability for goodness of fit 0.0000 which is less than 0.001 (p<0.001). Further results shows that the model is fitted with coefficients of determination (R^2) of 0.9684 which implies that the dependent variable is explained by independent variables by about 96.8% which is good for the fitness.

Basing on the independent variables which are project planning, project implementation, monitoring and evaluation phases, the model in table 4.12 above shows that project planning stage has significant positive influence on the performance of hygiene promotion projects with p<0.001 contributing to 69.7% on the performance of the hygiene promotion projects. This performance is from 59.9% up to 79.4% as confidence interval (CI) ranging from 0.599 to 0.794. On the other hand

results shows that project implementation was found to be significant with the positive influence on the on the performance of hygiene promotion projects with $p<0.001$ contributing approximately to 26.4% on the performance of the hygiene promotion projects, this performance is from 14.2% up to 38.6% as confidence interval (CI) ranging from 0.142 to 0.386. Project monitoring and project evaluation phases were found to have no statistical significant influence on the performance of the hygiene promotion projects.

Figure 2: Effects of project lifecycle phases on the performance of hygiene promotion projects



CHAPTER FIVE

SUMMARY OF THE FINDINGS, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The summary of the findings, discussions, conclusions and recommendations drawn from this study is provided in this section. Areas recommended for further studies have also been highlighted.

5.2 Summary of findings

This research inquired about project life cycle management influence on WASH promotion projects' performance in Kenya; a case of Safe Water Enterprise hygiene promotion project in Maragua town, Murang'a County. Case study approach was adopted for this study where the population targeted was stakeholders directly or indirectly involved in the Safe Water Enterprise hygiene promotion project in Maragua. The study used a size of 186 respondents as the sample, which was selected using simple stratified random sampling technique. Questionnaires that were administered were 170, whereby 146 were returned translating to a response rate of 85.88%. Data was also collected through focus group discussion. Generally, the study found that there exists a significant association linking the dependent variable that is, performance of WASH promotion projects and the independent variables; planning, implementation, monitoring and evaluation project phases. Therefore, the correlation between the dependent variable and independent variables was positive.

5.2.1 Project planning phase and performance of water sanitation and hygiene promotion projects

With regard to project planning phase in project life cycle management, findings indicated that the stage has a positive influence on WASH promotion projects' performance. For the various aspects of project planning, the study found that 68.81% of respondent, who were majority, agreed that the SWE hygiene promotion project conducted initial activities, the scope of work was defined, activities and tasks were defined and planned. Planning of the project activities involved stakeholders, the SWE project was designed to achieve project goal as well as resources were

adequately planned. 24.86% had a neutral opinion while 6.3% disagreed to the statements under project planning phase.

5.2.2 Project implementation and performance of water sanitation and hygiene promotion projects

Project implementation phase was found to have has a significant influence on performance of WASH promotion projects where 78.6% of respondents agreed that the team in the SWE hygiene promotion project was competent, there was good teamwork among all stakeholders, the project had adequate resources during implementation, the activities were timely implemented based on participatory approach as well as all project planned undertakings were implemented. Respondents who had neutral opinion were 19.4% while 2.1% disagreed to that project implementation phase influences performance of WASH promotion projects.

5.2.3 Project monitoring and performance of water sanitation and hygiene promotion projects

The study found that, in project monitoring 72.31% of the respondents stated that the stage has positive influence on performance of water sanitation and hygiene promotion project and its various aspects where the SWE hygiene promotion activities were regularly inspected, schedules were tracked and the processes were documented. 27.4% had a neutral view while 2.1% did not agree that project monitoring influences performance of the WASH promotion projects

5.2.4 Project evaluation and performance of water sanitation and hygiene promotion projects

Majority of respondents, 86.8% acknowledged that performance of WASH promotion projects are influenced by the project evaluation phase in project life cycle management. They agreed that the SWE hygiene promotion project has positive effects in community and schools; it addressed the need of the community and achieved targets on hygiene promotion as per project plan. Respondents who had neutral opinion were 12.63% while those that disagreed were 2.8%.

5.3 Discussions of the findings

This section discusses the findings on the influence of project life cycle management in planning, implementation, monitoring and evaluation phases on performance of WASH promotion project.

5.3.1 Project planning phase and performance of water sanitation and hygiene promotion projects

On the association between project planning phase and performance of WASH promotion projects, it was evident from the descriptive statistics that most participants agreed that, for improved performance of the hygiene promotion projects, the project's resources need to be adequately planned. This finding significantly related with the inferential statistic, which found that the performance of hygiene promotion projects significantly depended on the effectiveness of the project planning phase. From the correlation analysis, the study found that there was a strong correlation of 0.697 between project planning phase and performance of hygiene promotion projects. This finding relates with the literature by Nyakundi, (2015), which found that 67% of participants responded that initiation and project planning had a significant effect on project's outcome. Also, a study by Naeem, (2018) indicated that project planning is absolutely correlated to success of the project. The researcher's work concurred with preceding literature that better planning of project in the initial phase of the life cycle has significant effect on the end of project results. If planning is done effectively, it promotes performance of the project. Moreover, according to Nyamasege and Mburu, (2015), in their study about influence of project life-cycle management on performance of water development projects in Kenya, project planning stage was found to be the most significant factor on water projects' performance. Therefore, the null hypothesis stating that there is no significant relationship between management of project planning phase in project life cycle and performance of SWE hygiene promotion project in Maragua is rejected basing on the findings and literature above.

5.3.2 Project implementation phase and performance of water sanitation and hygiene promotion projects

On the association between projects implementation phase and performance of WASH promotion projects, it was evident from the descriptive statistics that most participants strongly agreed that for improved performance of the hygiene promotion projects, the project's life cycle need to be implemented effectively. This finding significantly related with the inferential statistic, which found that the performance of hygiene promotion projects significantly depended on the effectiveness of the project implementation phase. From the correlation analysis, result indicated

that there was a positive but weak correlation of about 0.264 between project implementation phase and performance of hygiene promotion projects. The findings of the study concurred with the literature by Wangeci, (2010), which sort to find out factors contributing to agricultural projects' performance; the case of National Agricultural and Livestock Extension Program projects in Ruiru District in Kiambu, Kenya, indicating that implementation of project is key to project's success because it warrants actions on planned actions. Basing on the study's results and the literature, the null hypothesis stating thatthere is no significant relationship between management of project implementation phase in project life-cycle and performance of SWE hygiene promotion project in Maragua is rejected as it has been proved to be untrue.

5.3.3 Project monitoring phase and performance of water sanitation and hygiene promotion projects

On the association between projects monitoring phase and performance of WASH promotion projects generally, it was evident from the descriptive statistics that most participants agreed that for improved performance of the hygiene promotion projects the project's life cycle need to be monitored effectively. This finding significantly related with the inferential statistic, which found that the performance of hygiene promotion projects significantly depended on the effectiveness of the project monitoring phase. Performing a correlation analysis the results revealed that there is equally a positive but weak association on 0.019 between project monitoring phase and performance of hygiene promotion projects. This correlation finding corresponds with the literature by Irene Guijt (2006), which found that monitoring outcomes lead to increased equity among respondents and participants, equal distribution of benefits from service delivery, especially to the marginalized and the poor, which increases performance of hygiene promotion projects. Therefore, the null hypothesis stating that there is no significant relationship between project management of monitoring phase in project life-cycle and performance of SWE hygiene promotion project in Maragua was rejected since the study found that there was a significant relationship between projects monitoring phase and performance of water sanitation and hygiene promotion projects.

5.3.4 Project evaluation phase and performance of water sanitation and hygiene promotion projects

On the association between projects evaluation phase and performance of WASH promotion projects, it was evident from the descriptive statistics that most participants agreed that for improved performance of the hygiene promotion projects the project's lifecycle need to be effectively evaluated. This finding significantly related with the inferential statistic, which found that the performance of hygiene promotion projects significantly depended on the effectiveness of the project evaluation phase. The correlation analysis found out that the association between project implementation phase and performance of hygiene promotion projects had a positive but weak correlation on 0.052. From this statistic the study deduced that project evaluation phase greatly affects the performance of hygiene promotion projects more than the other independent variables. This finding concurred with the literature by Bagabo J., (2020), which searched the effect of monitoring and evaluation on performance of Rwandan projects and found that conformity to project quality of standards, cost and time has significant relation to project performance. Moreover, the study's findings correlated with the study by Kikoech, (2017), which showed that there is a positive impact of monitoring and evaluation on performance of water projects in his research on the same. Therefore, the study rejected the null hypothesis stating that there is no significant relationship between management of project evaluation phase in project life-cycle and performance of SWE hygiene promotion project in Maragua.

5.4 Conclusions

This research generally concludes that project life cycle management influences performance of Safe Water Enterprise hygiene promotion projects in Kenya. Project planning, project implementation, project monitoring and project evaluation phases have positive relationship with performance of water sanitation and hygiene promotion projects. With the trending of WASH issues especially in the recent COVID-19 pandemic that relay on hygiene as a means to stop the spread of the virus, implementing partners should ensure project managers manage the project life cycle well for impact on health.

Performance of Safe Water Enterprise hygiene promotion can be termed successful from this study finding in assisting local communities reduce cases of waterborne and communicable diseases to improve their health status through proper management of the project life cycle and its specific

aspects at each stage. Other organizations and institutions should therefore realize the need of adopting life cycle management approach in project implementation and make follow up on whether the phases are effectively managed. Additionally, without clear policies on project life cycle management by organizations, it is difficult for specific projects to implement the same hence the need to have policies of project life cycle management in place.

5.5 Recommendation for policy action

This study recommends policy makers particularly those in the development of WASH policies and project implementation procedures to factor in and come up with policies to guide the management of project life cycle in planning, implementation, monitoring and evaluation phase. WASH organizations particularly Siemens Stiftung and KWAHO should adopt the project life cycle management approach in all its community projects to improve performance as it has been found by this study that proper project life cycle management influence performance of water sanitation and hygiene promotion projects in Kenya.

5.5.1 Suggestions for further studies

This study was on the influence of project life-cycle management on performance of water sanitation and hygiene promotion projects at Safe Water Enterprise hygiene promotion project. In this regard, the findings are not applicable to other WASH projects in other organizations in the country. The study therefore recommends that more studies be conducted on influence of project life cycle management on performance of WASH projects in other organizations and institutions. The same study can be done to find out barriers to effective project life-cycle management on performance of water sanitation and hygiene promotion projects and how these phases impact on one another.

5.6 Contribution to the body of knowledge

This study on influence of project life-cycle management on performance of WASH promotion projects in Maragua, has contributed to the body of knowledge by finding out that project life-cycle management influences on performance of WASH promotion projects. Project evaluation had the most influence with 86.8% of respondents positively responding, followed by project implementation with 78.6%, then project monitoring phase and lastly project planning phase with

72.3% and 68.8% respectively. This study has also built literature for the subject area and can be reviewed and used as secondary data for further investigation in the field by scholars interested in studies on the same topic.

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APPENDICES

APPENDIX I: INTRODUCTION LETTER

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Our Ref: **L50/36682/2020**

April 26, 2022

National Commission for Science, Technology and Innovation
NACOSTI Headquarters
Upper Kabete, Off Waiyaki Way
P. O. Box 30623- 00100
NAIROBI

RE: INTRODUCTION LETTER: LINAH WAWUDA MLISHO

The above named is a registered Master of Project Planning candidate at the University of Nairobi, Faculty of Business and Management Sciences. She is conducting research on ***"Influence of Project life Cycle Management on Performance of Water Sanitation and Hygiene Promotion Projects: A Case of Safe Water Enterprises Projects in Maragua Town, Kenya."***.

The purpose of this letter is to kindly request you to assist and facilitate the student with necessary data which forms an integral part of the Project.

The information and data required is needed for academic purposes only and will be treated in **Strict-Confidence**.

Your co-operation will be highly appreciated.

PROF. JAMES NJIHIA
DEAN, FACULTY OF BUSINESS AND MANAGEMENT SCIENCES

JN/pgr

APPENDIX II: RESEARCH PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **480890**

Date of Issue: **17/August/2022**

RESEARCH LICENSE

This is to Certify that Ms.. LINAH Wawuda MLISHO of University of Nairobi, has been licensed to conduct research in Muranga on the topic: INFLUENCE OF PROJECT LIFE CYCLE MANAGEMENT ON PERFORMANCE OF WATER SANITATION AND HYGIENE PROMOTION PROJECTS: A CASE OF SAFE WATER ENTERPRISE PROJECT IN MARAGUA TOWN, KENYA for the period ending : 17/August/2023.

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Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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APPENDIX III: KEY INFORMANT INTERVIEW GUIDE FOR STAKEHOLDERS

This interview intends to gather information for only scholarly motive. This research aims to examine influence of project life cycle management on performance of hygiene promotion projects in Kenya, Safe Water Enterprise hygiene promotion project case. All information shall be handled with privacy. No indicating your identity in this form.

SECTION I: BACKGROUND INFORMATION

1. Gender

(i) Male [ ] (ii) Female [ ]

2. What age bracket are you in?

i.	Less than 20 years	[ ]
ii.	21 - 30 years	[ ]
iii.	31 - 40 years	[ ]
iv.	41 - 50 years	[ ]
v.	51 - 60 years	[ ]
vi.	Above 60 years	[ ]

3. What is your uppermost level of schooling?

i.	Primary	[ ]
ii.	Secondary	[ ]
iii.	College	[ ]
iv.	University	[ ]
v.	Other(s) Specify……	

4. Which category do you represent? (Read categories below and tick the appropriate box)

i.	KWAHO PO	[ ]
ii.	SiSti Consultant	[ ]
iii.	Public Health Officer	[ ]
iv.	Community Health Volunteer (CHV)	[ ]
v.	Teacher	[ ]

vi. Safe water kiosk operator [ ]

vii. Community member [ ]

5. How many years have you known or been in the Safe Water Enterprise hygiene promotion project?

i. 1 – 2 years [ ]

ii. 3 – 4 years [ ]

iii. 5 – 6 years [ ]

iv. Beyond 6 years [ ]

SECTION II: PERFORMANCE OF HYGIENE PROMOTION PROJECTS

6. Read out the scale of 1-5 and the statements below to the respondent;

Where – **1**= strongly disagree: **2** = disagree: **3**= neutral: **4** = agree: **5** = strongly agree

Performance of hygiene promotion projects	**1**	**2**	**3**	**4**	**5**
Teachers, CHVs, kiosk operators in SWE project are trained and skilled on hygiene					
Learners in SWE project target primary schools are sensitized on hygiene					
SWE project has improved hygiene knowledge in schools and community					
SWE project has improved attitude towards hygiene behavior in schools and community					
SWE project has improved hygiene practices in schools and community					
Diarrheal illnesses have reduced in community and schools					
The were other unintended outcomes					

7. How did the features of project life cycle management influence the general performance of Safe Water Enterprise hygiene promotion project?

_____

_____

_____

_____

SECTION III: PROJECT PLANNING PHASE

8. Read out the scale of 1-5 and the statements below to the respondent; tick appropriately.

Where – **1** = strongly disagree: **2** = disagree: **3** = neutral: **4** = agree: **5** = strongly agree

Project planning phase	**1**	**2**	**3**	**4**	**5**
There was project initiation activities in SWE project					
The scope of work for SWE project was defined					
Project activities and tasks for SWE project were defined					
SWE project activities were planned					
Stakeholders were involved in planning of SWE project					
SWE project was appropriately designed to achieve project goal					
SWE project resources were adequately planned					

9. In your opinion, how did management of project planning phase influence the general performance of Safe Water Enterprise hygiene promotion project in Maragua?

_____

_____

_____

_____

SECTION IV: PROJECT IMPLEMENTATION PHASE

10. What is your opinion to the statements below? Use a scale of 1-5 to respond by ticking appropriately.

Where – **1** = strongly disagree: **2** = disagree: **3** = neutral: **4** = agree: **5** = strongly agree

Project implementation phase	**1**	**2**	**3**	**4**	**5**
SWE project team was competent					
There was good teamwork among all stakeholders					
SWE project had adequate resources during implementation					
All SWE project activities were conducted with quality					

Implementation of SWE activities was timely					
SWE project activities were based on experiential or participatory approach					
All the SWE project planned undertakings were implemented					

11. How did management of project implementation phase influence the general performance of Safe Water Enterprise hygiene promotion project in Maragua?

_____

_____

_____

_____

SECTION V: PROJECT MONITORING PHASE

12. Use a scale of 1-5 to respond to the statements below;

Where –**1** = strongly disagree: **2** = disagree: **3** = neutral: **4** = agree: **5** = strongly agree

Project monitoring phase	**1**	**2**	**3**	**4**	**5**
SWE project activity inputs and outputs were checked and trucked					
Schedules of SWE project activity were tracked					
SWE project activities were regularly inspected					
SWE project processes were recorded or documented					
Costs of SWE project were tracked					
The outcomes of the SWE project were monitored					
Stakeholder's feedback were considered					

13. In your own view, how did management of project monitoring phase influence the performance of Safe Water Enterprise hygiene promotion project in Maragua?

_____

_____

_____

_____

SECTION VI: PROJECT EVALUATION PHASE

14. Use a scale of 1-5 to respond to the statements below;

Where – **1**= strongly disagree: **2** = disagree: **3** = neutral: **4** = agree: 5 = strongly agree

Project Evaluation phase	**1**	**2**	**3**	**4**	**5**
Safe Water Enterprise hygiene promotion hygiene promotion project achieved targets on hygiene promotion as per project plan					
Safe Water Enterprise hygiene promotion project addressed the needs of the community					
Value judgment of SWE hygiene project to community members is high					
Safe Water Enterprise hygiene promotion hygiene promotion project has positive effects in community and schools					
SWE hygiene promotion has lasting hygiene behavior changes, beliefs and attitudes					
School WASH infrastructure are functional					
Hygiene promotion continues after project closure					

15. In your own opinion, how did management of project evaluation phase influence the performance of Safe Water Enterprise hygiene promotion project?

_____

_____

_____

WE APPRECIATE YOUR TIME AND SUPPORT

APPENDIX IV: FOCUS GROUP DISCUSSION FOR COMMUNITY MEMBERS

HOUSEHOLD MEMBERS, WATER VENDORS AND FOOD VENDORS

This discussion is to gather information for academic purpose in investigating influence of project life cycle management on performance of hygiene promotion projects in Kenya - Safe Water Enterprise hygiene promotion project case. All information will be considered confidentiality. Do not provide your names. The FGD will consist between 6 to 8 participants.

1. Gender composition of participants (male and female)
2. Level of education of participants
3. How many years have you known the Safe Water Enterprise hygiene promotion project? Insert numbers
    i. 1 - 2 years [ ]
    ii. 3 - 4 years [ ]
    iii. 5 - 6 years [ ]
    iv. Beyond 6 years [ ]
4. What are some of your thoughts about Safe Water Enterprise hygiene promotion project - hygiene promotion project in particular?
5. What were you satisfied about SWE project? Why is that? (what went well?)
6. Are there things you were dissatisfied with the SWE project, what did not go well? Why is that? How should they have been done?
7. What is your opinion about the way SWE project was planned? What was planned well and what was not?
8. What is your opinion about how implementation phase of SWE project was carried out?
9. What is your view on monitoring phase of SWE project activities?
10. How was project evaluation stage undertaken in SWE project?
11. How about project planning, implementation, monitoring and evaluation? What do you think about them as a way of improving performance of hygiene promotion projects?
12. Are there other recommendations that you have, or suggestion you would like to make?

WE APPRECIATE YOUR TIME AND COOPERATION

APPENDIX V: INFERENTIAL STATISTICS

LABELS USED IN STRUCTURAL EQUATION MODEL

Prj_plan1	There was project initiation activities in SWE project	
Prj_plan2	The scope of work for SWE project was defined	
Prj_plan3	Project activities and tasks for SWE were defined	
Prj_plan4	SWE project activities were planned	
Prj_plan5	Stakeholder were involved in planning of SWE project	
Prj_plan6	SWE project was appropriately designed to achieve project goals	
Prj_plan7	SWE project resources were adequately planned	
Perf1	Teachers, CHVs, Kiosk operators in SWE project are trained and killed on WASH	
Perf2	Learners in SWE project target primary school are sensitized on WASH	
Perf3	SWE project has improved WASH knowledge in schools and community	
Perf4	SWE project has improved attitude towards WASH behavior in school and community	
Perf5	SWE project has improved WASH practice in school and community	
Perf6	Diarrheal diseases have reduced in school and community	
Perf7	Other unintended outcomes	
Prj_imp1	SWE project team is competent.	
Prj_imp2	There is good teamwork among all stakeholders	
Prj_imp3	SWE project had adequate resources during implementation	
Prj_imp4	All SWE project activities are conducted with quality	
Prj_imp5	Implementation of SWE activities is timely	
Prj_imp6	SWE project activities were based on experiential or participatory approach.	
Prj_imp7	All the SWE project planned undertakings were implemented	
Prj_mon1	SWE project activity inputs and outputs were checked and trucked	
Prj_mon2	Schedules of SWE project activities were tracked	
Prj_mon3	SWE project activities were regularly inspected	
Prj_mon4	SWE project processes were recorded or documented	

Prj_mon5	Costs of SWE project were tracked	
Prj_mon6	The outcomes of SWE project are monitored	
Prj_mon7	Stakeholder's feedback were considered	
Prj_eva1	Safe water enterprise project achieved targets on WASH promotion as per project	
Prj_eva2	Safe water enterprises project addresses the needs of the community	
Prj_eva3	Value judgement of safe water enterprise project to community members is high	
Prj_eva4	Safe water enterprise project has positive effect in community and school	
Prj_eva5	Safe water enterprise project has lasting WASH behavior changes, beliefs and attitude	
Prj_eva6	School WASH infrastructure is functional	
Prj_eva7	WASH promotion continues after project closure	

Structural Equation Model describing the effect of project phases on performance of Safe Water Enterprise hygiene promotion project