

Influence of External Stakeholder Involvement and Risk Perception on Affordable Housing: A Survey on the Implementation of Affordable Housing Project in Anderson-Ofafa Estate, Kisumu City (Kenya)

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ABSTRACT

The significance of stakeholder involvement and risk forecasting in project management has been documented in literature and in studies all over the World. One such study was carried out in Anderson-Ofafa estate, Kisumu City. The main goal of the study was to assess the influence of external stakeholder involvement and risk perception on the implementation of the project. The stakeholders showed resistance to the housing project. The study aimed to establish the risks the project is exposed to based on stakeholder attitude and their influence on project performance, and whether the stakeholders were involved so as to provide solutions to problems bedeviling the project and to generate new knowledge. A survey of general respondents/ intelligent laypersons of age 18 years and above totaling 384 and key informants numbering 16 proportionately sampled from a population of 174,145 people found out that there was a significant correlation between stakeholder involvement, risk perception and project performance. In addition, the study established the occurrence of socio-political, regulatory and financial risk factors which had a perceived high influence of 50% and above, moderate influence of 39% and a very high influence of above 50% respectively. Updated risk register had a perceived high influence of 50% and above. Socio-political risk factors significantly influenced the project performance as was hypothesized by the alternative hypothesis of this study. Financial risk factors had the greatest impact. The stakeholders were involved in the project but were still not satisfied with its implementation. The results are expected to assist the project stakeholders align their goals with that of the project to foster sustainability. The practical or managerial implications is explained as follows- there are documented potential consequences and outcomes of stakeholder actions that have contributed to risk factors that will have extended effect on all stakeholders; including project beneficiaries, project providers, project influencers, and the project governance team. Interventions recommended include; Project sponsors to focus on strategies that manages risk perception and returns expectations, Project manager to reduce project scope, public sector to put measures that guarantee stability in laws and regulations and, the project should be infused into the new affordable housing program by the Kenya Kwanza government to benefit from the new government initiated housing levy fund.

Keywords:- Affordable Housing, External-Stakeholder Involvement, Intelligent-Laypersons, Kisumu City, Project Management, Risk Perception, Survey, Systemic Risk.

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CHAPTER ONE

INTRODUCTION/ BACKGROUND OF THE STUDY

A. Background of the Study

Governments in developing nations undertake physical infrastructure projects to promote socio-cultural and economic growth (Othman, 2013). These advancements include educational, road, transportation, health, and housing efforts. The success of such projects is determined by meeting cost, schedule, quality, and stakeholder satisfaction criteria (PMI, 2013). The building industry and other stakeholders play critical roles in achieving these goals. Construction projects are transient, and distinctive in nature, scale, and location, and they attract a diverse spectrum of stakeholders. Accounting for their varied demands and interests is essential for project success (Olander & Landlin, 2005). Organizational performance depends on the prudent management of resources, including time, materials, personnel, and information, in conjunction with cost, time, and quality variables. Project management is a system of input-process-output, involving the application of knowledge, skills, tools, and techniques to meet project requirements (PMBOK, 2017). Within project management practices, risk management is a prerequisite for successful project outcomes.

Few researches have been conducted in the field of external stakeholder involvement and risk perception in project management and more so on influence of involvement of intelligent laypersons in assessment of systemic risks that a project is exposed to. Although some researchers have delved into the area of risk perception, (Ogendo, 2016; Alarmgir et al,2017; Mae et al,2018; Raven et al, 2015; Nicholas Chileshe et al, 2012; Ackamete,2016; Agnieza et al,2015; Altoryman, 2014; Olukemi et al,2014) and stakeholder involvement in project management (Trappet, 2023; SHE Engineers,2024; Zikergae et al,2021; Berry et al, 2019; Coenen, 2009; Faircheallaigh, 2010), little has been established on influence of external stakeholder involvement and risk perception on implementation of affordable housing project.

Literature on stakeholder involvement and risk perception is rich. However, this literature does not capture the elaborateness of external stakeholder involvement and risk perception, targeting the intelligent laypersons and assessment of systemic risks(Van Asselt & Renn, 2011; Poortvliet, Duineveled & Purhagen, 2016,2017; Slovic, 1999; Nygaard & Aven,2010; Fiske & Taylor, 1991; Harvey & Schaefer, 2001).This study is geared towards bridging this gap thereby enabling the affordable housing project in Anderson- Ofa estate proceed without problems and safeguarding its expected hard benefits, which includes; increased likelihood of delivery of desired outcomes, facilitation of decision-making and allocation of responsibility to risk owners. The academic importance revolves around the principles used in this study including; respect of integrity of knowledge, objectivity, collegiality, honesty and openness which can be used in fundamental elements of scientific method in formulating hypotheses, designing an experiment to test hypothesis, designing an experiment to test hypothesis and in collection and interpretation of data. The model used in this research can be used as a reference in the development of new research. The study can also be used to develop new concepts to study systemic/ external risk factors. The significance of the results of this study is embedded in their practical implications on theory, social, political, technological, policy related, ethical, societal, and methodological and in subsequent research.

Risk factors are conditions or characteristics that increase the possibility of negative or socially undesirable outcomes while decreasing the likelihood of positive results. Risk management is the systematic process of detecting, analyzing, and addressing project risks. It comprises maximizing the likelihood and impact of incidents detrimental to project objectives (PMI, 2017). Risk management and assessment have a long history. It was developed as a scientific area around 2,400 years ago when Athenians demonstrated their ability to analyze risk before making decisions (Bernstein, 1996). Methods and principles were created for conceptualizing, assessing, and managing risk. Today's risk management foundations embody the principles and approaches developed via previous breakthroughs. Many breakthroughs have been made, all of which are tied to the theoretical platform as well as practical models and techniques. The literature shows that opinions among specialists and laypeople regarding the dangers of different technologies and natural disasters were never in agreement. The study of risk perception was born out of this.

Risk has a significant role in contemporary culture, according to some academics. Risks are universal, transcend generations, and affect everyone regardless of social class, nationality, or place of residence (Ulrich, 1992). However, individuals are obsessed with risk because they inhabit a highly technical environment that they do not fully comprehend, leading to a multitude of potential outcomes (Giddens, 1998). Risk exposure and taking are necessary for risk prevention because of its paradoxical nature (Wildervsky, 1988). Numerous systems, such as the political, economic, and environmental ones, are expected to face significant risks that are difficult for outsiders to manage and could have negative effects on all of them (Luhmann, 1991). Because their effects can be exacerbated or reduced over the course of their protracted effects on a complex system of interdependencies, systemic risks—risks that are heavily ingrained in society processes—have the potential to cause harm (Van Asselt & Renn, 2011).

There are limits to how much can be learned about dangers. Numerous hazards have comparatively straightforward structures, well-understood likelihoods of harm, and well-accepted risk governance actions. However, other risks have become more complicated, ambiguous, and unpredictable over the past few decades, which presents difficulties for regulatory governance (Renn, 2015; Renn & Klinke, 2013). This is especially valid for systemic dangers. The interplay between the actions and occurrences that underlie systemic hazards is more intricate. In complex systems, interactions between events and activities can increase risks or create synergies, where risk is greater than the sum of its parts (Bromberg, 2017; Vancoile, 2016).

The bodily senses of sight, smell, hearing, taste, touch, and proprioception are all part of perception, as are the mental processes that go into deciphering those senses. In essence, it is the process by which individuals interpret stimuli to gain an understanding of the world around them. Perspectives on perception that are now prevalent in cognitive psychology tend to concentrate on specific ways that the mind processes sensory information and how these processes influence behavior. This study will adopt the systemic approach as opposed to reductionist approach to estimate risk. The systemic approach considers that besides such hard data and knowledge, other forms of data and knowledge may include the perspective of lay people on risk or non-economic impacts if risks were to materialize (Ansell and Baur, 2018).

Kenya then was facing a shortage of affordable housing units to the tune of 1,500,000 per year (Budget Watch 2018/2019, 11th edition). This informed the decision of the Kenyan government to roll out the Big 4 plan which was launched in December 2017 by retired president Uhuru Kenyatta under the fourth pillar of affordable housing, the government planned to facilitate the provision of 500,000 housing units by 2022 (Budget watch for 2018/2019, 11th edition). Under the policy of shared responsibility between national and county governments, the flagship project was to be implemented between the two levels of government. The projects categorized as lot 1C were to be implemented by the county government based on a memorandum of understanding signed between the National and County governments and hence were to receive support from the national government for the development of infrastructure for land that was to be made available for housing developments for 2000 housing units per year. The signed counties had already identified land and were awaiting a master plan for the urban center (ICPAK, 29TH August 2018).

Kisumu County was one of the counties earmarked for this project. However, the county was faced with a big challenge of successful implementation of the project ranging from wrangling over land and land tenure systems, resistance from some quarters, and cartels among others which threatened the investment (Kenya News Agency, 11th December, 2020). This was likely to threaten the security of the environment under which the project was to be implemented. The likely resultant risk factors according to the literature review are those characteristic of human risks as classified by Edward and Bowen (1998) which are socio-political risks, technical/regulatory risks, financial/monetary risks, and environmental risks among others.

This study aimed to conduct an in-depth analysis of the perceptions of stakeholders regarding the risk factors surrounding the implementation of the affordable housing project in the Anderson-Ofafa estate located in the Northern sub-location, Kisumu Central, Kisumu County. The study also assessed the level of stakeholder engagement with the project. This was an initial assessment during the early execution phase of the project to determine its feasibility based on the unfolding events and stakeholder behavior, to assist in decision-making.

The Local Authority Pension Trust Fund (LAPTRUST), a pension fund, that is the project sponsor, created an action plan to make it easier for the impacted residents to relocate. Payments of KES 76,000 per person and an extra KES 100,000 per person were made available by LAPTRUST through its CEO to help the 1,200 impacted households relocate. By an understanding reached with the County Provident Fund (CPF) and LAPTRUST, each household received a year's worth of rent. For as little as KES 4,000 for a one- or two-bedroom dwelling, some tenants have been in the homes for more than 20 years.

A brand-new, ultra-modern, affordable housing project spearheaded by LAPTRUST, the county government, and the federal government was to take the place of the 63-year-old Anderson-Ofafa estate. This was LAPTRUST's first project of such kind outside of Nairobi. The affordable housing agendas of the local and federal governments were taken into consideration when designing the dwelling units. The planned building included retail stores along the main access roads, a nod to the street business that is ingrained in Kisumu City's economy. The goal of the project was to employ thousands of women and young people in addition to giving Kisumu inhabitants excellent, reasonably priced houses. The construction workers were supposed to receive labor from the residents as well as building supplies and catering services. The County Provident Fund (CPF) and the pension fund (LAPTRUST) worked together to implement the project in Kisumu.

The funds allocated for the project was Kenya shillings 3.8 billion and the houses were to be completed and ready for occupation within 48 months of execution. The project comprised 108 one-bedroom units, 717 two-bedroom units, and 96 three-bedroom units. The project was also to come up with premium two-bedroom and three-bedroom units. The units were to be sold at an introductory price of Kenya shillings 1.5 million (one bedroom), 2.5 million (two bedroom), and 3.5 million (three bedroom). For premium units, a two-bedroomed unit was to be sold at an introductory price of Kenya shillings of 3.5 million and three bedrooms at 4.5 million. For one-bedroom units, priority was to be given to the 246 people who resided at the old estate. Non-tenants were to part with Kenya shillings 1 million more for the units. The tenants were to have 10 years to offset Kenya shillings 1.5 million for one-bedroom houses, paying Kenya shillings 12,500 per month.

Prof. Peter Anyang'g Nyon'go, the governor of Kisumu, officially opened the project on December 9, 2020, by setting a plaque and the cornerstone for the new Anderson-Ofafa estate. The project was to be supervised by acting Kisumu City Manager Mr. Michael Abala Wanga, whose role was to see development in the city and its environs and ensure all safety and environmental regulations were followed to the letter. Construction was planned to start in February 2021 and end within 48 months in February 2023 but as of August 2021, the project had not picked up due to some challenges which did crop up about statutory obligations. These include the approval of building plans, which had not been approved, transfer of the title of Kisumu/municipality/Block 9/28

from its owners to the County Provident Fund (CPF), which had not been finalized, and Risk clearance certificate had not been issued. The affordable housing project in Kisumu was also expected to be rolled out in other old estates of Makasembo, Argwings Kodhe, Arina, and Lumumba (Kopala-project affected people's representative Anderson ofafa estate).

B. Statement of the Problem

The smooth implementation of the affordable housing project under the Big Four Agenda of the then Kenya government in Anderson-Ofafa estate, Kisumu town was at stake as a result of the emerging uncertain project implementation environment. This was a result of insecurity posed by the actions of the stakeholders of the project, which could have culminated into full-blown risks and; hence, could hinder sustainability in project delivery.

According to reports published by Kenya News Agency on 11th December 2020, the project generated a lot of heat and jittery among sections of stakeholders. Residents of Kisumu town had on several occasions staged demonstrations over demolitions of their business premises including their residential buildings by the county government of Kisumu. Among those affected by the demolitions were residents of the Anderson-Ofafa estate, where the county government planned to develop approximately 1950 affordable housing units including premium units.

Despite the county government signing a memorandum of understanding (MOU) with project-affected persons, facilitating safe relocation plans, giving incentives in terms of providing employment opportunities to thousands of youths and women, residents supplying building materials and catering services to construction workers; resistance from some quarters within the city could still be established, including petitions in court over urban renewal and affordable housing projects, cartels that stood on the way of the project, National housing corporation claim of ownership of some of the old estates and spiraling land costs and rates. This was an indication of new risk events characteristic of human risks as classified by Edward and Bowen, (1998). These are risks that arise in construction projects and occur within the human systems and could act as critical barriers to the implementation of this project.

According to Edward and Bowen, 1998, the sub-categories of human risks include social risks, political risks, economic risks, financial risks, legal risks, cultural risks, and health risks among others which are considered problem consequences. This research aimed to assess the extent to which stakeholders perceive project external risk factors, including socio-political risks, regulatory risks, financial or monetary risks, and the development of a risk register influencing the implementation of the affordable housing project in Anderson Ofafa estate, Kisumu city and to validate the preliminary report generated out of initial data gathering in the study area through observations, interviews, and literature search and seeking stakeholder opinion on the likelihood of occurrence, the magnitude of occurrence of these risks, and influence on execution performance of the project including; level of stakeholder engagement during actual implementation of this project in Anderson –Ofafa estate, Kisumu City.

C. Objectives of the Study

➤ *Overall Objective*

To assess the influence of external stakeholder involvement and risk perception on the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu city, Kisumu county.

➤ *Specific Objectives*

- To examine the extent to which stakeholder perception towards socio-political risk factors influence the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City.
- To explore the level of influence that stakeholder perception towards government regulatory risk factors influence the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City.
- To find out by what magnitude stakeholder perception towards financial/ monetary risk factors influence the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City.
- 4)To develop an updated risk register based on assessed risk value of perceived influence on the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu city.

D. Research Questions

- What is the extent to which stakeholder perception towards socio-political risk factors influence the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City?
- What level of influence does stakeholder perception towards government regulatory risk factors have on the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City?
- To what magnitude does stakeholder perception towards financial/monetary risk factors influence the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City?
- To what extent does development of an updated risk register influence the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City?

E. Research Hypotheses

- **H₀.** The socio-political risk factor will be perceived not to have the greatest significant influence on the execution/ implementation of an affordable housing project in the Anderson –Ofafa estate, Northern sub-location of Kisumu Central sub-county.
- **H₁.** The socio-political risk factor will be perceived to have the greatest significant influence on the execution/ implementation of an affordable housing project in the Anderson-Ofafa estate,

F. Significance of the Study

Prior research has underscored the significance of examining risk perception. Studies by Means and Flin (1995) revealed that an individual's perception of risk plays a crucial role in how they approach risk-related issues. In health and risk communication, risk perception is important because it influences people's priorities and reactions to various dangers (Paek & Hove, 2017). Assessment of risk factors should start from project initiation and continue through project closure. Regarding the affordable housing project in Kenya, the Kenya Affordable Housing Program development framework guidelines (October 2018) indicated that experts had identified a range of risk factors. Nonetheless, studies conducted in the 1960s by Daniel Kahneman and Amos Tversky revealed that professionals aren't always more accurate than laypeople at estimating the likelihood of a risk event. According to their findings, experts frequently overestimate the precision of their estimations and give small samples of data too much weight.

In light of this, the present study aims to build upon the assessment conducted by experts at the national level of the affordable housing program organization. The study seeks to incorporate the lay stakeholder perception of external project risk factors that may have a positive or negative influence on the implementation of the affordable housing project in the Anderson-Ofafa estate, Kisumu city. A lot of media coverage and rapid public dissemination is frequently accorded to the issues brought up by secondary stakeholders, such as local communities. Reputational harm could be done to the project and the company involved if these issues are not addressed promptly. Kisumu County is perceived to be a politically volatile area, and stakeholder perception is of utmost importance for assessment. This study aims to provide a comprehensive understanding of the risk factors and stakeholder engagement in the implementation of the affordable housing project in the Anderson-Ofafa estate, which can inform decision-making and contribute to the success of the project.

Students or academicians who will have an interest in drawing their studies on the Big 4 Agenda, particularly on pillar number four based on housing affordability will have a background to their studies. Project managers alike will find the outcome of this study useful in their areas of jurisdiction. Policymakers particularly in the area of Residential building construction will also find the results of this research useful. The community particularly those of Anderson-Ofafa estate, Northern sub-location, Kisumu city which currently is the problem area will also find solace in the recommendations of the study.

G. Scope of the Study

The study was carried out in Anderson-Ofafa estate, along Gumbi road, Kisumu city. The study was confined to stakeholders of 18 years and above, classified as project users, project providers, project influencers and project governance; residing within Northern sub location, Central location of Kisumu Central sub county. On socio-demographic characteristics of the respondents, this study was confined to age, gender, marital status, highest level of education, stakeholder category and main source of income of the respondent. In assessing the influence of socio-political risk factors on the project performance, the study was restricted to getting information on the possibility of occurrence, magnitude of occurrence and influence on implementation of the project in terms of schedule, cost and quality performance. This also applied to the assessment of regulatory risk factors and financial/ monetary risk factors. In analyzing the influence of updated risk register on the implementation of the project, the study was confined to its influence on project schedule, cost and quality performance. The study is focused on the execution stage of the project cycle only. The target population was adult sub-location-based communities including men, women, youths, opinion leaders, religious leaders, local leaders, local administrators and government groups, oversight groups, political leaders, the business community, project-affected persons, and project contractors, suppliers, resource providers, and vendors.

H. Limitations and Delimitations of the Study

Conducting research in unfamiliar areas had time and cost implications. Ample time was required for pace-setting and familiarization. The researcher did a reconnaissance study ahead of planned fieldwork. Being a busy urban area the possibility of missing respondents on a defined date of the survey was high. The researcher timed the household survey on a day that was not busy for residents after consultation. The household population census (2019) was the most recent of many data collectors conducted by the mainstream government. It was anticipated that this would be confusing to the general population, especially the less knowledgeable, therefore it could be a barrier. The public was made aware of the distinctions between this study and those conducted by the national government through the researcher's utilization of local administration. Political meddling was predicted to have a significant impact on the research environment as the electioneering season approached.

The researcher engaged and briefed the political players on the objectives of the research project. The Big 4 plan (affordable housing) was also news to many Kenyans; hence giving critical information about a subject they had no idea proved to be a limitation. With assistance from local administration, the researcher organized capacity-building forums to educate the public on

affordable housing programs. The other impediment was scanty research materials particularly books and other library sources. The researcher used the available research materials and searched for more. Combining class work and field work proved to be hectic. The researcher moderated classwork and fieldwork.

I. Assumptions of the Study

A common assumption in risk research is that an individual's knowledge and certainty about a risk directly influence their risk perception (Paek & Hove, 2017). Similarly, this study assumed that lay people often evaluate risks using heuristics and informal thought processes rather than comprehensive analysis. The study also presumed that the respondents would provide truthful and honest responses during data collection. It was assumed that stakeholder perceptions in the construction industry are crucial in the present and future and that all ethical considerations were met. These assumptions were fundamental to the study's methodology and the validity of its findings. Acknowledging and addressing potential biases or limitations associated with these assumptions was crucial to ensuring the integrity and reliability of the research.

J. Operational Definitions of Terms

- **Socio-Political Risk:** Socio-political risk refers to the risks associated with social, political, and economic factors that can impact a business entity.
- **Rule of Law:** The rule of law implies that everyone, including lawmakers, law enforcement, and judges, is subject to the law. This establishes a foundation of accountability and fairness within a legal system.
- **Political Consensus:** Political consensus refers to the constrained space within which politics is conducted, the paradigm framework from which political outcomes emerge, and the agreement that political actors freely enter into. It represents an implicit understanding of the acceptable boundaries of political discourse and decision-making.
- **Contracts:** A contract is a written or verbal agreement, particularly regarding employment, sales, or tenancy, that is intended to be legally enforceable.
- **Fiscal Policy:** Fiscal policy is how a government adjusts its spending levels and tax rates to monitor and influence a nation's economy. It is a key tool for economic management and stability.
- **Regulatory Risks:** Regulatory risk refers to the risk of having the "license to operate" withdrawn by a regulator or having conditions applied, retrospectively or prospectively, that adversely impact the economic value of an enterprise. This risk arises from changes in laws and regulations that materially impact a business, sector, or market.
- **Community Participation:** Community participation is the involvement of people in a community in projects to solve their problems. It represents a bottom-up approach to development and problem-solving.
- **Laws and Regulations:** Regulations are rules and administrative codes issued by government agencies at all levels, which have the force of law and often include penalties for violations. They are adopted under the authority granted by statutes.
- **Expropriation:** Expropriation is the action by a state or authority of taking property from its owner for public use or benefit, often without adequate compensation.
- **Quality Performance Control:** Quality performance control refers to the numerical measurement of the performance of an organization, division, or process. It can be assessed through measurements of physical products, statistical sampling of process outputs, or surveys of goods and services. It also encompasses the establishment of quality standards and conformance requirements.
- **Monetary/Financial Risk:** Monetary/financial risk refers to the odds of losing money or the possibility that a company's cash flow will prove inadequate to meet its obligations.
- **Inflation:** Inflation refers to a general increase in prices and a fall in the purchasing power of money.
- **Gross Domestic Product (GDP):** GDP is a monetary measure of the market value of all the final goods and services produced in a specific period, often annually. It is a key indicator of a country's economic performance.
- **National Output (GDP):** National output, as measured by GDP, refers to the quantity of goods or services produced in a given period by a firm, industry, or country, whether consumed or used for further production. It is the national output that makes a country rich, not just a large amount of money.
- **Project Implementation:** Project implementation refers to the effective and successful execution of project management practices.
- **Risk Register:** A risk register is a record of identified risks for a project.
- **Project Performance:** Project performance refers to the overall time, cost, and quality performance of a project.
- **Project Cost Performance:** Project cost performance measures the degree to which a project's cost objective is achieved, often in terms of unit cost.
- **Project Time Performance:** Project time performance measures the degree to which a project's time objective is achieved, based on a before-and-after comparison.
- **Project Quality Performance:** Project quality performance measures the degree to which a project's quality objective is attained, typically on a subjective ranking scale.
- **Project Planning:** Project planning involves the use of schedules, such as Gantt charts, to plan and report progress within the project environment. It can be done manually or with project management software.

- **Project Control:** Project control refers to the process of data gathering, management, and analysis used to predict, understand, and influence the time and cost outcomes of a project or program through effective communication and decision-making.
- **Project Management Competency:** Project management competency refers to the set of knowledge, skills, and attitudes needed to fulfill a project's purpose.
- **Stakeholder Involvement:** Stakeholder involvement is the process of targeting specific stakeholder groups, organizations, or individuals who may have a high level of impact or influence on a particular project.
- **Stakeholder Participation:** Stakeholder participation refers to the involvement of individuals in neighborhood projects, incorporating the community and other stakeholders.
- **Stakeholder Satisfaction:** Stakeholder satisfaction refers to the level of approval that people and groups with an interest in the project's success have regarding the project's level of execution.

CHAPTER TWO

LITERATURE REVIEW

A. Overview

This chapter contains a comprehensive review and synthesis of relevant literature on perception of influence of external risk factors on the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City and level of stakeholder involvement. The chapter further reviews past studies regarding risk perception on project performance. It presents gaps in knowledge that presents an avenue for further research. The study provides a theoretical and conceptual framework with the intention to show how the risk factors can be intervened by the project stakeholders.

The reductionist approach and the systemic approach are the two primary approaches used to estimate risk. The reductionist approach considers that only quantitative technical data, collected by experts and professionals and economic benefit-cost analysis, should be relied upon when estimating risks. The systemic approach considers that besides such hard data and knowledge, other forms of data and knowledge may include the perspective of lay people or policy makers on the risk or non-economic impacts if the risks were to materialize (Ansell & Baur, 2018). The study adopted the systemic approach to study risk perceptions.

B. Empirical Review

➤ Risk Perception.

Subjective assessments of the nature and seriousness of risk are common in human judgment. It is this that is known as risk perception. When discussing natural disasters and health and environmental risks, including nuclear power, the term "risk perception" is most frequently employed. According to Harvey and Schaefer (2001), perception is socially constructed. Two fundamental subjects are touched upon by the idea of social construction: the nature of the individual and the nature of the individual's knowledge. A person is predisposed to social interaction. According to Marcusen (2000), a person's cognitive ability is restricted in terms of knowledge. According to Fiske and Taylor (1991), people merely classify and organize the things they see in the environment in order to comprehend reality and reach cognitive stability. This is accomplished by the application of heuristics and other techniques that break down difficult jobs into simpler ones. When faced with a time constraint or deadline, heuristics are a problem-solving technique that generates adequate results by using short cuts. When working with complex data, heuristics offer an adaptable method for making fast conclusions.

There is no objective evaluation of danger; instead, it is arbitrary, predicated, and driven primarily by judgment. One of the main concerns of contemporary psychology has been the subjectivity of perception (Weiten, 2005, p. 19). A study's dependent variable shouldn't be perception (Clarke & Short, 1993). Rather, the statement suggests that there is no genuine risk, or objective risk, rather than that there is no real danger at all (Slovic, 1999). On the risk map, risks that are well-known to the public are indicated along the vertical axis. This indicates that societal risk perception of known threats is lower when they are located on the lower end of the axis. Conversely, new dangers show up higher on the axis, indicating that consumers believe certain technologies or activities to be more dangerous for their health and safety (Slovic, 1997).

The peculiarity for those who research risk perception is that individuals have grown more and more susceptible to the hazards of contemporary living and have become more or less concerned about risk as a result of people's perceptions that they are generally safer and healthier (Slovic, 1997, p. 233). In recent decades, gender and risk perception have been the focus of progressive mainstream topics in risk research. Studies on risk have typically focused on statistics and technology. Nonetheless, a change has occurred in favor of the social and behavioral scientific fields (Guftafson, 1998). Important research findings have shown that gender affects how hazards are viewed and, thus, must be addressed. Compared to men, women see more threats in their surroundings. Women perceive a higher risk of crime than do males (Breakwell, 2007). In addition, women experience psychometric dread at larger levels. Risk researchers agree that men and women perceive risk differently (Davidson & Freudenberg, 1997).

The fundamental causes of the discrepancies continue to be confusing. However, Melissa et al. (2000) clarify that rationality and educational disparities are two conventional examples used to explain variations in risk perception. The idea is that people would be able to understand a risk more fully if they were better informed about that particular risk. Nevertheless, research results are inconsistent, making it challenging to identify recurring themes. A number of variables come into play, including individuals, sociodemographic groups, race, culture, and ethnicity. The literature shows that opinions among specialists and laypeople regarding the dangers of different technologies and natural disasters were never in agreement. The study of risk perception was born out of this. Nuclear technology emerged in the middle of the 1960s with the promise of clean, safe energy. Public opinions, however, began to turn against this new technology. The public's perception of this new technology was shaped by fears of both immediate disasters producing radioactive wastelands and long-term environmental risks.

This early method made the assumption that people act rationally by considering all available information before making a decision and that people exaggerate their fear as a result of incomplete or inaccurate information. Is it not the case that more knowledge can reduce people's perception of danger by enabling them to recognize actual risk? Many studies have refuted the notion

that more knowledge by itself will change perception, despite the fact that engineering school scholars pioneered research in risk perception by applying economics ideas that are rarely useful in real-world situations.

C. Empirical Review in Relation to External Risk Factors

➤ Socio-Political Risks

There is value associated with risks. Political decisions are involved in their creation, packaging, and identification, which provides decision-makers a great deal of influence (Van Asselt & Renn, 2011; Baldwin & Black, 2016). According to Befeki et al. (2006), socio-political risks are those connected to the social, political, and economic elements that influence a certain business entity. Systems and issues that are socio-political combine social and political elements, such as human rights and the environment (Nikolai, 2015). It also describes the manner in which authoritative rhetoric on social and political cohesiveness, which promotes community development, shapes politics and power relations.

Social entrepreneurship can be used to accomplish this. In the process of assisting others, such coherence gives businesses a framework for success (LinkedIn, 2014). Between government and free market businesses, social purpose enterprises—which are typically for-profit businesses—provide an efficient socio-political and economic bridge. According to Izzet et al. (2016), social entrepreneurship is the ideal commercial endeavor for protecting against political risks. Investors, firms, and governments confront political risk, which is the possibility that political actions, events, or circumstances will have a major impact on a business actor's profitability or the expected value of a particular economic activity. Political risk not only poses a threat to international investments, but it can also present opportunities (Alfredo Jimenez et al., 2013). Firms must more effectively execute a variety of political operations, such as lobbying, litigation, coalition building, negotiating entry conditions, and campaign contributions, due to their accumulated experience and exposure to political risk. Preferential conditions, less environmental uncertainty, lower transaction costs, and greater long-term sustainability for the company result from this.

Nowadays, risk governance is not just viewed as a strictly technical likelihood but also in terms of broader societal concepts. Risk is no longer seen as an absolute certainty due to the social complexity that accompanies its measurement (Burgess, 2016; Hood et al., 2001). Due to this, risk models have had to change from being scientific and technocratic, which base risk probability calculations on hard data, to being socio-political, which recognizes that perfect probabilities are impossible and instead relies on knowledge based on subjective probabilities (Nygaard & Aven, 2010). Risk evaluations that are societal-political and rational-instrumental need a significant time and resource commitment.

Scholars who study how politics creates places frequently draw attention to the unique characteristics of certain locations that inspire or inform activism (Elwood, 2006, Martin, 2003a). The concept of "networked politics" functions as a descriptor and analytical tool for cultural, socioeconomic, and political ties. The reciprocity, mutuality, preferentiality, and interdependencies of or between the individuals engaged stabilize networks, which are in between markets and hierarchies and are shaped by power structures and human choices (Jessop, 1998; Leitner and Sheppard, 2002; Powell, 1990; Thomson, 2003).

The majority of academics agree that networks have a significant role in political processes. A broad definition of politics is a social process that generates decisions as a group from different and frequently discordant individual differences (Riker et al., 1973). From this point of view, it is similar to economics in that the main locative decisions about what to produce, how much to produce, and for whom come from the decisions made by households, businesses, and governments about how to exchange goods and services in various organizational settings. These choices come together to form the networks of interactive relationships known as the economic market. The political theorist of possessive individualism contends that the possessive nature of the concept of individuality—which forms the foundation of classical liberalism—is what makes it such (Macpherson, 2010). Its idea is that each person is fundamentally the owner of their own identity and abilities, with no obligation to the larger community. After that, society is a system of economic interactions, and political society serves as a tool for defending both the system of economic connections based on private property and private property itself.

It has been observed in researching global politics of social investment that social investment reforms and performances in democratic nations appear to be uneven and dispersed (Garritz 2017). The interests of political coalition members and the institutions ingrained in social investment politics are important aspects that might contribute to the explanation of the wide range of social investment agendas and policies between nations. According to Ghuman et al. (2018), social risk is the possibility of losing one's standing in one's social group as a result of utilizing a new product or service or appearing out of date or silly. Space and agency have been linked to the idea that humans and non-humans are combined to form a single mass in relation to socio-material power, politics, and space (Muller, 2015). This is the foundation of actor network theory and assemblage thinking. It provides methods for reevaluating, from a socio-material standpoint, the relationships between politics, power, and space.

Economic risk is the likelihood that macroeconomic factors, such as exchange rates, governmental restrictions, or political unrest, will have an impact on an investment, typically one made in a foreign nation (Readyratios.com). Building organizations can lower the occurrence of risk during building activities by utilizing technological and political economy elements (Adeleke et al., 2018). Political risks are encountered in international construction projects; some of these risks have a major, direct negative impact

on risk effects, while others have a considerable, indirect influence (Tengyuan et al., 2018). Sociopolitical instability, legal and regulatory frameworks, social safety, economic performance, minimal exposure, and capabilities enterprises are among those that directly harm society.

The definition of political risk is contingent upon one's viewpoint and level of significance regarding said danger (Kamaga, 1998). Political risk is defined in a way that is exclusive, broad, and constrictive. The concept of political risk is based on the exclusive definition, which encompasses all types of politically driven actions, regardless of their origins. These include social and political unrest, predictable and unanticipated events, and economic factors pertaining to fiscal or monetary policy.

Different writers have also proposed different meanings for political danger. Political risk is described by Jacobsen (2010) as a multifaceted problem. Political risk affects foreign direct investments and arises from activities taken by the government or legislature, political parties, social groupings, or labor unions (Roots, 1972). Political risk can result from societal and/or governmental actions and policies that are implemented both inside and outside the host nation. These actions and policies can negatively impact investments, international commercial operations, and a group of enterprises operating in specific sectors (Simon, 1982). Political risk can be attributed to either internal or external sources, such as the multinational company's place of origin, a third country, or the global environment (Hanne, 1972; Simon, 1982; Alone, 1996). This also encompasses political hazards resulting from social or governmental issues as well as political risks brought on by economic variables. Political risk is the possibility of uncertainty and harm to business and the economy resulting from political (government and other) conduct and events, such as economic systems, government institutions, policies, and societal traits (Julian Campisi, Elena Caprioni, 2016).

Socio-political analysis focuses on things like how much support political parties provide the government or a particular program, how the media portrays it, and how civil society both domestically and internationally views it (Pollock, 2011). It examines the stance and tactics taken by project opponents, the primary political motivations of the project's supporters, and the manner in which the government informs the public about these difficulties. This kind of study aids in identifying potential political hazards for a project and offers context for creating a successful communication plan. Political risk analysis has three steps: analysis, evaluation, and management. Social science and non-academic interpretations have an impact on these phases. The identification of political risk, its variables, importance, and linkages with other variables are the main points of focus in the analysis. It makes use of its understanding of international relations to examine global politics from a business standpoint in order to predict potential political developments that could materially negatively impact an investment (Heinrich, 2011). Government legitimacy and popularity, ethnic, religious, and racial tensions, level of corruption, intimidation, kidnapping, sabotage, and terrorism are just a few of the variables that could be used to conduct a political risk analysis. This study will use the review's initial definitions.

Numerous studies have documented the impact of socio-political risk on project performance. In addition to causing uncertainty, increased political risk might also present certain opportunities (Kamaga, 1998). Xiapeng *et al.* (2013) have identified several factors that have been found to increase political risk for foreign contractors. According to Gerda *et al.* (2013), there are six elements that could increase a foreign company's political risk in its host nation. The six are as follows: firm resources including capital, experience, and technical competence; ownership and relationship with the home government; size; economic stability of the company or home country; operational risk; and relationship between the home and host countries. Political risk won't have an impact on the foreign company's profit margin if all these conditions are met.

Political risks are discouraged by economic and financial attractiveness (Mshelia *et al.*, 2018). Despite the considerable risks, global investors are drawn to countries with robust economic indices. Due to regional variances in outcome, the majority of multinational firms, especially those in Nigeria, assess political risks using qualitative procedures rather than quantitative methods. In construction projects, especially in the Western Cape, risk factors such labor, material, chosen subcontractor, program, schedule, and client have an impact in that priority order (Rwadimila, 2017). Government policies were found to have a significant impact on the sustainability of road construction projects in a study on the socioeconomic elements influencing project execution (Linianjum, 2014).

On a very high note, political undercurrents influence the execution of building projects in a crucial way that is least understood (Ogendo, 2016). In the tropics, road development projects are impacted by socio-political hazards (Alamgir *et al.*, 2017). This risk is caused by activities including drug manufacturing, smuggling, poaching, illegal mining, and deforestation. Among the risk factors are social and environmental issues, tax evasion, royalties, and higher spending on law enforcement and surveillance. Others include a lack of employment prospects for locals, forced land reclamations, inadequate community involvement, and perceived government corruption. Road building projects are also greatly impacted by the procurement procedure and communication (Ogutu *et al.*, 2017).

It has been discovered that risk considerations affect decision-making, particularly when it comes to Brownfield development in Melbourne (Hao *et al.*, 2017).. Risks related to society, politics, and economy were comparatively less significant. Risk zonation policies in Limbe, Cameroon, are influenced by sociopolitical decisions that subsequently result in inadequate law enforcement and corruption, which in turn cause risk accumulation (Mae *et al.*, 2018). Protective space creation, maintenance, and expansion are significantly influenced by socio-politics (Raven *et al.*, 2015). This was recorded at Niche Construction Company; yet, case studies revealed that there were instances that were pertinent to the ideas but needed further in-depth explanation and clarification. The

results of a study on budget behavior and corruption in Indonesia revealed that political forces and conditions have a significant impact on the country's economy. According to the report, there will always be a significant risk of corruption and power abuse in the economy. Numerous empirical studies have demonstrated that risk variables pertaining to social, political, and economic aspects have a significant impact on project performance. As such, they warrant careful consideration at every stage of the project cycle.

➤ *Regulatory Risk*

Regulation is broadly defined as the processes, institutions and instruments assembled to steer the behavior of individual or individuals towards desirable societal goals (Jeroem, 2019). In regulatory practice and governance, risk as a topic is least understood but most talked about. Risk has intangible qualities (Beck, 1992). Law and regulation changes that could have a significant influence on the market, business sector, or security are known as regulatory risks (Kenton, 2018). It is a subset of legal risk that also includes reputational, operational, dispute, contractual, compliance, and risk arising from non-contractual obligations. A government or regulatory body's modification of rules or regulations may result in higher running costs for businesses, less investment appeal, or altered competition.

Businesses are required to follow the rules established by the regulatory agencies that manage their sector. As a result, modifications to legislation may have repercussions for an entire industry. Regulations can raise operating expenses, present administrative and legal challenges, and can even prevent a corporation from operating. Regulatory risk is the possibility that a regulator will revoke your company's operating license or impose conditions that would negatively affect an enterprise's economic value in the future or the past (PWC). Regulatory changes like as minimum wage regulations, tax policy reforms, tariffs and trade policies, and required vacation and sick days can also result in regulatory risk.

Risks that a company's performance obligations will be unenforceable are referred to as regulatory risk. This could be due to inadequate underlying transaction documentation, lack of the requisite authority from counterparty or being subject to legal transaction regulations, underlying transaction being impermissible under applicable law or regulations or applicable bankruptcy or insolvency law. Regulatory risk is the potential for losses due to a change in laws and regulations (Spacey, 2015). Regulations that raise the cost of maintaining capital assets are also considered forms of regulatory risk, as is the analysis of the risk's origins (Ergas et al., 2001). The possible adverse effect on specific enterprises resulting from modifications to national or regional rules and regulations is the definition and significance of regulatory risk. The phrase is frequently used in articles concerning currency traders, whose risk of financial loss is impacted when relevant regulatory bodies enact new laws or modify existing ones. The government or a regulatory agency may make changes to the laws and regulations that increase the expense of running a firm.

Capital invested in private companies is subject to additional sources of risk when government authorities oversee their commercial operations. Since the nature of these controls differs throughout regulators and industries, there is a wide range of potential forms and outcomes for the resulting regulatory risk. The fact that there are many different origins and impacts of regulatory risk contributes to the lack of knowledge regarding its existence. Consequently, this restricts the degree to which regulatory risk expenses may be approximated and strategies for reducing the expenses can be developed. Complementing the numerous assertions of regulatory risk is the idea of legal risk. Although there are at least two primary or secondary definition sets of legal risk in use, there is no accepted meaning of the term. Legal risk is the possibility that an institution may suffer a loss that is mostly brought about by a transaction gone wrong, a claim that something else will happen that leaves the institution liable, or another loss, like a contract termination (McCormick, 2004). Other aspects of the concept include not taking the necessary precautions to safeguard assets, such as an institution's intellectual property or a change in the legislation.

Legal risks, according to Johnson and Swanson (2007), are a company's litigation costs. Base 2, 2003 states that legal risk is a subcategory of operational risk. Legal risk is calculated by multiplying the expense and income loss resulting from legal uncertainty by the likelihood of the specific event or the overall legal environment (Tsui, 2013). The risk of an arrest and prosecution is known as legal risk. Legal risk is the possibility of financial loss or damage to one's reputation that may arise from ignorance of, confusion about, or careless disregard for, the ways in which laws and regulations relate to one's business, relationships, operations, goods, and services (Whalley, 2016). Legal risk is any loss or harm to a company that results from a failure to follow business-related laws. It may arise at any point throughout a business transaction (Verna, 2018).

Groups in society who are already excluded are disproportionately affected by risks (Beck, 1992). Some academics contend that not everyone is equally affected by dangers. They warn that dangers are imposed on people or groups by the conduct of others rather than something they voluntarily choose to do (Lodge & Weigrich, 2012). Similarly, risk reactions that some people want to take could backfire on others. These changes have prompted some risk researchers to advocate for more inclusive and participatory risk governance procedures.

The use of risk language in regulatory governance results in a change in public perception and heightened anxiety. The public may have higher expectations regarding the level of risk they should be exposed to and the degree to which risk should be prevented, mitigated, pooled, or reduced by the government (Lloyd-Bostock, 2010; Giddens, 1998). According to Ansell and Baur (2018), there are scholars who argue that the adoption of risk as a regulatory governance strategy has led to the process of responsibility apportioning, wherein citizens are progressively expected to assume responsibility for their own protection. Low occurrence/ high

impact risks should be given greater attention under regulatory policy and practice at the expense of high occurrence/low impact risks (Jeroen, 2019). This is because such risks attract media attention, higher levels of fear from the public and heightened calls on policy makers to act. Systemic risks are classified under low occurrence/ high impact risks, and relate to natural events, economic, social and technological development, policy driven actions at the domestic and international levels (Renn, 2008).

A certain variable net high occurrence/low effect risk may be low for highly motivated regulators with strong compliance capacity, but high for less motivated regulators with poor compliance capacity, according to sophisticated risk matrices. Risk cannot be eliminated, minimized, or prevented by using regulatory tools and stable, one-size-fits-all governance measures (Asselt & Renn, 2011). Numerous scholars have proposed holistic frameworks that concentrate on high-occurrence but low-impact dangers, as well as frameworks that build on the precautionary principle, benefit-cost analysis, or both. These frameworks are widely used worldwide and are based on these ideas. Precautionary measures should be adopted or the activity should not be carried out at all, according to the precautionary principle, an ethical concept that states that if an activity or occurrence could have negative repercussions and is susceptible to scientific uncertainty (Aven, 2010, 2015). This refers to any action intended to stop harm to the environment or people's health. In the lack of solid knowledge regarding the likelihood or consequences of any risk, the principle is the most reasonable means of controlling potential harm (Taylor, 2018). The present investigation will utilize Kenton's (2018) introductory definition to examine regulatory risk.

Regulatory risk's impact on project performance has drawn the interest of numerous academics. According to research by Nicholas Chileshe et al. (2012), legal risk variables had the least impact and least chance of occurring when it came to project performance. International contractors' profit margins are severely impacted by host country regulatory risk factors (Aydogu et al., 2014). Important factors for foreign contractors are, in that order of importance, political stability, laws and regulations, risk associated with exchange rates, cultural differences, inflation, expropriation, tax discrimination, language barrier, bribery and corruption, force majeure, and societal disputes. The main obstacles to foreign markets are limited financial resources, inflation, and currency fluctuations (Gunman et al., 2015). Nevertheless, there are opportunities in foreign markets, such as long-term profitability, preservation of shareholder benefits, globalization, and open markets.

Risk management consulting businesses' use of risk breakdown structures alone to analyze national hazards in connection to regulations is insufficient to fully address the construction market (Ackamete, 2006). Construction projects are impacted by rules and regulations concerning the taxes levied on imported building supplies (Adeleke et al., 2016). Construction risk management and organizational internal and external elements are moderated by rules and regulations. In 2015, the World Economic Forum and the Boston Consulting Group determined that regulatory risks are difficult for private enterprises to handle and, for the most part, cannot be attributed to the public sector. While certain regulatory risks are exclusive to the projects, others have an effect on the infrastructure industry as a whole. Project completion is impacted by behavioral risk factors in terms of schedule, budget, and specifications (Pencheng et al., 2018). Critical behavioral risk factors include, but are not limited to, client changes, project objectives or investment direction, and the designer-user's advantage in using technology to maximize profits.

Both the length of the project and the number of accidents involving construction workers are reduced with the help of rules and regulations. External organizational elements with policies and procedures have an impact on risk management, which enhances project performance. One of the biggest sources of risk in construction projects is the contract conditions used in the mainstream building sector (Gichunge, 2000). The terms of the contract are established even before the beginning of the project and impact every subsequent phase of the project lifecycle. Project performance is impacted by risk management techniques (Muthoni, 2018). Legal risk management, construction risk management, and contract risk management are among the risk management techniques that have a detrimental impact on the performance of construction projects. However, there is a benefit to design risk management. Adherence to policy criteria, legal approval, and appropriate project design are crucial. It has also been discovered that risk management techniques influence project performance throughout the planning phase (Gitau, 2015).

The government policy and regulation have a moderating effect on the relationship between risk management strategies and firm performance. The regulatory framework in construction industry in Kenya is not optimal and holistic in promoting sustainability (Chege, 2013). The lack of accepted industry model to evaluate sustainability of the program is enhanced by lack of responsiveness and resistance to sustainability issues. Procurement process and communication affects successful completion of road project (Odhiambo et al., 2017).

In a study of influence of regulatory framework on performance of building construction projects, it has been established that architects and quantity surveyors are trained and licensed in planning and design of buildings in Nairobi County (Ndungu, 2015). Enforcement of codes when constructing new buildings can considerably reduce impacts of natural disasters (Spence, 2017). When put into practice in complex environment, enforcement of codes and its implementation can be compromised. Based on experience in the United States, regulations are needed to strengthen existing standard of buildings.

➤ *Monetary/ Financial Risk*

The likelihood of losing money is referred to as monetary or financial risk (Chen, 2019). The potential for a company's cash flow to fall short of its obligations is another definition of financial risk (Scott, 2003). The risk of losing money or valuable assets is known as financial risk. Risk is defined as the potential loss of capital in the financial markets when trading or investing. Stated differently, financial risk is the inherent risk of loss associated with financial services or transactions.

In general, the idea can be used in a variety of contexts, including company management, financial markets, and governmental bodies. Financial management refers to the process of identifying and managing financial risk. According to Campbell (2012), financial risk also pertains to the extra risk that a company's stakeholders assume when the company utilizes debt and equity. Giving money to someone else or some other entity can put you at risk financially. When choosing whether to invest in a specific company, potential financial risk is something to take into account. Regardless of industry or location, one of the main worries of any organization is financial risk. Financial risk typically results from market volatility and losses brought on by changes in interest rates, stock prices, currencies, and other variables (Eshner, 2020). One kind of risk that might cause interested parties to lose capital is financial risk. This may indicate to governments that they are unable to manage monetary policy and may experience bond or other debt default. In addition to the risk of defaulting on debt they incur, corporations also run the risk of failing on an endeavor that would put a strain on their finances.

When people make choices that could endanger their income or their capacity to repay debt they have taken on, they put themselves at risk financially. A number of microeconomic factors, shifts in market interest rates, and the potential for sector or large business default all put financial markets at risk. Another factor that might lead to financial risk is the requirement for outside finance for expansion. This puts the corporation, its investors, and other stakeholders at financial danger. In the context of finance, risk is the possibility that the actual returns on an investment or event will differ from the anticipated returns (Chen, 2020). Financial hazards come in many forms. As per Shankar (2020), the list of risks encompasses the following: business risk, market risk, credit risk, liquidity risk, operational risk, volatility/equity risk, speculative risk, investment risk, country risk, foreign exchange risk, interest rate risk, political risk, counterparty risk, legal risk, currency risk, foreign investment risk, asset risk, inflation risk, and a host of other risks. There are several techniques available for evaluating and managing financial risks. The most popular techniques used by financial advisors to assess risk, especially when it comes to long-term investments or the stock market overall, are quantitative, technical, and fundamental analysis.

The goal of fundamental analysis is to determine a security's inherent worth by assessing every facet of the underlying company, such as its earnings and assets. Technical analysis focuses on using statistics to evaluate stocks; it examines performance data such as share price, transaction volume, and historical returns. Quantitative analysis is the process of analyzing past performance of a business by calculating certain financial ratios. The definition of Chen (2019) will be used in this study in order to examine financial risk.

Numerous academics have focused on the impact of financial risk variables on project performance. According to Mohamed Sayed Bassiony et al. (2015), time performance and cost savings are typically significant factors for the owner, contractor, and subcontractor in building projects. Delays and the inability to finish the work within the allotted budget and time period are the primary reasons for disagreements in construction projects. Financial risk variables in construction projects vary in frequency and can have an impact on project implementation (Agnieza et al 2015). Divergent opinions exist about the detrimental influence of risk factors on project completion (Altoryman, 2014). All agree, however, that external risks have little bearing on project performance and that financial risk is the primary issue. According to Olukemi et al. (2013), the primary obstacles that stakeholders believe impact the construction business include the high cost of building materials, difficulty obtaining a mortgage or credit, elevated interest rates, and a high failure rate of contracting firms. It has been shown that personnel risk, resource risk, and project management techniques all affect a company's success (Ondara, 2017).

The journal of innovative research and engineering Technology, (2018), ascertained that the main activity factors that have a risk impact on project financing performance includes; review of feasibility study documents and site analysis, agreement and contract preparation and pre- construction, marketing and sales, conceptual and pre- design and input management. All factors and risk variables in the planning phases of a project have significant impact on cost performance on the risk variables. The level of revenue, assets and number of employees with cross border experience influence perceived impact on political, social, procurement, design and construction related risks in foreign market (Odeiran, 2016).

The main risk factors to international construction companies in Tanzania includes microeconomic and financial risks including currency rates, governance and administration, operation risks, strategic risks and cultural risks (Waziri, 2014). Risk management is influenced and affected by the following factors in South Africa; company size, education and experience of construction company managers (Aigbavboa et al., 2015). Fatima Wadiwala, (2013), in a literature review found out that construction companies practicing globalization in south Africa are faced with the following risk factors; competition from other global companies, lack of political stability, fraud and corruption, conflicting cultures, impact of foreign exchange, under researched and documented industries, lack of quality assurance and impact of HIV/AIDS.

It has been established that the major construction risk factors considered by all contractors in Qatar includes client group as most critical, consultant, contractor and exogenous group related factors (Theodore, *et al.*, 2015).Saifu Husin et al (2018),in their assessment of potential risk that may arise from time factor in completion of construction project established that risk factors related to project resources include equipment factors as a leading variable, followed by material factors and labor factors completing the list.

There are five significant risk factors that have been identified in construction projects that include supply of faulty materials, poor communication between involved parties, financial failure of contractor, working at dangerous areas and closure (Berenger *et al.*, 2016). Project management practices have significant influence on project performance (Kamiti.FM, *et al.*, 2018). Continuous project monitoring ensures that organizations get value for money invested. Risk management, on the other hand also has influence on performance of SME's (Aminga *et al.*, 2018). Organizations should identify and deal with risks before they impact on projects. Among the project management practices, Scope management is the greatest determinant for successful project implementation, followed by quality management, project resource management and risk management.

Financial inclusion as a component of human economy calls for banking the unbanked as a way to improve the livelihood and financial lives (Maurer *et al.*, 2018). This involves engagement of financial activities such as savings, loaning, hedging and investments. There is an intimate link between these economic activities and individual performances, morality and expressions of desire. Gender relations have been found to influence the structure of organization and operation of finance globally (Young, 2010). Women have been found to be good managers comparatively to their male counterparts. The role of women in finance has been appreciated particularly in the republic of Iceland, where, after the collapse of three banks that were headed by males, appointment of women in such positions showed improvement in financial management (O'Connor, 2008).

D. Stakeholder Involvement.

Targeting particular stakeholder groups, organizations, or individuals who might have a significant impact on a given project is known as stakeholder engagement (Vink et al, 2008). These stakeholders could be individuals who have an impact on the project's result or have the ability to do so. In order to make wise decisions, improve relationships, and produce results that are acceptable and advantageous to all parties concerned, stakeholder engagement aims to obtain their opinions, insights, concerns, and comments (Trappet., 2023). Community engagement and stakeholder engagement are two distinct yet very interrelated concepts. Their foundations lie in engaging with people. Community members can be stakeholders, and stakeholders can also be part of the community. However, it is the distinct differences between the broader definitions of 'community' and 'stakeholder' that truly sets these two processes apart.

Community engagement uses a front-facing and collaborative approach to empower and engage with the public for decision – making purposes. Usually these consultations have a direct impact on the daily lives or well-being of the wider community. Community engagement and stakeholder engagement are related concepts that involve interacting with various groups. But they have distinct focuses and scopes (Vink., et al,2008). Community engagement interacts with broader groups, including residents and local organizations, aiming for more inclusive communication and shared project ownership. On the other hand, stakeholder engagement build relationships with influential entities tied to a project, focusing on effective communication and alignment of goals. Both approaches enhance collaboration and decision –making.

Community engagement includes educating, counseling, collaborating with, and sometimes even empowering the general population (Trappet., 2023). Usually, residents, business owners, and community organizations become involved to address certain issues and make more informed decisions. In contrast, stakeholder involvement takes into account the concerns, expertise, and viewpoints of a wide range of stakeholders, such as trade associations, government agencies, and landowners. You need to strike a balance between community and stakeholder engagement, depending on the project and circumstances. Projects can improve their comprehension of their effects and make decisions that benefit all parties involved by incorporating the insights from the two techniques.

Gaining the trust of the community during the planning process and effectively communicating the project's goal are essential for involving stakeholders and fostering community support (SEH Engineers, 2024). As the project moves forward, you have a better chance of getting the support of important stakeholders if you get in touch with them frequently. Project managers engage the public in a two-way process that aims to better understand the needs, values, and objectives of the community. In the end, this procedure can boost community support for project implementation, create enthusiasm, and enhance project design. There are five strategies to include stakeholders and win over the locals to a project. According to Engineers (2024) these include determining the appropriate stakeholders, creating a plan for community participation, emphasizing equitable engagement, utilizing various engagement technologies, and including stakeholders frequently and early on.

Successful completion of a rural community project is a renowned challenge (Usadolo and Caldwell, 2016). Since projects are carried out on communal land, there are a number of possible causes of challenges, including limited community decision-making capacity and difficulties in administering communal property (Zikergae et al., 2021). Furthermore, political settings have an impact on government organizations, which frequently handle information. To administer community projects, cooperation and

comprehension are needed (Zikergae et al., 2021; Saengsupavanich et al., 2012). All levels of stakeholders must participate for the project to succeed. Through the joint involvement of common people, the media, environmentalists, academicians, and scientists, stakeholder participation in decision-making facilitates citizens' exercise of their democratic rights (Richardson and Razzaque, 2006). To solve problems, collaboration is a communication approach that promotes discussion among stakeholders as opposed to advocacy and conflict resolution.

According to Walker (2007), open and honest communication—usually through discussion—with an emphasis on power sharing and equitable playing fields characterizes collaboration. Involvement of stakeholders improves the legitimacy and quality of decision-making, which improves outcomes regarding environmental and livelihood issues in rural communities (Coenen, 2009). Understanding and consensus are thought to be enhanced by fostering a sense of community ownership, setting priorities for needs and interests, recognizing issues and concerns within the community, assisting with planning and implementation, and encouraging active engagement. According to Berry et al. (2019), stakeholder participation also builds and invites spaces. Members of a project community, for instance, have their own culturally constructed venues, such cultural institutions, which support more public involvement in decision-making.

In the current study, the terms "community participation" and "citizen participation" are combined under the phrase "stakeholder participation" (Zikergae et al., 2022). In order to include the community and other stakeholders, we operationalize the term "stakeholder participation." Stakeholder engagement is the term used to describe people's involvement in community projects. The kinds of community projects vary according to what has to be done. Involvement in community projects facilitates problem solving for stakeholders. This is seen as a fundamental human right and a cornerstone of democracy. In integrated community projects, it is crucial. The general presumption is that accepting responsibility, understanding, making decisions, and offering ideas are all worthwhile actions. A community that possesses a great deal of expertise, pride, empathy, and knowledge is sometimes disregarded or ignored.

There are two aspects to stakeholders' involvement in policy decisions (Simmons, 2007). In particular, the level of desired participant interaction and the degree of political decentralization or shared power. To give the idea that citizens are actively involved, participatory communication initiatives often employ a pseudo-participation approach. But in order to fully participate, every individual must have a voice in the decisions made. The provision of information, addressing information gaps, problem-solving and social learning, the contestability of information, the empowerment of marginalized groups, democratic practice, and capacity building are all ultimately included in the participation of stakeholders as input for decision-makers (Faircheallaigh, 2010). Information sharing, consultation, and stakeholder participation as decision-makers are the three overlapping components of stakeholder participation.

The ultimate goal of a two-way conversation and involvement is better decisions supported by the public (Creighton, 2005). In a broader sense, stakeholder participation refers to the process by which concerned and interested parties work together and are consulted. The key components of involvement take into account each project phase as a whole. Pre-planning entails determining needs and identifying issues. Problems are identified through cooperation with the community and other stakeholders. At this point, stakeholder participation is crucial. By including stakeholders at every stage, project difficulties can be resolved throughout. The project's entire cycle necessitates mobilization, training, raising awareness, and communication.

There are several clear advantages to stakeholder participation, as the 2030 Agenda (Berry et al., 2019) and other discussions on the topic attest to. Stakeholder involvement essentially resolves social problems, enhances legitimacy, controls democracy, raises responsibility, and improves process quality (Zikergae et al., 2022b; Reeds, 2008; Berry et al., 2019; Bastidas, 2004). A number of elements influence or enhance stakeholder participation. According to Reed et al. (2017), these variables include social, economic, cultural, and attitudinal aspects that influence the effect of participation. Moreover, involvement may be impacted by the manner in which a community creates knowledge (Reed et al., 2017). Important restraints include relational abuse, lack of engagement, ineffective communication, tight finances, miscommunications, delays, mistrust, and information sharing (Saengsupavarich et al., 2012). These elements have a significant impact on how the decision-making process turns out. It also enhances how policies are carried out. Because of this, it gains credibility (Berry et al., 2019). Julian Endelenbos and Erik-Hans Klijn (2006) found that high expectations for interactive decision-making are not always fulfilled in their study on managing stakeholder involvement in decision-making. It also demonstrated how crucial interaction management—also known as process management in network theory—is to getting desired results.

E. Project Risk Register

The development of a risk register is considered to be a periodical update of risk identification, analysis and a management plan for the Kenya affordable housing development scheme. The primary reason is to evaluate the possible risk level changes due to emerging threats to the Kenya affordable housing program in Kisumu County and the general construction environment. During the project planning phase, the Kenya affordable housing development framework, (2018), identified various risk factors that were likely to influence the affordable housing program including; site risk, Design, construction and commissioning risk, financial risk, operations and maintenance risk, Demand risk, regulatory risk, Force majeure risk, insolvency risk, right of way/land acquisition risk, inflation risk and foreign exchange risk, sub-contractor risk and interface risk. However, before actual implementation of the

project in Kisumu County, certain unfavorable events have been reported which might have a negative or positive influence on the project based on stakeholder perceptions to be analyzed (KNA, December, 11, 2020).

In a project or any other organizational set up, there arises a need to prepare for unfavorable circumstances. Although unfavorable circumstances are unpredictable, those in charge of management need to prepare actions that can prevent or solve such unpredictable events when they occur. Every project or organization needs to have a plan to manage risks. Such plans will assist in forecasting risky events and thereby estimating impacts and responses. Such cautionary measures will enable a decision to be made on the course of action in case of occurrence of any risk. After creating a plan to manage risk it is prudent to create a tool that can be used to record risks that are identified, how severe they are and actions that need to be taken to reduce or eradicate the risk. The tool can be developed in various forms including a simplified document spreadsheet or a database system. In such documents, one can list down whatever has been mentioned before. This tool will assist in reviewing and updating processes that identifies and manages risk downwards to acceptable levels. This tool is called a risk register.

One instrument that is frequently used in project management and risk management is a risk register (Lavania, et al., 2008). Typically, this tool—also known as a risk log—is developed in the early phases of a project. An essential document for risk management planning is the tool. A risk register helps to identify possible hazards in a company or project. It makes it easier to track and record issues, which helps to solve problems as they arise. A risk register may be created in order to comply with regulatory standards; it is a vital instrument for monitoring important matters that could impede your results.

A project's recognized hazards are listed in a risk register (Basu, 2017). To put it another way, it's the recorded reaction to potential events that can prevent a project from reaching its objective. First, risks related to operations and organizational strategies are identified and ranked according to how likely and severe they are to occur. A few things a risk registry ought to have are the following: a succinct explanation of each risk, together with its possible effects, elements that could increase or decrease its chance, a risk grade system (low, medium, high, extreme, etc.), risk acceptability, current and suggested risk mitigation strategies, key risk indicators (KRIs), and upward reporting considerations.

Every operation carries some risk, and creating a register makes it easier to manage a project with working sections. While it is impossible to foresee every scenario that could go wrong during a project, projected planning allows one to act swiftly in the event that risks materialize into issues that could derail the entire endeavor. A master document prepared in the early phases of a project is called a risk register, sometimes known as a risk log (Chief Information Officer Staff, CIO, 2011). It is a tool that helps keep track of problems and deal with them as they come up and is crucial to any risk management plan. Typically, a risk register is disseminated among project participants to keep everyone aware about potential problems and to monitor how issues are being addressed.

The registry can be used to identify potential hazards associated with new projects and to recommend actions for resolving issues. A risk register is a document that includes data on hazards that have been discovered, a risk severity analysis, and an assessment of potential remedies. The simplest approach to organize this data is typically to present it as a spreadsheet, which makes it easy to find and utilize important information fast. The definition of a risk register used in this study is based on the Project Management Body of Knowledge, Fourth Edition.

The simplest method of managing risks is to display a risk register as a spread sheet (Heldman, 2016, chap 6). The Microsoft risk register template is one such. Risks that are identified are noted on the register along with the responses to those risks. After every project phase, the responses listed on the risk register should be routinely examined to track developments. The risk manager may need to consult specialists in order to fully address a risk and choose the best course of action for lowering the risk or impact. The four main steps of risk management are addressed in the risk register: identifying the risk, assessing its severity, putting potential solutions to it, and tracking and assessing the success of any further actions.

Prioritizing risks involves determining which ones are significant based on project priorities and assigning a grade (high, medium, low, etc.) to each risk in order of importance. Assigning an owner to every risk—that is, risk ownership—is the final step. This will vary based on who discovered the risk. It's also crucial to remember that a risk register should include an additional column set up to hold notes that don't fall into the previously mentioned categories. It is your responsibility to establish a location for these concepts so they don't get lost in the never-ending whirlwind that is a project.

Plans for risk response and mitigation, including residual risks, are designed to reduce the likelihood that a risk will materialize or the effects it will have if it does (Meredith et al., 2011). When combined, they form a portion of the risk planning procedure. After hazards have been identified and examined through the creation of a risk register, the risk planning process takes place. The query "What are we going to do about it?" has a response because of this. Put another way, the following stage is to implement plans or strategies to reduce the project exposure to these risks as much as feasible in the most economical way after we have an idea of the potential risks and their predicted impact. Setting a strategy for each risk—which can include Avoid, Transfer, Mitigate, Accept, Escalate, Enhance, Exploit, and Share—is how PMI defines this.

Eight crucial reaction techniques exist (Fahd, 2018). When a danger is critical, the "avoid" risk response technique is employed. "Mitigate" is the approach to take in order to reduce the risk's impact to a manageable level. When you are unable to manage a risk on your own, you employ the "transfer" risk response approach. "Escalated" is the fourth risk response tactic. When a risk exceeds your capacity, this is used to manage it. The "accept" risk response technique comes next on the list and is employed when a risk is not significant or developing a solution would be prohibitively expensive. Use the "exploit" risk response technique to ensure that the opportunity is taken advantage of. The 'share' risk response technique, which is implemented when you wish to take advantage of an opportunity but are unable to do so alone, sums up the list of risk response tactics.

A risk register is a management tool used to prepare and mitigate unfavorable impacts that could cause a project's performance to falter. Since risk is an unpredictable occurrence, it may be detrimental to a project if it occurs without a prior plan. It should be mentioned that no risk governance model can be said to fit the other models the best. Selecting the appropriate degree of risk management will require a significant investment of time and resources. According to Renn and Klinke (2016), risk researchers concur that effective risk assessment and management draw from a variety of sources of information about a number of factors, such as the extent of harm, the likelihood that it will occur, the remaining uncertainties, the length of time that the harm will occur, the geographic and temporal spread of the harm, and the possibility of mobilizing those impacted.

Simplifying complex data and using proxies when necessary are necessary for risk assessment and management (Hutter, 2017). The understanding of what poses a risk and what kind of response is suitable is rapidly evolving. According to Cedergren and Tehler (2014), researchers typically distinguish between perceived and objective dangers. Researchers have tested the technical risk assessment's objectivity. They have discovered a variety of biases that impact risk identification and estimation, in addition to ethical and societal factors (Rosa, 1998, Viscusi & Zeckhauser, 2015). As a result, knowledge of risk possessed by individuals other than technical experts—such as members of the general public who are impacted by the risk—is now given greater weight (Poortvliet et al., 2016). Remember, nonetheless, that a deeper understanding of what defines a risk and how it should be addressed does not, by itself, offer a manual for efficient risk management (Shepiro & Glickman, 2003, Van Asselt & Renn, 2011).

A fundamental epistemic obstacle in risk governance is the finite ability of humans to handle probabilities and uncertainty. We hastily draw inferences about danger based on incomplete or erroneous information (Van Coile, 2016). Risk researchers advocate moving away from a static view of risk and toward a more dynamic understanding of degrees of uncertainties in order to prevent poorly conceived risk governance solutions that rely too heavily on either objective or perceived risks and risk knowledge. They also call for a shift from risk aversion to trial-and-error risk-taking, which fosters resilience and enables learning from misfortune (De Vries & Boeckhout, 2015, Wildavsky, 1988).

Participatory risk governance enables risk assessment and the creation of actions that expand on the expertise of scientists, technocrats, technical experts, and laypeople (Lodge & Weighrich, 2012). The academics advocate for a shift in risk governance from a societal-political model to an instrumental-rational one. Social groups are not impacted by risk in a proportionate way (Beck, 1992). Some researchers contend that not everyone is equally affected by dangers. They continued by warning that dangers are placed on people or groups by the acts of others rather than something they voluntarily choose to do (Lodge & Wegrich, 2012). Conversely, risk reactions that some people want might not be good for other people. In light of these advancements, risk experts have started to suggest risk governance procedures that are more inclusive and participatory.

Risk researchers (Assmuth, Hidden & Benghaus, 2010) have developed an integrated paradigm that connects risk assessment and risk management. It has been discovered that separating the two processes is ineffective for controlling and managing risk (Van Asselt & Renn, 2011). A detailed framework for risk governance has been proposed: International Risk Governance Council Framework (IRGC) (Aven, 2011, Aven & Renn, 2010; Renn, 2008; Renn & Klinke, 2016). The four stages of risk assessment and management that this framework builds upon are: pre-assessment (risk identification and framing); appraisal (assessment of technical and other causes of risk); characterization and evaluation (making judgments about risks and the need to manage them); management (decision making and implementation of risk management options); and cross-cutting aspects (involvement of stakeholders, ongoing communication with stakeholders and consideration of regulatory context in all the above phases).

Numerous risk experts have demonstrated the fluidity of risk (Poortvliet, Duineveld & Purhagen, 2016, 2017). Humans' perceptions of risk are always going to differ depending on the circumstances. There is a risk when risk management techniques are implemented with insufficient tools, processes, and solutions. Scholars advocate for a paradigm change in risk analysis and assessment. Prominent academics are suggesting that the high value placed on hard probabilities derived from objective quantitative data gathered by technical experts be shifted, or at least somewhat mitigated, and that subjective qualitative data and layperson knowledge be included in the risk assessment and management process. A test of the objective probability of injury multiplied by the objective impact of harm in mythological status has made this necessary.

Several studies have documented the influence of this risk management tool on performance of projects and more so, the construction projects. A risk management plan will document how one will be able to handle risk in a project (Parker & Mobey, 2004). It highlights how one will assess risk including responsible person and the frequency of risk planning. The National Research Council, (2005) points out that the main functions of a risk register is to support management decisions and actions and thereby

avoiding delays. A risk register is a document for apportioning responsibilities for managing specific risks and for monitoring and reporting the status of risks. Project uncertainty can moderate the effects of project planning and control on process performance (Liujun, 2010).

It has been confirmed by Ondara, (2017) that project risk management strategies have significant influence on performance of a project or firm. Risks registers are used by project managers as confirmed by (Saffin *et al.*, 2012) and are very effective in the management of project risks. The front and feasibility stages of a project are the most crucial phases for using risk registers. The risk register is a vital component of the risk response planning of the decision-making machinery. In their study, (Sahand *et al.*, 2016) espoused that risk register and evaluations are vital for management of small organizations at the initial stage of risk identification and assessment. Risk management has been determined to have an influence on project success and risk management process (Junior & Decavalho, 2012). This has also been confirmed by (Kishk & Ukaga, 2018), who in a case study established that there is a direct relationship between effective risk, management process and project success.

The establishment of a risk-sensitive organization, formalizing risk reporting, sharpening the emphasis and perspective on risk-on-risk efficient resource use, and, last but not least, compliance-related issues are all impacted by project risk management. The most crucial instruments for an organization to execute risk management operations are risk registers and risk management frameworks (Naphade & Bhangale, 2013).

F. Project Performance Intermis of Time, Cost and Quality Performance

➤ *Project Performance*

Project performance can be used to determine a construction project's level of success (Tiong Kung Leone *et al.*, 2014). Project complexity, contractual agreements, participant relationships, project management skill, and the capabilities of key project participants are only a few of the variables that will affect a project's performance. The most popular technique for gathering and reporting data about the inputs, efficacy, and efficiency of a building project is performance measurement. Measurements are also essential for monitoring, predicting, and managing the critical variables at the end of a project to guarantee success. Cost and quality are now widely acknowledged as the primary or important measures of project performance measurements (Chan and Chan, 2004). On the other hand, it has been suggested that a project take into account additional criteria. Among the requirements include sticking to the budget and timeline, producing high-quality work, satisfying stakeholders, ensuring safety and health, and transferring technology. The literature has identified five key variables—cost performance, time performance, quality performance, safety and health, and client satisfaction—that are used to measure project performance (May *et al.*, 2018).

➤ *Cost Performance*

According to Bubashit and Almahais (1994), cost performance is the extent to which overall conditions encourage a project to be completed within the projected budget (Tiong Kung Leon *et al.*, 2014). It includes all expenses incurred from the start of the project to its conclusion. The method most frequently used in the construction industry to measure a project's design performance is cost variance. The cost variance technique encompasses not only the computation of the tender sum but also the total expenses incurred over the life of a project. According to Tiong Kung Leone *et al.* (2014), the total expenses include all expenditures related to variation or modification work as well as any associated costs with any legal claims, including arbitration or litigation, during the building phase. Shoreh Gorbani (2018) promoted the performance-based cost-forecasting approach, which uses earned value management to forecast a project's final cost. A well-known method for project time and cost performance prediction and control, including ultimate project cost, is earned value management. The projected value, sometimes referred to as the performance measurement baseline, is formed by allocating the project's approval budget across the course of the project. The approved progress-based budget for the project, sometimes referred to as the budget at completion, should always match the overall anticipated value. In the construction business, project control procedures heavily depend on the ability to forecast project cost performance (Siti Rashida Mohd Nasira *et al.*, 2006). In order to produce accurate and timely findings and, consequently, provide early warning of cost performance overruns, cost and effective methods must be combined with forecasting project cost performance at completion, cost variances in project performance, and other essential factors.

According to Byung-Cheo Kim *et al.* (2015), accurate cost estimates are crucial for efficient project management and cash flow management both within the project and at the corporate level. Traditional methods of project cost forecasting depend on comprehensive data created for a particular project. Cost overruns are frequently the outcome of insider knowledge or bottom-up estimations. It is suggested that the outside, or top-down, perspective of the project—which is based on statistical models of past project data—should be combined with the inside-view project cost estimates to make adjustments. The percentage of net variation over final cost is used to measure cost variance in terms of unit cost (Tiong Kung Leone *et al.*, 2014). A number of studies have utilized cost variance as a gauge for building project performance. In addition to cost variance, a project's performance has also been measured for dependability and confidence in the outcomes using the cost performance index. For the purposes of this study, cost performance will be measured using cost variance, which is defined as the projected difference between the budgeted overall cost (Kenya shillings 3.8 billion, or around, for two years) and the predicted actual overall cost and stakeholder satisfaction.

➤ *Time Performance*

Time performance is the length of a project, and delays are common in projects (Ollows, 2012). The first criterion to gauge a project's success from the standpoint of clients and end users, stakeholders, or the general public is its completion date (Tiong Kung Leone et al., 2014). Because of this, while evaluating success from a micro perspective, it is imperative that the building project be finished on schedule. In the construction sector, time variance has been proposed as a method of project performance evaluation. The earned value management methodology was defined by the Project Management Institute (PMI, 2008) as a means of integrating the project's scope, schedule, and resources as well as of objectively monitoring the project's performance and progress from the beginning to the end. Value Earned Management assesses where a project is in relation to its intended state using three fundamental performance variables: earned value, real cost, and projected value. When taking into account the impact of such events as inherent uncertainty in the plan and in the plan's implementation, it is challenging to estimate an accurate project completion time (Abdel Azeem et al., 2013). Construction frequently faces a great deal of uncertainty on a number of fronts, including quality, safety, cost, and schedule. Owing to the nature of building projects, schedules must be adaptable enough to take into account alterations without adversely influencing the project's total duration.

Long Le Hoai et al. (2013) found that six variables—the condition of the subterranean site, project management tasks, estimating tasks, subcontractor competency, accuracy and completeness of design, and owner's project financing—were significant in determining the time performance of building construction projects in Vietnam. Since it serves as the foundation for budgeting, planning, monitoring, and litigation purposes, accurate project time and cost projection is crucial to contract administration (Monday Otali et al., 2018). For the purposes of this study, stakeholder satisfaction and construction time variance—that is, the difference between the anticipated completion date of 1950 housing units within two years and the project completion time—will be used to measure time performance.

➤ *Quality Performance*

Quality is defined as the totality of features required by a product or service to satisfy a given need; fitness of purpose (Tiong Kung Leon et al., 2014). Quality in construction industry emphasizes the capability to establish requirements with conformance to the quality standard. Client predefines quality standard requirements in contract agreement and requirements consist of the established characteristics of products, processes and services. All the parties involved in the project must fully understand those requirements and expectation in order to achieve a complete project that meets client's quality expectation. According to Tiong Kung Leon et al. (2014), quality is the sum of the attributes needed by a good or service to meet a certain demand; it is also known as suitability for purpose. In the construction sector, quality refers to the capacity to set standards that are in line with the quality standard. In the contract agreement, the client predefines the quality standard requirements, which are made up of the defined features of the goods, services, and procedures. To produce a finished product that satisfies the client's quality expectations, all parties participating in the project must have a clear understanding of those criteria and expectations. Quality is influenced by a number of factors, including the quantity of variation orders issued, the quality and prior performance record of contractors, the experience of project consultants, and the degree of project monitoring (Kishiwagi and Parma, 2004). Achieving adequate quality performance would depend on how well these aspects could be coordinated. It is the duty of the project management team leader to make sure that all of these elements work together to produce high-caliber results. An ISO 9000 certified company's nonconformance report can be used to gauge quality performance. Furthermore, taking the contentment of the client into account can help assess quality performance. For the purposes of this study, the quality performance measurement will be based on a prediction of whether 1950 housing units will be completed in accordance with project specifications within a two-year timeframe. This prediction will include approval, handover of the houses to the offtaker (in the event of nonconformance), and stakeholder satisfaction.

G. Theoretical Framework

Subjective assessments of the nature and seriousness of risk are common in human judgment. This is known as the perception of risk (Darker., 2013). The most often used term to describe natural disasters and health and environmental risks, such as nuclear power, is "risk perception. The focus of the study is on the opinions of stakeholders who will be estimating how serious they believe certain threats to be. Therefore, in order to investigate how stakeholders perceive the risks that are anticipated to affect the implementation of affordable housing projects, this study has chosen to focus on the psychometric theory of risk and stakeholder theory. The relationship between the two theories is that the psychometric paradigm takes into account the emotional and cognitive aspects of risk perception, while stakeholder theory controls the expectations and goals of stakeholders which has to do with their emotional and cognitive feelings.

➤ *Psychometric Theory of Risk*

British psychologist Charles E. Spearman (1863–1945) developed one of the first ideas of psychometrics and released a significant paper on intelligence in 1904. Karl Pearson, Thurstone, George Rasch, and Arthur Jensen are among the prominent figures in the field of psychometrics. The process of putting numbers on both seen and unobserved psychological events is known as psychometrics (William, 2017). This area of research focuses on the theory and practice of psychological assessment, which encompasses the evaluation of talents, knowledge, attitudes, and personality traits. The main focus of this branch of study is the examination of individual differences. The creation of measuring tools and protocols as well as the formation and improvement of theoretical approaches to measurement are the two main goals of psychometrics research. Economic and psychometric theories frequently use complex approaches that use a large number of instances to ascertain the features of a population. Psychometrics

matters for studies of individual differences as much as for experiments. Numerous problems with reliability, validity, latent features, scaling, item analysis, freedom from response sets, and guessing effects plague the majority of dependent measures in the most rigorously controlled studies (JUM., 1994). These problems are intimately related to psychometric theory and methodologies.

The psychometric theory of risk generates quantitative representations of risk attitudes and perceptions through the application of multivariate analysis techniques and psychological scaling (Slovic, 1997, p. 237). Whether danger is an objective idea in reality, a social construct, or an individual's subjective experience is up for debate (Lupton, 1999, p. 22). While stressing that anything might be a risk, Ewald (1999) contends that nothing in and of itself is a risk and that there is no actual risk. According to Slovic (1999), risk does not exist outside of our thoughts and societies (Ewald, 1999). He continued by explaining that risk is a significant concept that was created to help people survive.

The psychometric theory of risk generates quantitative depictions of risk attitudes and perceptions using multivariate analysis techniques and psychological scaling (Slovic, 1999). In reality, the psychometric risk perception model is a cognitive map of social risk perception divided into familiar and dreadful risks. Psychometric risk (Starr, 1969) originated from the stated preferences approach, which weighed social advantages over technology risk. A measurement of dread risk is a calibration along a horizontal axis that expresses how much a danger is comprehended and how much it makes one feel fearful that something horrible will happen compared to values on the left of the scale.

Experts are not always any more adept at assessing probabilities than the average person, according to another important result. Experts frequently overestimated the accuracy of their estimations and place undue reliance on short data samples. The psychometric paradigm is a quantitative approach that makes use of broad techniques and a large number of cases to ascertain the characteristics of a population. This research focuses on the theory and practice of psychological measurements, which include attitudes, perceptions, and other concepts. The study of individual differences is the primary focus of the discipline of psychometric theory, which will help this study develop and improve its theoretical framework and testing techniques. This paradigm will help this study with data processing and interpretation using factor analysis, other multivariate analyses, correlations to assess links between independent and dependent variables, and significance testing to test the hypothesis.

The paradigm will establish the measurement tool's credibility through the following criteria: item analysis, reliability, validity, scaling, and freedom from guesswork in response sets. All of these criteria are strongly related to psychometric theory. The deductive model of psychometric theory, which is relevant to this study, is concerned with the formulation of a hypothesis and its subsequent testing. The psychometric paradigm takes into account the emotional and cognitive aspects of risk perception. Psychometrics currently encompasses all statistical techniques that are helpful in the behavioral and social sciences, such as combining previous information, handling missing data, measuring data, measuring data from specific experiments, visualizing statistical results, measuring data that ensures privacy, etc.

One of the theoretical models created to describe how people interpret risk information and how they decide what to do about it is the psychometric paradigm. The psychometric paradigm has improved our understanding of the intricate psychology underlying people's risk perception because there are two main dimensions to risk perception: the cognitive dimension, which measures people's knowledge and understanding of risks, and the emotional dimension, which measures how people feel about risks. It has also aided in the explanation of why some risk issues—even when they are not—are viewed as more significant than others (Paek, 2014).

➤ *Stakeholder Theory*

Organizational theorist Ian Mitroff was the first to define stakeholder theory in his 1983 book *Stakeholders of Organizational Mind*. Shortly after, philosopher and business administration professor R. Edward Freeman published a piece on stakeholder theory in the *California Management Review* in 1983. Instead of citing Mitroff, Freeman cites talks at the Stanford Research Institute that address stakeholder theory. According to Belle et al. (1998), the theory of stakeholders postulates that individuals with "stakes" in an organization engage with it in order to facilitate its functioning. It is a theory that clarifies how organizations behave in relation to different constituencies that they are inextricably linked to.

The definition of the stakeholder idea and the categorization of stakeholders into groups that enable comprehension of the relationships between specific stakeholders have been the main foci of stakeholder theory development. According to Dr. Edward Freeman, a stakeholder is any group or individual who has the potential to influence or be impacted by the accomplishment of the company's goals and who maintains the definition of what qualifies as a stake. He contends that depending on a firm's actions, a stakeholder could gain or lose anything since they have some type of capital—financial or human—at risk. Waddock (2002) adds a connection to a tether to these components, forming a kind of link. Understanding the many forms of stakeholder impact as well as how organizations react to those influences is necessary for developing an organizational stakeholder theory. Those involved are crucial. They have a stake in an organization or initiative succeeding and sponsor it. This does not imply, however, that they just watch aimlessly. They can have a beneficial or bad impact on a project based on their actions, and they are frequently engaged (Megan, 2019).

Different stakeholder groups that organizations deal with combine to create a distinctive pattern of impact. In a project or organization, stakeholders have the power to affect everyone and everything. It is your responsibility as a manager to give priority to and concentrate on the most crucial stakeholders—those that possess authority, are nearby, and have an urgent need (Megan, 2019). According to Ambler and Wilson (1995), businesses react to the interaction of many effects from the whole stakeholder set rather than just one stakeholder at a time. Stakeholder theory covers more ground than meets the eye. According to Donaldson and Preston (1995, p. 6), "the idea that corporations have stakeholders has now become common place in the management literature, both academic and professional."

According to E. R. Edward Freeman's (2018) stakeholder model, managers have responsibilities beyond only answering to shareholders. They must also take into account any group or individuals who may be impacted by or have an impact on the accomplishment of the company's goals. The stakeholder theory perspective of the company's rivals, communities, consumers, workers, financiers, political groups, suppliers, trade associations, trade unions, media, governmental groups, environmental groups, oversight organizations, vendors, contractors, banks, and shareholders is included when he redraws the conventional input/output model of the business.

There is disagreement about the list of stakeholders and some people continue to disagree on what constitutes a stakeholder. Academic writing is not exempt from dispute. The majority of the publications and papers on the topic name Freeman as its founder. According to this perspective, an organization's corporate environment is an ecosystem of interconnected groups that must all be taken into account and satisfied in order for it to be profitable and healthy over the long run.

The social contract theory, the market economy, and corporate social responsibility are only a few of the morals and values that are addressed by the stakeholder theory of organizational management. The most intriguing and practical feature of stakeholder theory is how all-encompassing its methodology is. According to Jeffrey et al. (2015), it promotes treating all parties involved fairly, honestly, and even giving generously. Stakeholder theory-adopting companies commit more resources to meeting the needs and demands of their genuine stakeholders than to the pitiful resources intended only to keep them actively and voluntarily involved in business-productive activities (Harrison, Bose & Phillips, 2010).

The theory of stakeholders differs greatly from the theory of corporate social responsibility (Hillman & Keim, 2001). The theory was created to support organizational conduct or policies linked to social objectives like environmental preservation or corporate philanthropy. This theory is based on treating stakeholders morally (Freeman, 1954). A component of the broader stakeholder management is the theory. By controlling their expectations and goals, it fosters positive connections with stakeholders (Megan, 2019). According to Bourne and Walker (2005), stakeholder management is a constructive way to address stakeholders' issues and build strong, long-lasting relationships in dynamic situations.

To keep this process under control, a strategic strategy is needed. Identification of stakeholders, including their impact and areas of interest, is the first step in stakeholder management. A communication strategy is then created to enlighten them. Setting priorities for stakeholders provides a framework for handling them in the best possible way. This does not imply that some things are more significant than others. An efficient strategy plan must be developed in order to manage stakeholders (Megan, 2019). Recognize their financial or emotional stakes in the project's success, as well as their driving forces, information needs, preferred methods of information delivery, opinions on the job you are doing, and the people who have an impact on them.

Employing a variety of strategy combinations, organizations or enterprises who intend to connect with many stakeholders in order to satisfy them in the best possible way—despite their constantly conflicting influences and expectations—should do so (Chinyio & Akitonye, 2008). Stakeholders have varying degrees of power and interest, which determines their influence. This makes the problem more complicated. As a result, it's critical for an organization to comprehend its stakeholders' perspectives at every phase of the project lifecycle in order to respond appropriately. Concerns from stakeholders can be addressed using a number of tried-and-true methods, such as communication, negotiation, trade-offs, providing incentives, and making concessions (Chinyio & Akitonye, 2008). Since there is no one technique that is better than the others, these strategies can be utilized interchangeably. Their application is based on effectiveness.

Researchers have created tools for analyzing stakeholders. These comprise social network analysis (Bourne & Walker, 2006, Rowley, 1997), the stakeholder matrix (Chinyio & Olomolaiye, 2010, Newcomb, 1999), and the stakeholder circle tool (Bourne, 2005). For the development of sustainable projects in industrialized nations, the instruments are advised.

Every project has specific metrics for determining its level of success, and these parameters are influenced by a number of essential aspects. To be effective, managers need to practice these crucial areas of planning and action (Seraph et al., 1989). Activities and variables that both directly and indirectly guarantee stakeholder management are critical success factors for stakeholder management. Conversely, important barriers are those that impede the accomplishment of project objectives related to cost, schedule, and quality as well as effective stakeholder management (Yang, 2010). The management groups that oversee stakeholder identification, stakeholder assessment, decision-making, action, evaluation, and ongoing support contain the factors.

Five other significant obstacles include the project manager's expertise in managing stakeholders, the use of public procurement, the politicization of projects, project delays, and inadequate project planning and execution (Eyiah. et al.,2015).

Stakeholder theory manages to gain notoriety outside of the domains of corporate ethics. One of the frameworks for corporate social responsibility approaches is this one. Stakeholder analysis is used, for instance, by GRI (Global Reporting Initiative) and ISO 26000. Weiss J. W. (2014) shows how stakeholder analysis and problems management techniques can be used in tandem to analyze societal, organizational, and personal ethical conundrums in the field of business ethics. Getting input from all parties involved is crucial in ensuring that a project is shaped for success. According to Freeman, building a robust ecosystem is necessary for a business to succeed over the long haul. Stakeholder theory applied well results in positive public relations as well. Theory encourages a realistic, economical, effective, and moral approach to managing organizations—even in extremely complex and volatile environments (Freeman, 1984, Harrison & Wicks, 2007). This theory will be used in this study to determine whether the affordable housing program's organization will take the fundamentals of this theory into account while putting the program into action.

H. Gaps In Knowledge From Literature Review

The literature review revealed that various studies have focused on risk management at different levels of the project management cycle. A majority have focused on risk management at the planning phase. Very few studies have focused on risk management at the execution stage and more so, on external risk factors. Considering perceptions towards risk, the studies have mainly focused on the perceptions of project managers, contractors, architects and other experts in the construction industry (Xiao, Jop, Yuze, 2010). Little focus has been on lay people/ordinary stakeholders or stakeholder perceptions towards risk at the execution phase of the project cycle. Limited studies have focused on stakeholder involvement and attitude towards risk on affordable housing projects in Kisumu County. This study aims to fill these gaps by exploring the influence of stakeholder risk perceptions and involvement towards the implementation of affordable housing projects in Anderson Ofafa Estate, Northern Sub-location, Kisumu Central of Kisumu County

I. Conceptual Framework

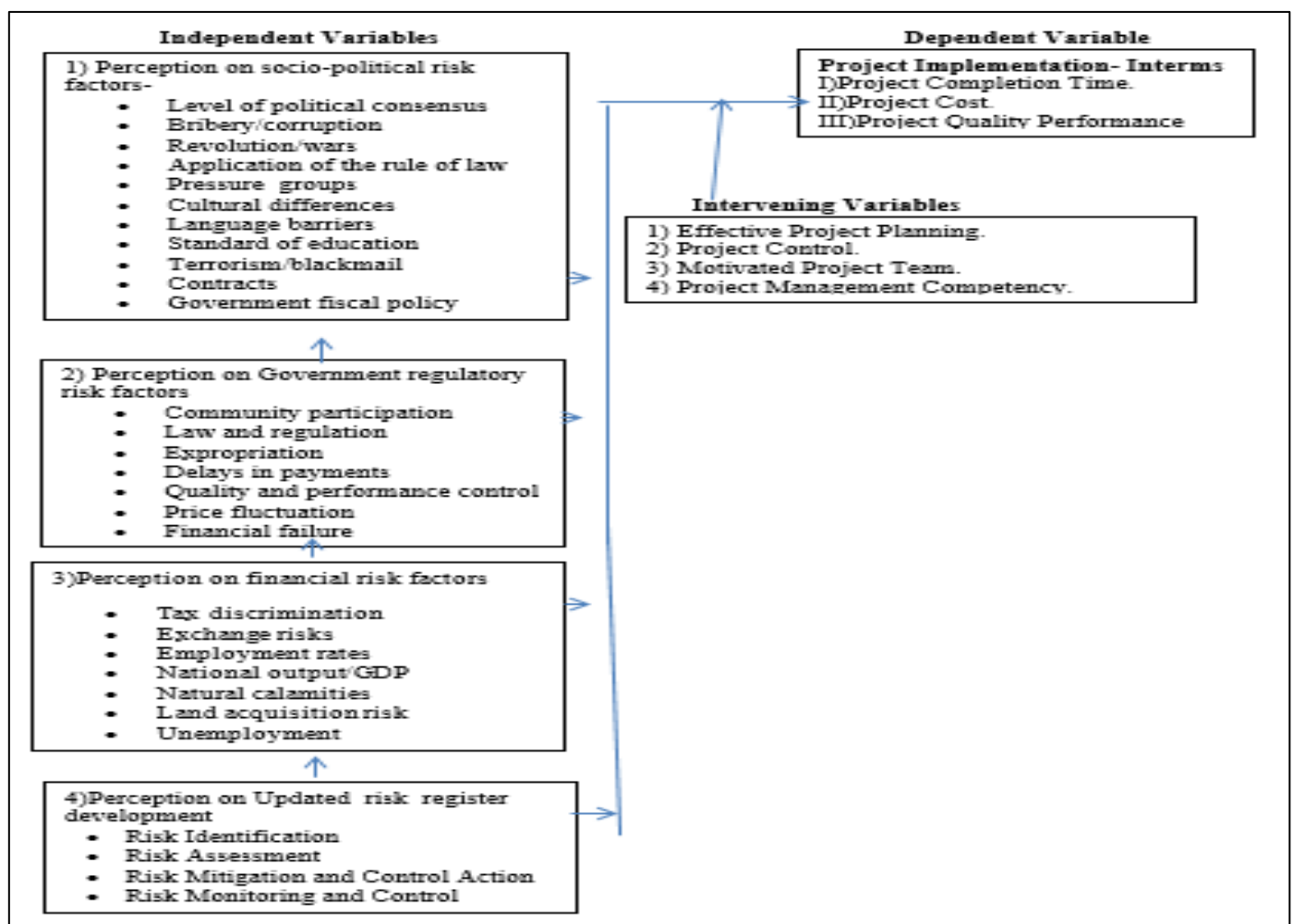


Fig 1: Conceptual Framework Showing the Relationship between Stakeholder Risk Perception, Involvement and Project Performance

➤ *Relationship Between Variables*

Figure 1 above illustrates the conceptual relationship among the variables under the study. The independent variables including; 1, 2 and 3) Risk perception interms external risk factors including; socio-political risk, regulatory risk, and financial/monetary risk, and 4) Development of updated risk register are put into operation by use of various indicators listed under each variable. These variables are expected to influence the performance of the affordable housing project through intervening influence of project planning, project control and motivated project team. Project performance is operationalized through project cost, project completion time, and project quality performance.

The relationships between all the independent variables and project implementation performance as dependent variable, is predicted to be either negative, positive or both. When socio-political activities/actions are wild to the project's critical success factors, the relationship is expected to be negative, but on the other hand, when those actions/activities are those that strengthen accountability, then the relationship is expected to be positive. If there is a mixture of those activities by stakeholders, such relationship is expected to be both negative and positive. When the government puts in place retrogressive regulatory policies, the relationship is expected to be negative, while if the same government employs progressive regulatory policies, the relationship is expected to be positive. If the government employs both negative and positive regulatory policies, then the relationship is predicted to be both negative and positive. In reference to monetary/ financial risk variable, when the government puts in place negative fiscal policies, the relationship is expected to be negative while if the policies are positive, then the relationship is predicted to be positive. If there is a mixture of both positive and negative fiscal policies, then it is expected that both positive and negative relationships will exist. The relationship between stakeholder involvement is predicted to be positive if the project manager employs strategies to engage with stakeholders, while if He/She does not engage, then the relationship is predicted to be negative. Finally, the relationship between risk register variable and project performance variable is predicted to be either negative or positive or both. If the stakeholders form an attitude of exaggerating the presence of additional external risk factors to the project, the risk register variable is expected to have a negative relationship with project performance variable. Likewise, it is expected to have a positive relationship with project performance variable when stakeholders develop a positive attitude to positively identify external risks and the risks acted upon. If there are both positive and negative attitudes towards risk identification and action, then both positive and negative relationships are predicted to occur.

CHAPTER THREE

RESEARCH METHODOLOGY

A. Overview

The chapter covers the target population, study design, research paradigm, research plan, validity and reliability of the instruments, research instruments, sample size, pilot study, data collection techniques, data types, sources, and methods. .

B. The Study Area

The project is situated along Gumbi road, Ondiek highway in Kisumu city, covering approximately 7 acres of land out of which 6% was earmarked for green spaces. The project targeted 1950 affordable housing units and 92 shops for small-scale traders who were initially residents of Anderson-Ofafa estates, and a commercial parking lot that was to accommodate up to one thousand vehicles. The estates were home to 246 families staying in 39 blocks. The area of study was in Northern sub location, Kisumu Town location of Kisumu Central Sub County. The population size of northern sub location was 6,069 accounting for 2,950 males and 3,119 females. The total number of households in northern sub location was 2,035. Town location had a population size of 56,498, accounting for 28,070 males and 28,427 females. Kisumu central sub county had a population of 174,145 people, accounting for 84,155 males and 89,985 females. Kisumu County had a population size of 1,155,574 persons, accounting for 556,942 males and 594,609 females. These data were according to the latest population census report by Kenya National Bureau of statistics report of 2019.

The region of Kisumu County is located in ecological zones two and three. Kisumu's location on the equator results in a year-round environment that is hot and muggy with an approximate 1200mm of rainfall. The two rainy seasons in the city are from November through December and from March through June. The average monthly maximum temperature of 30°C and the average monthly low temperature of 16°C at night are both relatively chilly. Geographically speaking, the height ranges from 1340 meters above sea level to 15150 meters above sea level in the lowlands of the foot of the hills to the lakeshores in the upper reaches of the foot of the Riat hills to the upper plains of Kisian. The project's overall area drains into Lake Victoria ultimately, thanks to runoff and discharges. Black cotton soils are the most common type of soil. Private security services are provided in addition to open-air police patrols. The primary source of income for Kisumu County's coastal settlements is fishing. In the Kano plains, agricultural pursuits encompass cultivating rice under irrigation and sugarcane on the plains' eastern and northern boundaries. In addition, fresh vegetables, chicken, beans, sweet potatoes, and maize are produced in Kisumu County. Local sheep, goats, dairy cows, donkeys, and pigs are kept on small farms by the community.

Agricultural produce processors, fish processors, textiles, and molasses manufacturers are among the light industries. A sizable maize milling facility is also located in the major industrial sector. The county is also home to a number of ancillary businesses, including as boat building, handcraft manufacturing, and tailoring. Kisumu County boasts a number of paved highways for transportation purposes. While most county roads are murrum, they offer year-round access to all weather conditions. Public transportation is offered by buses and matatus that run independently or as a part of franchises and businesses. There are also plenty of bicycles and motorbike boda boda available for short trips. At Kisumu International Airport and Kisumu Railways, there is also air and rail transportation available.

The choice of the area was governed by a newspaper report dated 11 December 2020, which highlighted the area as one of the areas destined for the implementation of the affordable housing program and one of the areas experiencing jittery and heat from a section of stakeholders over the project. Assessment of stakeholder attitude towards the affordable housing program in this area presented a valid representation of the challenges facing the project in Kisumu County. The choice of Kisumu County was also strategic. Kisumu County is considered the bedrock of opposition politics in the entire country since Kenya got independence in 1963. History has shown that most development activities since then had been characterized by heated political rhetoric and largely, dissent. One typical example was the inauguration of the now Jaramogi Oginga Odinga referral and teaching hospital in 1969 when the community humiliated the then president Jomo Kenyatta when he tried to name the hospital as Mama Ngina Kenyatta hospital contrary to the wish of the residents who wanted the hospital to be named "Russia" after the Russian investors. Hell broke loose and the presidential security system opened fire at anybody in his or her vicinity. It is also a constitutional provision that guarantees public participation in the affairs governing their life. This together with other examples not mentioned validates the need for getting the views of the local residents before the launch of any project. However, the results of the study can be generalized to any particular area of study.

Map of Kenya Showing Kisumu County, the study Area



Fig 2: Map of Kenya Showing Kisumu County (Colored Red). (Source- Internet)
Source- R⁶ Research Gate

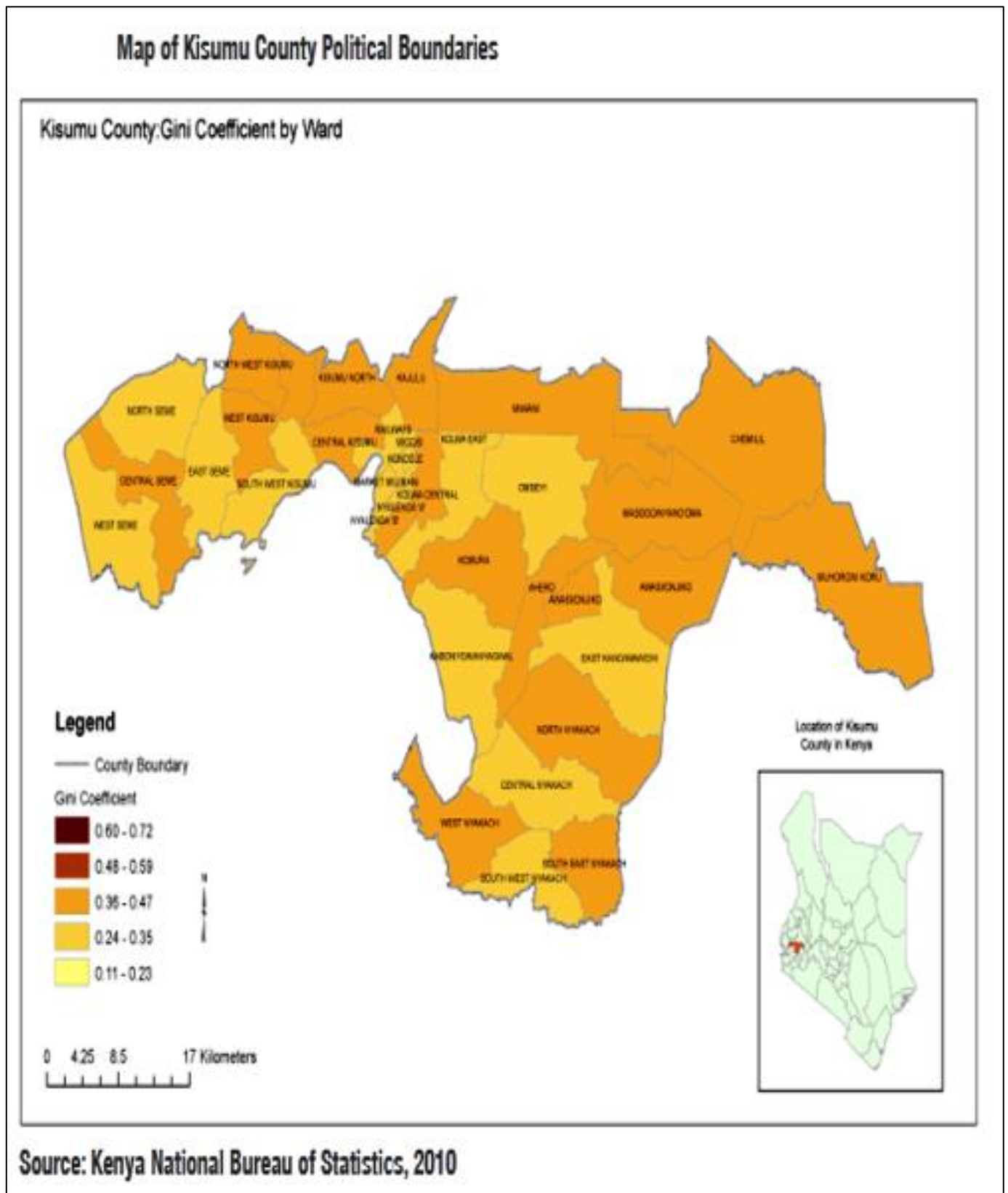


Fig 3: Above: Map of Kisumu County Political Boundaries.
Source- R⁶ Research Gate

Google map showing the location of affordable housing project in Anderson Ofafa Estate, Kisumu Town.

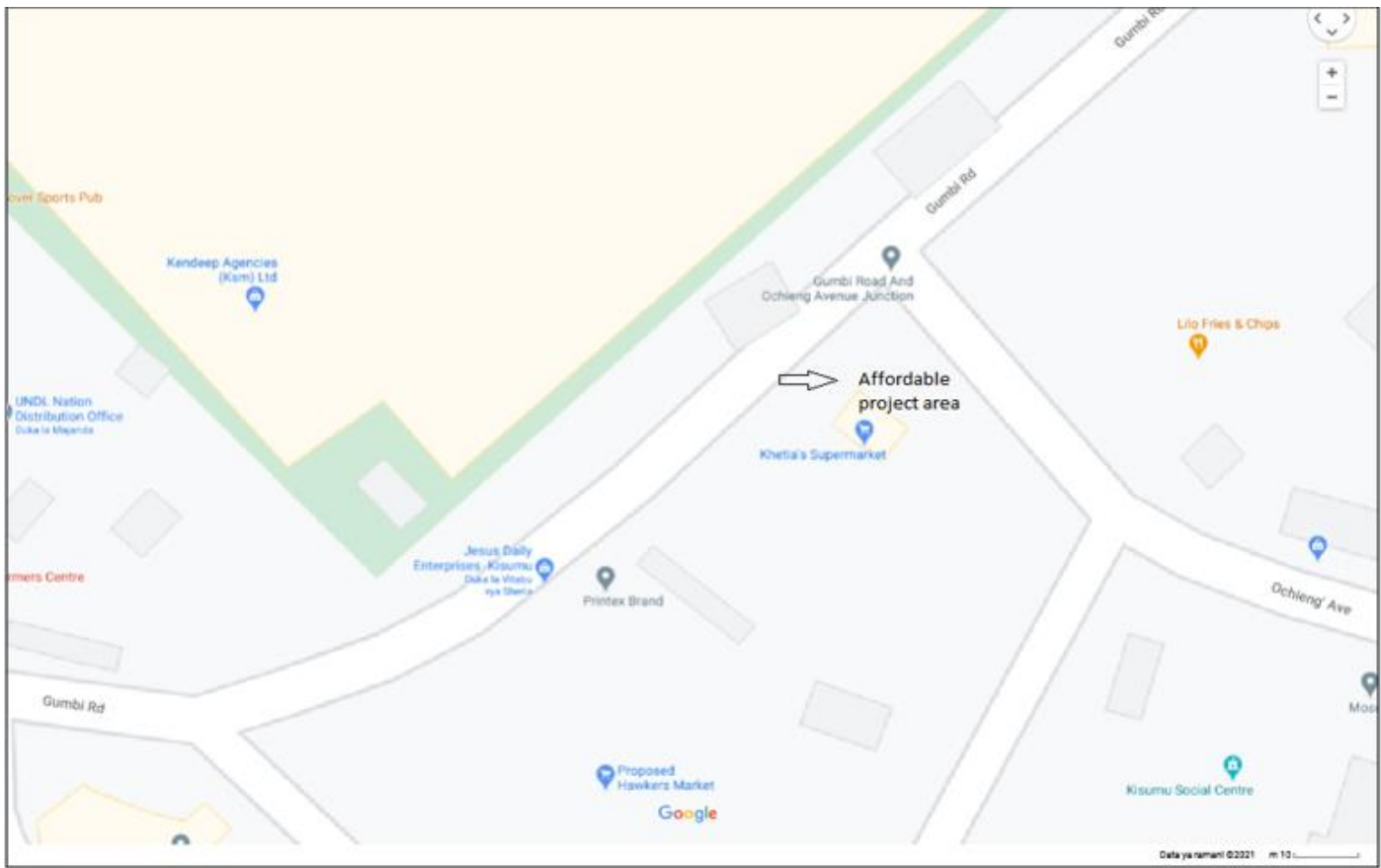


Fig 4: Google Map Showing The Project Area Of Anderson Ofafa Estate In Kisumu City.

Source- [Maplandia.com/Kenya/Nyanza/Kisumu/homes/Anderson-estates](https://maplandia.com/Kenya/Nyanza/Kisumu/homes/Anderson-estates)

C. Research Design

The research paradigm was based on a constructivist epistemological philosophy. This assumes that reality needs to be interpreted and understood from the viewpoint of individuals themselves. In terms of risk, it assumes that the risks and their consequences can only be known subjectively, and their (constructivist) understanding of risk is that it is a social process. The research plan was rigorous, linear and rigid and based on hypothesis. The research approach was based on deductive reasoning, which was identifying a theory to guide the study and test it at the end of data analysis. The research method was designed on a descriptive study methodology. This approach was chosen because of its benefits. It improves the generalizability of the findings and permits more extensive research with a larger number of people. In general, the purpose of quantitative approaches is to produce data summaries that validate generalizations about a phenomenon that is being studied. The researcher also gathered some qualitative data from key informants to increase the credibility of findings, but she was aware of the limitations of the design, which include the possibility that the data may not be robust enough to explain complex issues and that the researcher will find it difficult to understand the context of the phenomenon under study. The method of data collection was a household survey using a structured and dynamic questionnaire, which was used to collect data at more than one time. The survey was designed taking into account three basic elements including design of the sampling method to be used, selecting the survey method and developing the measuring instrument. On the other hand, qualitative data were gathered through a face-to-face key informant interview.

D. Target Population

The target population was all adult stakeholders of ages 18 years old and above, classified as project users; which are the beneficiaries of the project output, including (community residents, community leaders, local business owners, project affected persons, minority populations, religious leaders), Project providers; the list included (suppliers, vendors, business partners, temporary contractors, catering staff, Agency representatives and resource providers (County provident Fund CPF and Local Authority Pension Trust Fund, LAPTRUST), project influencers; which included (trade unions, Youth Advocates and lobby groups), Governance; those people with interest in how things are managed, including (management boards or steering groups, Auditors, regulators, health, safety executives, Kisumu city government officers and National Government Officers) living within Northern sub location, Kisumu Central sub-county, Kisumu County. The total adult population of between the ages of 18 years and 65 years old in Kisumu county was 592, 516 people, accounting for a male population of 302,703 and a female population of 289,814. Northern sub location had a total population of 6,069 people which represented 0.0052519354018 of adult population of Kisumu county; hence, the approximate adult population of Northern sub location was 3,112, accounting for 1,590 adult males and 1,522

adult females approximately This was expected to comprise those who have the greatest possibility of making decisions. These were the individuals that the researcher applied his findings and generalized his conclusions.

E. Sampling Procedure and Sample Size

After determining the proportion of the population to be sampled and the number of sampling units, the sample size was calculated. Any numerical study where the aim is to draw conclusions about the population from a sample must consider the sample size. A small (n) indicates the sample size, which is always a positive integer. The intended precision, degree of variability, and level of confidence in the statistics informed the choice of sample size in this investigation. The target population characteristics under consideration determined the degree of variability, and the study set the precision and confidence levels at 95% and 95%, respectively.

The approach for determining the sample size was by application of a formula by Yamane of (1967) expressed as follows:

$$M = N$$

where

n=sample size

$$I+n(e)^2$$

M=Population size

e= level of precision (95%), (0.5) error

For Kisumu Central sub county with a population of 174,145 people as at 2019(National population Census report, 2019) the sample size would be $= 174,145/1+174,145(0.5)^2 = 400$ people approximately. This sample size also included key informants, that is, general stakeholders accounted for 384 respondents, while key stakeholders accounted for 16 respondents. The choice of Yamane formula (1967) was guided by being a simplified formula for proportions. It provides a simplified formula to calculate sample sizes. It is also a statistical sampling technique that helps to improve the accuracy level in determining the chunk of a population to sample at a reasonable margin of error.

F. Sampling Design

The sampling design was a probability based and simple random sampling technique was used. This was done by first designing a list of all participants, list them in terms of numbers, then, group them together and do a lottery to pick a sample from each group or stratum. This was done after determining the sample size. The list of participants was got from the office of the assistant chief of Northern sub location, Kisumu central sub county. The target population was estimated as follows: project users, those who were to benefit from the proceeds of the project, as 5769 people, project providers, those who were to provide services including funds to the project, as 200 people, project influencers, those who had an interest in how the project was being implemented, as 50 people, and lastly the governance, those who had a responsibility of providing technical support and ensured that relevant regulations were put into use, as 50 people.

The choice of the method was based on it being a fair way of selecting a sample i.e., all participants have equal chance of participation. It also provides a platform for easy generalization of the results. Its main limitation is that it depends on luck. The researcher took care of the limitation by strictly choosing samples by chance. For purposes of sampling key informants, purposive or judgmental sampling technique was used. According to Neumann (2000), this method is used when one wishes to select cases that are particularly informative. As a rule of thumb, 15-35 key informants in any study is ideal; hence, this study used the lower margin of this rule based on the large sample size involved in this study. A sample of sixteen key respondents representing four respondents per each stakeholder classifications i.e., users, providers, influencers and governance were proportionately sampled.

G. Research Instruments

The research instruments that the researcher used was structured and dynamic questionnaire for ordinary stakeholders, interview schedule for illiterate, semi- literate respondents, and a semi- structured questionnaire (interview guide) for key informants. The tools were aligned to and used based on the study objectives. Development of the questionnaire consisted of these five steps: definition of the concepts that needed to be measured, formatting the questions (or items to be measured and specification of scales), wording of the questions, deciding the order for asking the questions and layout of the questionnaire, and pre-testing it. Definition of the Concepts to be measured were done to be specific on what was to be measured using the research instrument that was developed. This was expected to reduce any ambiguity. Formatting the Questions (or items measured and specifications of scales) were done in different ways including closed response format, multiple choice formats, open response formats, scaling formats (assigning numbers to possible answers). The survey/questionnaire response scales were varied including; semantic differential scale. Likert scale, dichotomous scale, numeric/ linear numeric rating scale and descriptor scale. The use of varied

response scales was aimed at maximizing the insights from their use and collecting more detailed answers from various respondents. The data scales of measurements were nominal, ordinal, interval and ratio. Wording of the questions involved phrasing of questions that were free from ambiguity and bias in light of the background of respondents. The researcher used existing pretested questionnaire measurements by various research institutions or researchers. The researcher decided about asking questions and layout of the questionnaire. The aim was to design a sequence that builds up interests while avoiding order bias. The variables and concepts measured were already identified.

The questionnaire's benefits include ensuring the respondents' anonymity, making it easy to get a lot of data quickly from a wide sample of people, and being inexpensive to administer. Among the questionnaire's shortcomings are several unclear and deceptive questions that may not be able to be explained because the researcher may not be present to do so. The strategy is limited to responders who possess education, as those who lack literacy may find it difficult to understand the questions.

Popoola (2011) lists the following qualities of a quality questionnaire: clear and unambiguous questions. This suggests that the questionnaire can only have one possible interpretation: the questions should be simple to understand, able to elicit a precise response, free of ambiguous language, not force respondents to choose a category, not structured in a way that encourages biased responses, not exceeding a certain length or wordiness, and covering the exact subject of the investigation.

The researcher modified the wording of the questions to align with the concerns of the subpopulations within the population of interest in order to account for the respondents' social origins, educational attainment, socioeconomic classes, and ethnicities (McLeod's S. A., 2018). The questions' technical jargon was condensed and reduced for ease of comprehension. Multiple choice questions, rating scales, open-ended questions, and demographic questions were among the question types included in the questionnaire. The purpose of the rating scales was to measure respondents' opinions and attitudes, while the open-ended questions encouraged respondents to clarify their opinions or offer suggestions. The demographic questions helped describe the demographic segment by gathering information about the respondents' location, background, education, and income level. A "unable to answer" option was offered to responders who had no other alternative. This allowed the researcher to determine how many questions were unclear or difficult to understand. In order to collect thorough data, the researcher also created the questionnaire with a variety of question kinds.

H. Data Collection

This study identified three independent variables that were used to assess stakeholder involvement and risk factors (classified as external risks by the association of advancement of cost engineering (2004) and as execution risk factors by Pollet (2008) as likely to influence the implementation of affordable housing project in Anderson-Ofafa estate, Northern sub location, Kisumu town location of Kisumu Central, Kisumu County. Data collection was based on individual items under each variable.

Interviews are usually used as a complementary method of data collection for deeper investigation of the underlying motives (Ekaterina, 2008). The following steps were followed to conduct interviews for qualitative data collection; formulation of the study questions, preparing a short interview guide, selecting key informants, conducting the interviews and taking adequate notes. Later on, data analysis of the interview data was conducted by checking their validity and their reliability. The number of questions was worded in a predetermined fashion. Data was collected at more than one point in time.

Before proceeding to the field for data collection, the enumerators/ interviewers/ research assistants were trained on data collection techniques so that data collected conformed to the required standards. The data collectors then moved from household to household to collect quantitative data. Qualitative data was collected through meeting of key informants at their work places or meeting places and conducting individual interviews. This was conducted after the field survey where primary data collection was done using a semi- structured interview tool. Each interview took approximately one hour. The number of interviews was limited to one, two or three persons per stakeholder category due to time constraints.

➤ Types of Data, Data Sources and Methods of Data Collection.

This study endeavored to collect majorly primary data in field study. Primary data refers to new and first hand, data gathered by the researcher himself or research assistants on his behalf. The study collected data from primary sources including; household survey and key informants interview. The data included; household socio-demographic information, among them was; age in completed years, gender, education level, main source of income, and stakeholder category(for quantitative data collection), length of stay in Kisumu city, job done by respondent, education level, age, gender, and having ever worked in construction industry(for qualitative data collection). Others include; stakeholder perception on influence of socio-political risk factors, government regulatory risk factors, financial/ monetary risk factors in terms of the possibility of occurrence, magnitude of occurrence and influence on execution performance(for research objective 1), updated risk register in terms of its development and influence on execution performance(for research objective 3) and level of stakeholder involvement and influence on execution performance in terms of gathering stakeholder feedback, assessing expectations and tracking engagement(for research objective 2) of the affordable housing project in terms of cost, time and quality performance.

Here is a summary of research methods, research tools, sample size and sampling method, since they are interconnected in attaining non-biased research results;

Table 1: Summary Of Research Methods, Tools, Sample Size and Sampling Method.

Research Method.	Research Tools.	Sample Size.	Sampling Method.
-Descriptive quantitative methodology with some aspects of qualitative data.. 1) Household survey. 2) Key informants' interviews.	a) Questionnaire-for literate respondents. b) Interview schedule- for illiterate/semi-literate respondents.	- Literate-363. -Illiterate-12. -Semi-literate-9. Total- 384	-Simple random sampling. -Simple random sampling. -Simple random sampling
	-Interview guide.	Users-4 Providers-4 Influecers-4 Governance-4 Total- 16	-Purposive sampling. -Purposive sampling. -Purposive sampling. -Purposive sampling.

I. Piloting (Preliminary Research Execution)

Through a pilot study, the questions were pretested before the actual data collection process began. As per Babbie's (2012) instructions, the research instrument was pre-tested with 20 respondents. Babbie noticed that a good pilot study uses 1% to 10% of the actual sample size. Pre-testing uses a lower proportion for larger sample numbers and a greater percentage for smaller sample sizes. Because there were 400 participants in the sample, 5% was used for pre-testing, or 20 respondents and 10% of the key respondents—roughly three respondents—were pretested for a sample size of sixteen.

➤ Validity and Reliability of the Study

Reliability is the capacity of a measurement to consistently yield the same results when applied to a particular scenario again, provided that the situation has not changed (Devillis, 1991). Put another way, it has to do with how much trust one can have in the information gathered through the use of an instrument. The test-retest strategy was employed by the researcher to assess reliability. This entailed giving the same subject or group of subjects the same instrument twice. Between the first and second test, a period of time was permitted. The procedures involved choosing a suitable set of subjects, giving the test to them, maintaining the same starting conditions, and giving the same test to each subject in turn. Before doing a second test, the researcher offered a week's notice. The scores from the testing period were then correlated by the researcher. Following the gathering of data, a pilot study was conducted to verify the dependability of the research instrument.

Validity speaks to the significance and correctness of conclusions drawn from study findings (Devillis,1991). It is the degree to which a measure's scores accurately reflect the variable it is meant to assess. It also refers to the methods used to validate the research. The scores and interpretations of the instrument are what determine its validity. The purpose of this study was to test two different forms of validity: construct and content validity. The purpose of construct validity analysis is to determine if the scale items accurately operationalize the research variables as defined by the theoretical framework. Construct validity was evaluated by a supervisory panel of experts.

The researcher's first task was to collect a list of the target population of approximate size of 5200 people which was the sampling frame. The initial target population was 6090 but some were displaced to pave way for the construction of the affordable housing units within Anderson- Ofafa estate. The list was collected from the Assistant Chief of Northern sub location, Town location, Kisumu central sub county Mr John Migun and another list of 50 respondents as key respondents/ informants from Mr Kopala, and Mr Osure , representatives of the project affected persons in Anderson- Ofafa estate. The estates forming Northern sub location included: Upper Railways, with five enumeration areas, Patel flats, Posta flats, Anderson –Ofafa estates with two enumeration areas each, Ondiek estate, with five enumeration areas, Opiyo Oguma (Mayfair), Kibuye, Kimute, Argwengs Kodheck, each with one enumeration area and Nyalenda with three enumeration areas.

The total number of enumeration areas in Northern sub location according to 2019 population census were twenty-three before demolitions of Upper Railways (with five enumeration areas) and Anderson –Ofafa (with two enumeration areas) to pave way for the construction of the affordable housing units. This left a total of sixteen enumeration areas for the study, comprising; Patel flats (2), Posta flats (2), Ondiek estate (5), Opiyo Oguma (Mayfair) estate (1), Argwengs Kodheck(1), Nyalenda Railways(3), Kimute (1) and Kibuye (1).

The researcher used estates as sampling units. The strength of the estates in terms of enumeration areas was considered during sampling. Simple random sampling by using lottery as a technique was used per estate to identify twenty respondents for pilot study for general stakeholders as follows; Patel Flats (2), Posta Flats (2), Ondiek estate (5), Opiyo Oguma/ Mayfair (2), Argwengs Kodheck (2), Nyalenda Railways (3), Kibuye (2) and Kimute (2), totaling twenty respondents for pilot study. For key informants' pilot study, out of a total of 50 people as the target population, three respondents were sampled purposively.

The next process in the pilot study was to identify research assistants. The estates were assigned research assistants as follows; Patel flats (1), Posta Flats (1), Ondiek estate (5), Opiyo Oguma/ Mayfair (1), Nyalenda railways (3), Kibuye (1) and Kimute (1) and one other research assistant for key respondents. After identifying the research assistants, a one-day training program for them was organized to orientate them on data collection procedures and ethical issues surrounding data collection.

The next day the research assistants were dispatched to their designated estates to collect data with a list of sampled names of respondents. For key respondents, data was collected at places of work or business places. The two separate exercises took one day after which the questionnaires numbering twenty for general respondents and three for key informants were collected by the researcher. One week elapsed and a second round of data collection for the pilot study was conducted whereby the same research assistants administered twenty questionnaires to the same respondents as was in round one. This also applied to key respondents, whereby the same research assistant collected data from the same three key respondents. These data were analyzed and the unit of analysis was a household. The following results were observed.

- *Pilot Study Results.*
- *Quantitative Measures.*

✓ Reliability

Table 2: Case Processing Summary

		N	%
Cases	Valid	5	25.0
	Excluded a	15	75.0
	Total	20	100.0
a. Listwise deletion based on all variables in the procedure.			

Table 3: Reliability Statistics

Cronbach's Alpha	N of Items
.918	160

Scale: All variables

Cronbach's alpha test was computed to assess the reliability of the responses, $r() = .918$

This indicates excellent reliability, meaning that the data collection instrument is capable of producing consistent and stable results when used repeatedly.

Table 4: Case Processing Summary

	N
Valid	5
excluded ^a	15
Total	20

a. Listwise Deletion Based on all Variables in the Procedure

Table 5: Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	2.454	1.200	5.000	3.800	4.167	.952	142
Item Variances	1.192	.200	5.000	4.800	25.000	1.651	142
Inter-Item Correlations	.032	-1.000	1.000	2.000	-1.000	.398	142

To test stability of a measure, a Pearson correlation was computed to assess the test-retest reliability between the variables, the scores was indicated as below:

- A test-retest reliability of 1: perfect test-retest reliability
- ≥ 0.9 : excellent reliability
- $\geq 0.8 < 0.9$: good reliability
- $\geq 0.7 < 0.8$: acceptable reliability
- $\geq 0.6 < 0.7$: questionable reliability
- $\geq 0.5 < 0.6$: poor reliability
- < 0.5 : unacceptable reliability
- 0: no reliability

The stability of this measure according to the test-retest measure shown above is 0.952, which is an excellent reliability. This means that the instrument measures what it is expected to measure.

- *Qualitative Measures.*

The validity and reliability test indicated that the data values passed the checks for validity and reliability at >0.05 alpha value for significant difference. The validity and reliability of this measure according to the test-retest measure is 0.86, which is a good reliability.

The results authenticated the data collection tools. There were no changes to the contents of the data collection tool for general respondents. At the same time, the key informant interview tool contents were not amended and this gave way to main study data collection. The procedures used in pilot study were replicated in main field data collection.

J. Data Analysis and Presentation

After primary data was collected from the field survey, the process of data analysis followed. The researcher used statistical methods to analyze the collected data. This involved descriptive, inferential statistics and content analysis. The preliminary steps involved editing, coding and tabulations. The descriptive Analysis involved the use of tables to present quantitative data in a concise and revealing format e.g., graphs, tables, pie charts, boxes etc. Univariate descriptive statistics was used to describe the sample Means, variance, standard deviations and percentages were also included in the analysis.

To examine the correlations between relevant variables or extrapolate results to the entire population, inferential analysis was used. Using Pearson's correlation matrix and Pearson's correlation coefficient, bivariate analysis was utilized to evaluate the link between each of the four independent variables and one dependent variable. Based on the conceptual framework, a total of four independent variables and one dependent variable were chosen for this investigation. To examine the likelihood of the link in both directions, a two-tailed test was employed. Multivariate analysis employing multiple regressions and factor analysis came next. The statistical software utilized was the EXCELL Spreadsheet, SPSS version 21 and version 26 (Statistical Packages for Social Scientists).

The analysis of the questionnaire and interview schedule data went hand in hand with key informant interview data based on research objectives. The quantitative data generated from the questionnaire and interview schedule (for illiterate and semi-literate respondents) were analyzed using statistical methods already highlighted. The other analysis was to do with key informant interview data. The key informant Interview data is an example of qualitative data and the aim of the analysis was to determine the meaning of data (Fellows and Liu, 2003). Content analysis method was used to analyze responses from interviewees. It involved going through the entire interview process for every objective to find out what was said in common to make a decision.

The researcher tried to find patterns and to understand the respondents' perception, opinions and views on risk factors and the level of stakeholder involvement that could influence the execution performance of the affordable housing project including development of updated risk register influence on the project. All interviews were to be either audio-taped or notes taken and the process of transcription and analysis followed. However, a majority of the respondents declined audio tapping; hence, only notes were taken.

The analysis of the key informant interviews data was made from the perspective of the different project actors/ stakeholders; including men, women, youths, opinion leaders, local leaders, project affected persons, community, political actors, government groups, business groups and oversight group. For the qualitative data generated from key informants, the following procedure was conducted to analyze the data. After performing the interview and writing down comments made by interviewees, the answers generated were made sense of and some sort of structure to the data was provided.

The most captivating and illustrative quotes from the interviews were chosen and incorporated into the results presentation. The next steps were reading over the notes for each question and underlining important points; entire comments from perceptive or noteworthy comments were noted; this was followed by compiling a list of the main points or concerns brought up for each question; each interviewee was then assigned a serial number, and each key point the interviewee brought up was accompanied by their serial number. By letting the researcher know how many people had the same or similar opinion, this helped to speed up the study of general remarks.

In reporting of results, key issues were reported by use of key words for instance, 'majority, several, few, many etc. For example, 'several' was used when 5 people share a similar opinion. The responses were relative to the number of interviewees after all interviews were conducted. It is important to note that information from key informants were geared towards supporting interpretation of quantitative data collected through a survey method in this case. The primary goal of key informant interview was to obtain qualitative description or experiences rather than measuring aspects of the experiences. The descriptive qualitative information was for decision making i.e., areas that need improvement and areas that were successful.

Data analysis per objective: The format of the data analysis techniques was the same for the data obtained under particular objectives 1 through 4; the only distinction was in the overarching goal. The method of analyzing data involved four main steps: preparing the data for analysis, gaining a sense of the data, evaluating the quality of the data, and verifying the hypothesis. Following data collection, the data were reviewed for errors and fixed, edited, blank responses were handled, coded, categorized, and manually keyed into the Excel spreadsheet and SPSS versions 21 and 26 software programs used for data analysis. The following phase involved submitting the data for computer analysis using Excell, a Windows spreadsheet tool, and SPSS versions 21 and 26 for Windows.

The analysis that followed included the results of these analyses. The researcher specifically looked at whether the measures were developed with reasonable quality in mind, whether Cronbach's alpha was established for the measures, how frequently variables were measured, descriptive statistics like mean and standard deviation, and inferential statistics using bivariate analysis with Pearson's correlation matrix, multivariate analysis with factor analysis and multiple regression, and a two-tailed test for hypothesis testing. A few baseline tests were conducted using various computer menus in advance of the data analysis process. Item analysis of the answers to the questions that tapped into every variable was one of the preliminary tests. This was done to determine whether or not the things belonged there. The ability of each item to distinguish between subjects with high total scores and those with low scores was assessed. Using the t-value (significant mean differences between two groups), the means between the high score group and the low score group were compared in the item analysis to look for significant differences.

K. Ethical Considerations

The following ethical factors were taken into account when conducting the research; the first step was to apply for the necessary research permit from the National Commission for Science, Technology, and Innovation (NaCoSTI) and a letter of introduction from Jaramogi Oginga Odinga University of Science and Technology. Subsequently, the investigator ventured out into the field to gather primary data via in-person, standardized format interviews conducted through a survey approach for common stakeholders and in-person interviews with selected key informants utilizing a semi-structured questionnaire. The researcher made sure that privacy was always respected. Data gathered in the field was kept private and utilized exclusively for the investigation. The researcher maintained professionalism during the entire period of research. Before the research proceeded for data collection in the field, the researcher sought legal authority for data collection through authorized bodies/authorities. The researcher displayed self-discipline, moral authority and respect for persons. The researcher sought informed consent from the respondents to participate in the data collection exercise. The researcher tried at all times to control his/her emotions even if the situation got unpleasant. The study tried to maximize benefits and minimize risk

CHAPTER FOUR RESULTS

A. Overview

This chapter contains the following including; the response turnout rates, quantitative data analysis results based on research objectives, qualitative data analysis results based on research objectives, triangulation of quantitative and qualitative data analysis results, main findings after triangulation of data, a discussion of the results, implications of the results and practical applications of the results.

This chapter covers the data that has been collected and analyzed from the study area located in the northern sublocation of Kisumu central subcounty, within Kisumu city. The results are presented by use of tables, graphs, pie-charts, percentages, frequencies, means, mode, standard deviations, and variance. Interpretations and discussions of the results are included as per study objectives so as to answer research questions as well as test hypothesis proposed.

➤ Response Turnout Rates.

This indicates how respondents participated in answering the questionnaires, interview schedules and interview guides in household surveys and key informant interviews. Results are summarized in table 6 below:

Table 6: Response Turnout Rates

Respondent Category.	Respondent No, Expected.	No. Responded.	Percentage Turnout.
Household survey.	- 384	- 384	- 100%
Key informant interviews.	- 16	- 16	- 100%
TOTAL	- 400	- 400	- 100%

➤ Questionnaire and Interview Schedule Data Analysis Results

➤ Socio-Demographic Information

Table 7: Descriptive Statistics on Demographic Information

	N	Mean	Std. Deviation	Variance
Age completed in years	384	2.17	.960	.922
Gender	368	1.51	.506	.256
Education level	384	3.24	.656	.431
Main source of income	384	2.88	.921	.848
Stakeholder category	383	2.01	1.413	1.997
Valid N (listwise)	366			

Source: Survey Data, 2022.

The results indicate the the population interacts very highly with education as a social and economic variable with a mean score of 3.24, followed by Source of income with a mean score of 2.88. On the list of order is age in completed years with a meanscore of 2.17, stakeholder category with a mean score of 2.01 and completing the list is gender with a mean score of 1.51.

B. Results Based on Research Objectives.

NOTE-This measurement tool used a six interval scale data. The ideal mean score of the measurement scale should be three (3). The range of interpreting the semantic differential scale mean score was given as follows:

- 3 and above - very high, 2) 2.7-2.9 high, 3) 2.4-2.6- moderate, 4) 2.1-2.3- low, 5) 1.8-2.0-very low, 6) below 1.8- unable to answer
- For possibility of occurrence of risk factors, the following mean score range classification will apply:
 - ✓ 3 and above-almost certain, 2) 2.7-2.9-likely, 3) 2.4-2.6-possible, 4) 2.1-2.3-unlikely, 5)1.8-2.0-rare, 6) below 1.8-unable to answer.
 - ✓ For extent of occurrence of the risk factors, the following mean score classification will apply:
 - ✓ 3 and above-very high, 2) 2.7-2.9-high, 3) 2.4-2.6-moderate, 4) 2.1-2.3-low, 5) 1.8-2.0-rare, 6) below1.8 - unable to answer.

➤ *The Risk Factors Were;*

- Socio-political
- Regulatory and
- Financial/monetary risk factors

Table 8: Descriptive Statistics on Influence of the Four Concepts of Socio-Political, Regulatory, Financial Risk Factors and Updated Risk Register Development on Overall Project Execution and Performance

	N	Mean	Std.Deviation	Variance
SocioP	283	2.6828	.74249	.551
Regulatory	333	2.4682	.81414	.663
Finanacial	359	2.9380	.90306	.816
DevRR	372	2.3470	1.14389	1.308
Valid N(listwise)	241			

Source: Survey Data, 2022

➤ *Key:*

- SocioP – Socio political risk factors influence on project.
- Regulatory – regulatory risk factors influence on project
- Financial - financial/monetary risk factors influence on project
- DevRR – development of risk registers' influence on project

Objective 1-To examine the extent to which stakeholder perception towards socio-political risk factors influence the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City.

➤ *Influence of Socio-Political Risk Factors on the Execution Performance of the Project.*

The majority of stakeholders considered the impact of socio-political risk variables on the overall performance of the project to be moderate, with a mean score of 2.6825 and a standard deviation of 0.74249 (Table 8).

Objective 2- To explore the level of influence that stakeholder perception towards government regulatory risk factors influence the implementation of the affordable housing project in Anderson-Ofafa estate ,Kisumu City.

➤ *Influence of Regulatory Risk Factors on the Execution Project Performance of the Project.*

The responses indicated that the regulatory risk factors moderately impacted the project's overall performance. The mean score was 2.4682 with a standard deviation of 0.81415 (Table 8).

Objective 3-To find out by what magnitude stakeholder perception towards financial/monetary risk factors influence the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City.

➤ *Influence of Financial/ Monetary Risk Factors on the Execution Performance of the Project .*

Many participants believed that the financial and monetary risk elements would have a significant impact on the overall performance of the project. Table 8 shows a mean score of 2.9380 and a standard deviation of .90306, supporting this perception.

Objective 4- To develop an updated risk register based on assessed risk value of perceived influence on the implementation of affordable housing project in Anderson-Ofafa estate, kisumu City.

➤ *Influence of an Updated Risk Register on the Execution Performance of the Project*

Several participants also indicated that updating the risk register would have a minimal impact on the overall performance of the project, as evidenced by a mean score of 2.3470 and a standard deviation of 1.308 (Table 8). A risk registry was created and designated as 4.6.

Table 9: Frequency Statistics on Influence of Socio-Political, Regulatory, Financial Risk Factors and Updated Risk Register on Project Schedule

	Ir-sp-sch	Ir-reg-sch	Ir-fm-sch	Ir-devrr-sch
N Valid	316	353	373	380
Missing	69	32	12	5
Mean	2.6290	2.4265	2.8415	2.2671
Mode	2.46	2.00	2.50a	1.00

Std.Deviation	.81916	.86264	.95916	1.15591
Variance	.671	.744	.920	1.336

Source: Survey Data, 2022.
Multiple modes exist. The smallest value is shown

➤ **Key:**

- ir_sp_sch – influence of socio-political risks on project schedule
- ir_reg_sch – influence of regulatory risks on project schedule
- ir_fm_sch – influence of financial/monetary risks on project schedule
- ir_devrr_sch – influence of development of risk register on project schedule

➤ *Influence of Socio-Political Risk Factors on the Performance of the Project Schedule.*

The majority of stakeholders indicated that socio-political risk factors had a significant impact on the project timeline, with an average score of 2.6290 and a standard deviation of .81916 (see table 9).

➤ *Influence of Regulatory Risk Factors on the Performance of the Project Schedule.*

According to the study participants, the regulatory risk factors had a moderate impact on the time it took to complete the project. The average score was 2.4265, with a standard deviation of 0.86264 (Table 9).

➤ *Influence of the Financial /Monetary Risk Factors on the Performance of the Project Schedule.*

The majority of participants believed that the financial and monetary risk factors would have a significant impact on the project timeline, as indicated by a mean score of 2.8415 and a standard deviation of .95916 (Table 9).

➤ *Influence of an Updated Risk Register on the Performance of the Project Schedule.*

The majority of stakeholders believed that the updated risk register would have a relatively small impact on the project timeline, with a mean score of 2.2671 and a standard deviation of 1.15591 (Table 9).

Table 10: Descriptive Statistics on Influence of Socio-Political, Regulatory, Financial Risk Factors and Development of Risk Register on Project Cost

	N	Mean	Std.Deviation.	Variance.
Ir-sp-cost	296	2.7209	.76627	.587
Ir-reg-cost	344	2.5195	.84925	.721
Ir-fm-cost	363	2.9938	.92215	.850
Ir-devrr-cost	372	2.4200	1.21722	1.482
Valid N(listwise)	256			

Source: Survey Data, 2022

➤ **Key:**

- ir_sp_cost – influence of socio- political risks on project cost
- ir_reg_cost – influence of regulatory risks on project cost
- ir_fm_cost – influence of financial/monetary risks on project cost
- ir_devrr_cost – influence of development of risk registers on project cost

➤ *Influence of Socio-Political Risk Factors on the Performance of the Project Cost*

Majority Of Stakeholders Believed That Socio-Political Risk Variables Had A Significant Impact On The Project Cost, As Indicated By A Mean Score Of 2.702 And A Standard Deviation Of .76627 (Table 10).

➤ *Influence of Regulatory Risk Factors on the Performance of the Project Cost.*

The majority of respondents said that regulatory risk factors will have a moderate impact on the project cost, as evidenced by a mean score of 2.5195 and a standard deviation of .84925 (Table 10).

➤ *Influence of Financial/ Monetary Risk Factors on the Performance of the Project Cost.*

Many participants believed that the financial and monetary risk variables would have a significant impact on the project cost, as indicated by a mean score of 2.9938 and a standard deviation of .92215 (Table 10).

➤ *Influence of an Updated Risk Register on the Performance of the Project Cost.*

Many stakeholders expressed that updating the risk register will have a moderate impact on the project cost, with an average score of 2.4200 and a standard deviation of 1.21722 (Table 10).

Table 11: Descriptive Statistics on Influence of Socio-Political, Regulator . Finanacial Risk Factors and Development of Updated Risk Register on Project Quality Performance

	N	Mean	Std.deviation	Variance
IR-SP-QP	304	2.6966	.73615	.542
IR-R-QP	349	2.4470	.84367	.712
IR-FM-QP	374	2.9338	.93154	.868
IR-DevRR-QP	376	2.3331	1.17000	1.369
Valid N (listwise)	274			

Source: Survey Data, 2022

➤ Key:

- IR-SP-QP-Influence of socio-political risk factors on quality performance.
- IR-R-QP- Influence of regulatory risk factors on project quality performance.
- IR-FM-QP- Influence of financial risk factors on project quality performance.
- IR-DevRR- Influence of development of updataed risk register on project quality performance.

➤ *Influence of Socio-Political Risk Factors on the Performance of the Project Quality Performance.*

A considerable proportion of stakeholders thought that socio-political risk variables had a moderate impact on the project's quality performance, as indicated by a mean score of 2.6966 and a standard deviation of .7361 (Table 11).

➤ *Influence of the Regulatory Risk Factors on the Project Quality Performance.*

The majority of respondents said that regulatory risk factors will have a moderate impact on the quality performance of the project, as evidenced by a mean score of 2.4470 and a standard deviation of .84367 (Table 11).

➤ *Influence of Financial/Monetary Risk Factors on the Project Quality Performance .*

The majority of respondents said that regulatory risk factors will have a moderate impact on project quality performance, with a mean score of 2.4470 and a standard deviation of .84367 (Table 11).

➤ *Influence of an Updated Risk Register on the Project Quality Performance.*

Several stakeholders indicated that updating the risk register will have a minimal impact on the quality performance of the project, as evidenced by a mean score of 2.3331 and a standard deviation of 1.17000 (Table 11). A risk registry has been created and presented in Table 11.

Table 12: Descriptive Statistics on Possibility of Occurrence of Socio-Political, Regulatory and Financial Risk Factors.

	N	Mean	Std.Deviation	Variance
SP-PO	333	2.6286	.70403	.496
Reg-PO	343	2.4852	.79532	.633
FM-PO	375	2.7420	.75296	.567
Valid N (listwise)	298			

Source: Survey Data 2022

➤ Key:

- SP-PO- Socio-political risk factors possibility of occurrence.
- Reg-PO- Regulatory risk factors possibility of occurrence.
- FM-PO- Financial risk factors possibility of occurrence.

➤ *The Possibility of Occurrence of Socio-Political Risk Factors.*

Most of the stakeholders perceived the socio- political risk factors to be more likely to occur as most of their responses stated with a mean score of 2.6286 and a standard deviation of .70403(Table 12).

➤ *The Possibility of Occurrence of Regulatory Risk Factors.*

The regulatory risk factors were perceived to be possible to occur with a mean score of 2.485 and a standard deviation of .79532(Table 12).

➤ *The Possibility Of Occurrence Of Financial/ Monetary Risk Factors.*

The financial/ monetary risk factors were perceived to be likely to occur with a mean score of 2.7420 and a standard deviation of .75296(Table 12).

Table 13: Descriptive Statistics on Magnitude of Occurrence of Socio-Political, Regulatory and Financial Risk Factors

	N	Mean	Std.Deviation	Variance.
SP-MO	331	2.6357	.77404	.599
REG-MO	338	2.4822	.85152	.725
FM-MO	372	2.7715	.82209	.676
Valid N (listwise)	291			

Source: Survey Data ,2022

➤ *Key:*

- SP-MO- Socio-political risk factors magnitude of occurrence.
- REG-MO- Regulatory risk factors magnitude of occurrence.
- FM-MO- Financial risk factors magnitude of occurrence.

➤ *The Magnitude of Occurrence of Socio-Political Risk Factors.*

Most of the stakeholders perceived the socio- political risk factors to Occur on a higher magnitude with a mean score of 2.6357 and a standard deviation of .774045(Table 13).

➤ *The Magnitude of Occurrence of Regulatory Risk Factors.*

The regulatory risk factors were perceived to occur on a moderate level on the project, with a mean score of 2.4822 and a standard deviation of .82209(Table 13).

➤ *The Magnitude of Occurrence of Financial/ Monetary Risk Factors.*

The financial/ monetary risk factors were perceived to occur on a high intensity with a mean score of 2.7715 and a standard deviation of .82209(Table 13).

C. Measures of Strength of Association between Variables➤ *Bivariate Analysis*

This is a measure of strength of association between two variables to test the direction, strength and significance of the bivariate relationships of all the variables. This is conducted to test the correlation between dependent variable with each of the independent variables using the Pearson's correlation coefficient. The findings assisted the researcher in answering research questions under specific objectives one to four.

- Note- The tests were to be carried out on a 0.05 significance level, which is a 95% confidence interval.

Table 14: Correlation between IR and DevRR.

		IR	DevRR
IR	Pearson Correlation	1	.812**
	Sig. (2-tailed)		.000
	N	241	241
DevRR	Pearson Correlation	.812**	1
	Sig. (2-tailed)	.000	
	N	241	372

Source: Survey data, 2022.

**Correlation is statistically significant at the 0.01 level (2-tailed), with a high positive correlation coefficient. This means that there is 99% confidence interval that development of updated risk registers significantly predicted the project outcome.

Table 15: Correlation between IR and Financial.

		IR	Financial
IR	Pearson Correlation	1	.700**
	Sig. (2-tailed)		.000
	N	241	241
Financial	Pearson Correlation	.700**	1
	Sig. (2-tailed)	.000	
	N	241	359

Source: Survey data, 2022

**Correlation is significant at the 0.01 level (2-tailed), with a high positive correlation coefficient. This means that as financial risk factors increased in intensity, its influence on project performance also increased.

Table 16: Correlation between IR and Regulatory

		IR	Regulatory
IR	Pearson Correlation	1	.822**
	Sig. (2-tailed)		.000
	N	241	241
Regulatory	Pearson Correlation	.822**	1
	Sig. (2-tailed)	.000	
	N	241	333

Source: Survey data, 2022.

**Correlation is significant at the 0.01 level (2-tailed), with a high positive correlation coefficient. This means that there is 99% confidence interval that regulatory risk factors have significantly predicted the project overall performance. As regulatory risk factors increased in intensity, there is an equivalent increase of its influence on project performance.

Table 17: Correlation between IR and SocioP

		IR	SocioP
	Pearson correlation	1	.824**
	Sig(2-tailed)		.000
	N	241	241
SocioP	Pearson correlation	.824**	1
	Sig(2-tailed)	.000	
	N	241	283

Source: Survey Data, 2022.

**Correlation is significant at the 0.01 level (2-tailed), with a high positive correlation coefficient. The results mean that as socio-political risk factors increased in intensity, its influence on project performance also increased.

Table 18: Correlation between IR and St-Involv.

		IR	St-Involv.
IR	Pearson correlation	1	.838**
	Sig(2-tailed)		.000
	N	241	241
St-Involv.	Pearson correlation.	.838**	1
	Sig(2-tailed)	.000	
	N	241	384

Source: Survey Data, 2022.

**Correlation is significant at the 0.01 level(2-tailed), with a high positive correlation coefficient. This means that as the level of stakeholder involvement increases, the level of success in the execution of the project also increases.

D. Level of Participation Analysis

Table 19: Frequency Statistics on Project Sponsors Engagement with the Stakeholders during the Execution of the Project

		Frequency.	Percent.	Valid percent.	Cummulative Percent.
Valid	Yes	358	93.2.	93.2	93.2
	No	26	6.8	6.8	100.0
	Total	384	100.0	100.0	

Source: Survey data, 2022

Based on the results, it is evident that a majority of the stakeholders are involved in the project execution accounting for 93.2% confirming with a 'YES'. Those with contrary opinion accounted for 6.8% of the total respondents..

Table 20: Frequency Statistics on the Methods of Engagement the Project Sponsors Employed to Engage with Stakeholders

		Frequency.	Percent.	Valid Percent	Cummulative Percent
Valid.	Consultation	56	14.6	14.6	14.6
	Information sharing	52	13.5	13.5	28.1
	Involvement in decision-making	96	25.0	25.0	53.1
	Collaboration	54	14.1	14.1	67.2
	Empowerment	100	26.0	26.0	93.2
	No engagement	26	6.8	6.8	100.00
	Total	384	100.00	100.00	

Source: Survey Data, 2022

The results further confirms the prevailing stakeholder involvement in project execution whereby the project sponsors employed all strategies to engage with stakeholders. In order of priority, the sponsors employed; empowerment at a scale of 26%, involving the stakeholders in decision-making 25%, consultations at 14.6 %, collaboration at 14.1%, and information sharing at 13.5%. Those who expressed reservations accounted for 6.8% of the total respondents.

Table 21: Frequency Statistics on Level of Engagement with Project Sponsors in a Scale of (1-7)

		Frequency	Percent	Valid Percent	Cummulative Percent
Valid	20-29%	16	4.2	4.2	4.2
	30-39%	8	2.1	2.1	6.3
	Below 20%	46	12.0	12.0	18.3
	50% and above	108	28.1	28.1	46.4
	40-49%	183	47.6	47.6	94.0
	No engagement	15	3.9	3.9	97.9
	Unable to answer	8	2.1	2.1	100.0
	Total	384	100.0	100.0	

Source: Survey Data, 2022

From the results, those who stated that the engagement was on a scale of 40-49% topped the list of respondents at 47.6%. Others included engagement at scales of between 50% and above, representing 28.1% of respondents, scale of below 20%, representing 12% of the respondents, scale of between 30-39%, representing 2.1% of the respondents, scale of between 20-29%, representing 4.2% of the respondents. Those with reservations and unable to answer accounted for 3.9% and 2.1% respectively of the respondents.

E. Level of Satisfaction Analysis

Table 22: Frequency Statistics on Satisfaction with the Project Execution

	Responses	Frequency	Percent	Valid Percent	Cumulative Percent
valid	Satisfied	183	47.5	47.7	47.7
	Strongly satisfied	108	28.1	28.1	75.8
	Neither satisfied nor dissatisfied	54	14.0	14.1	89.8
	Disatisfied	16	4.2	4.2	94.0
	Strongly dissatisfied.	15	3.9	3.9	97.9
	Unable to answer	8	2.1	2.1	100.0
Total		384	99.7	100.0	
Missing system		1	.3		
Total		385	100.0		

Source: Survey Data, 2022.

This was a descriptive test to analyze the level of satisfaction of the stakeholders on the implementation of affordable housing project in Anderson-Ofafa estate. Most stakeholders (47%) were satisfied with the implementation, 28% of the stakeholders were strongly satisfied, 2% were unable to answer while 4% were strongly dissatisfied.

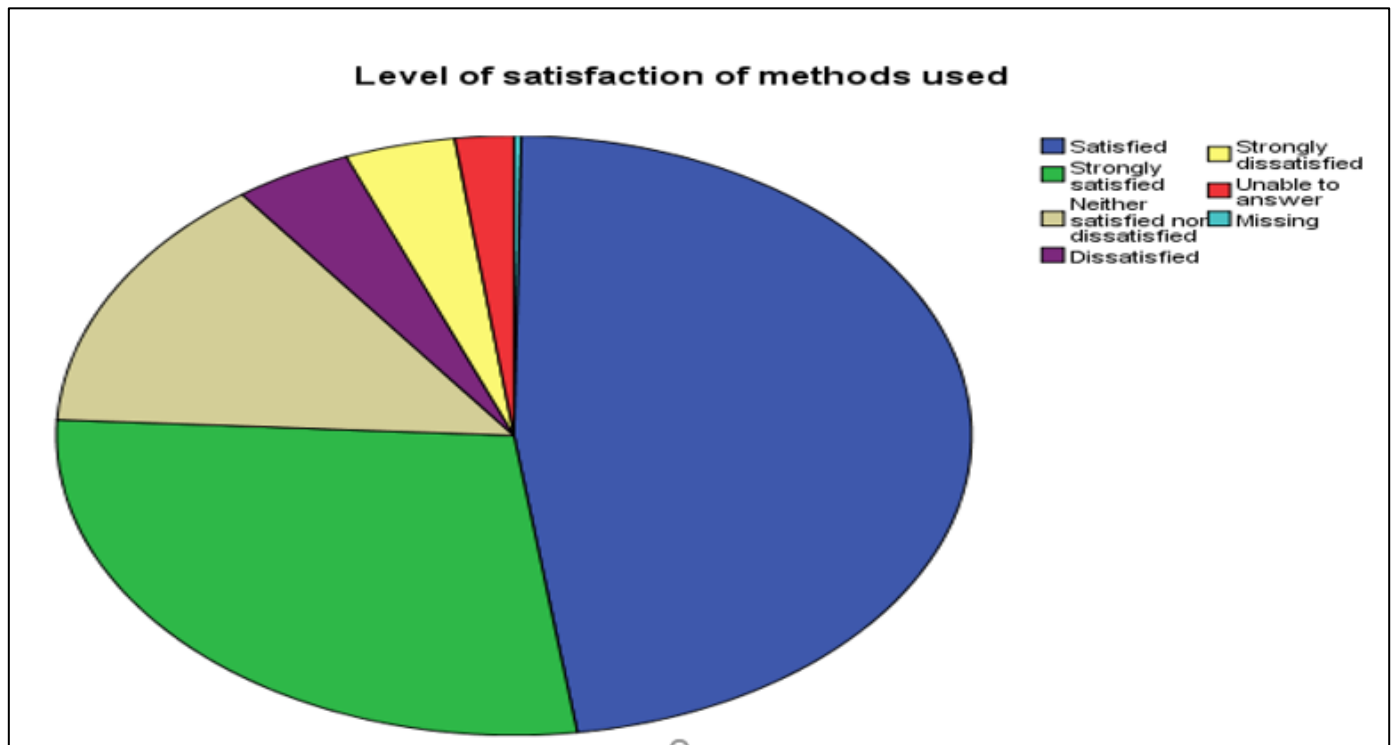


Fig 5: Pie Chart Representing Level of Satisfaction with Project Implementation

Table 23: Scales of Satisfaction with the Implementation of the Project

		Frequency	Percent	Valid Percent	Cummulative Percent
Valid	20-29%	16	4.2	4.2	4.2
	30-39%	45	11.7	11.7	15.9
	Below 20%	9	2.3	2.3	18.2
	50% and above	184	48.0	28.4	46.6
	40-49%	109	28.4	48.0	94.6
	Not satisfied	14	3.6	3.6	100.00
	Unable to answer	7	1.8	1.8	
	Total	384	100.00	100.00	

From the results, those who are satisfied on a scale of 50% and above topped the list of respondents, accounting for 48% followed by those on a scale 40-49% at 28.4%, scale 30-39% at 11.7%, while scales 20-29% at 4.2%, and below 20% at 2.3%. Those who are not satisfied accounted for 3.6%, while those unable to answer the question accounted for 1.8%.

➤ Summary on Level of Involvement

A majority of stakeholders, accounting for 93.2% were involved in the project. The highest level of engagement with the project sponsors was on a scale of between 40-49%, confirmed by 47.6% of the respondents. The influence of stakeholder participation on project execution performance was elaborated. A majority of stakeholders accounting for 76% confirmed that the prevailing level of participation would facilitate project execution performance. Stakeholders accounting for 48.4% stated that the prevailing level of participation would facilitate project execution performance highly on a scale of between 40-49%, while another group accounting for 30.5% confirmed that the facilitation would be very highly at a scale of 50% and above (Averagely 49.5% influence). In reference to the satisfaction of the stakeholders with the implementation of affordable housing project in Anderson-Ofafa estate, most stakeholders (47%) were satisfied with the implementation, 28% of the stakeholders were strongly satisfied, 2% were unable to answer while 4% were strongly dissatisfied. The highest scale of satisfaction level with the execution of the project was 50% and above, confirmed by 48% of the respondents.

Objective 4- Development of an updated risk register based on assessed risk value of perceived influence on the execution/implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu city.

F. Draft/ Proposed Risk Register (Updated)

• Financial Risk Factors

✓ Risk ID- 01

- ✓ Risk owner/ owners- project stakeholders.
- ✓ Risk description (short description) - The risk that the operations and/ or construction of the project will not be funded sufficiently.
- ✓ Type of risk- Systematic risk, (external risk factor on an organization).
- ✓ Risk possibility of occurrence- The possibility of occurrence is almost certain, affirmed by 59.1% of the respondents.
- ✓ Risk magnitude/ level of Severity- Very high, confirmed by 45.5% of the respondents.
- ✓ Impact on project performance- High on project schedule, high on project cost and high on project quality performance. Overall impact is very high i.e., 50% and above, confirmed by 27.3% of the respondents.
- ✓ Risk rating- based on the outcome of this research study, financial risk factors were rated as a number one based on its scores and hence a first priority for action to bring impetus to the implementation of this project.
- ✓ Date identified- November 2019.
- ✓ Date updated- Not updated
- ✓ Target date- January 2023.
- ✓ Closure date- Depends on the project implementation timeline.
- ✓ Current status- Not well defined.
- ✓ Possible response actions- these response actions are targeted at the indicators as well as general response actions. For tax discrimination, the onus is on the government to regulate taxes and hence it is prudent to escalate the response action to the government. Divergence across national tax codes add a high degree of complexity to the financial management of an organization and trigger considerable tax-related burdens (S. Prinsen I, 2012). Exchange rate risk adversely affects the scope, cost and time of the project and consequently bring about the undesirable effects (Kinyuma.A.M, 2013). Currency or money exchange risks are governed by performance of the economy and players in the economic field. The ideal response action would be to exploit the economic environment to maximize any opportunity that may arise. Inflation plays a vital role in the price increase of materials, labor and machinery, which results in deviation of the initial and final cost of the project. For matters inflation, which is also determined by the economic environment the favorable response strategy would be to enhance it by aiming at increasing the probability of a positive risk occurrence. The GDP tracks the health of a country's economy. The national output (GDP) is another economic indicator guided by the level of goods and services produced in a country. The response that could be feasible would also be to enhance the risk by creating conditions where opportunities could likely materialize. Employment rates could be enhanced by such a project unless the level of skilled persons is wanting or unavailability of, or limited interest from unskilled labor. Employment opportunities can be exploited to maximize employment and hence increase employment rates. The response strategies for natural calamities would be to mitigate the effects to reduce the risk to acceptable levels. Land acquisition challenges also needs to be mitigated by putting early plans to secure land for the project by procurement, prescription, transmission, transfers, long time leases etc. Unemployment is a major life event. It has a devastating effect on people's lives. Unemployment can also be mitigated through offering equal employment opportunities to all sectors of the society, skilled or unskilled.
- ✓ How to monitor control actions-The proposed activities that will be employed to monitor control actions include; evaluation of effectiveness of the risk response plans and risk adjusted discount rate. This considers the risk associated with a project and adjusts discount rate accordingly. This can help in making better decisions about whether or not to undertake a risky project, giving out a more accurate estimate of future returns. The other activity would be monitoring of the rigor of the risk management procedures. Risk analysis and management is a key project management practice to ensure that the least number of surprises occur while your project is underway (Lavanya. N, & Malarvizhi.T, 2008). The future cannot be predicted with certainty and hence management can apply simple and streamlined risk management process to predict the uncertainties in projects and reduce the occurrence of the uncertainties. This enhances the possibility of successful project completion and reduces the consequences of risks.
- ✓ Responsible persons- Government, project sponsors, project management office and community.
- ✓ Notes- Financial risk factors have the greatest impact on this project.

• *Socio-Political Risk Factors*

- ✓ Risk ID- 02
- ✓ Risk owner/ owners- project stakeholders.
- ✓ Risk description (short description)- The risk that the operations of the project will be affected by political, social and economic activities of stakeholders.
- ✓ Type of risk- Systematic risk, (external risk factor on an organization).
- ✓ Risk possibility of occurrence-. The possibility of occurrence is almost certain, confirmed by 59.1% of the total respondents.
- ✓ Risk magnitude /level of severity- The magnitude of occurrence is very high, confirmed by 54.5% of the respondents.
- ✓ Impact on project performance- High on project schedule, high on project cost and moderate on quality performance. Overall impact is very high i.e., 50% and above, confirmed by 31.8% of the respondents.
- ✓ Risk rating- according to the results of data analysis, socio-political risk factors are rated second in terms of priority based on its scores.
- ✓ Date identified- November 2019.
- ✓ Date updated- Not updated.

- ✓ Target date- January 2023.
- ✓ Closure date- Depends on implementation timeline.
- ✓ Current status- Not well defined.
- ✓ Possible response actions- Bribery/ corruption- response action (mitigate to reduce impact), Limited application of the rule of law- response action(mitigate to reduce impact), Non-inclusion of political stakeholders-response action (mitigate to lower the consequences), Revolution/ wars-response action (Transfer to relevant authorities to intervene e.g. government), Cultural differences- response action (Mitigate to reduce impact), Language barriers-response(Mitigate to lower impact), Terrorism/ blackmail- response action (transfer to relevant authorities to manage the situation e.g. government), Barriers in the award of contracts-response action (Mitigate to minimize the impact), Non-adherence to the rules governing efficient use of government revenue- response action (Mitigate to arrest the situation), Formation of pressure groups to champion for the rights of the community-response action (Mitigate to reduce impact), Lack of collaboration between, National government, county government and private partners- response action (Mitigate to streamline the collaboration), Likelihood of unavailability of persons of quality or educational achievement that is acceptable as a bargaining power- response action (Mitigate by diversifying opportunities that can carter for all groups).
- ✓ How to monitor control actions- The study proposes recommending corrective actions as a monitoring strategy for control actions. Corrective action plans identify, resolve and prevent issues of non-compliance. They keep you focused, organized and nimble. The foundation for a corrective action plan relies on S.M.A.R.T goals, which ensure you are implementing corrective actions that are meaningful. The other activity to recommend is updating risk management and risk response plans. This is to update risk responses based on risk assessment. The responses are the actions you take to prevent, reduce, transfer, accept, or exploit the risks. Additionally the management should update the project plan, budget, schedule and resources to reflect any changes in risk responses.
- ✓ Responsible persons- Project management office, project sponsors, county government of Kisumu.
- ✓ Notes- Socio-political risk factors are ranked second in order of influence on this project performance.

• *Regulatory Risk Factors*

- ✓ Risk ID- 03
- ✓ Risk owner/ owners- Project stakeholders.
- ✓ Risk description (short description) - The risk that the Kenya Government will enforce new regulations or fail to enforce regulations that will prevent private sector from fulfilling its obligations.
- ✓ Type of risk- Systematic risk, (external risk factor on an organization).
- ✓ Risk possibility of occurrence- The possibility of occurrence is almost certain, confirmed by 36.4% of the respondents.
- ✓ Risk magnitude/ level of severity- magnitude of occurrence is high, confirmed by 36.4% of the respondents.
- ✓ Impact on project performance- Moderate on project schedule, moderate on project cost and moderate on quality performance. Overall influence is moderate i.e., up to 39%, confirmed by 27.3% of the respondents.
- ✓ Risk rating- Based on the data analysis results; regulatory risk factors are rated as third in order of priority in consideration of its scores.
- ✓ Date identified- November 2019.
- ✓ Date updated- Not updated.
- ✓ Target date- January 2023.
- ✓ Closure date- Depends on implementation timeline.
- ✓ Current status- Not well defined.
- ✓ Possible response actions- Limited stakeholder participation – response action (mitigate its influence on the project activities and overall performance), Limited application of relevant laws and regulations- response action (Mitigate to reduce the consequences), Expropriation- response action(Escalate to government agencies to manage the risk), Delays in payment-response action (Mitigate to streamline payments of contractors/ workers), Quality and performance control- response action (Mitigate to reduce the consequences), Price fluctuations- response action (Enhance to increase the probability of a positive occurrence), The possibility of the government's failure to meet its financial obligations- response action (Transfer to relevant government authorities for intervention).
- ✓ How to monitor control actions-The study proposes the identification and monitoring of the residual risks. This is the amount of risk associated with an action or event remaining after natural or inherent risks have been reduced by risk controls. Residual risks can also be assessed relative to risk tolerance or risk appetite to evaluate the effectiveness of recovery plans (Edward Kost, 2023). This will enforce an audit of all implemented security controls and identify any lapses permitting excessive inherent risks. The second proposed action would be to look for unexpected effects on consequences. Once unintended consequences are predicted or detected, their management can knowingly involve tradeoffs.
- ✓ Responsible persons- National government, County government, Project management team, project sponsors.
- ✓ Notes- Regulatory risk factors are slated as third in order of priority.
- ✓ NB- It is to be noted that there is no risk governance model that can fit as the best from the rest.

Overall objective-To assess the influence of external stakeholder involvement and risk perception on the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu city, Kisumu county.

A majority of stakeholders, accounting for 93.2% were involved in the project. The highest level of engagement with the project sponsors was on a scale of between 40-49%, confirmed by 47.6% of the respondents. The influence of stakeholder participation on project execution performance was elaborated. A majority of stakeholders accounting for 76% confirmed that the prevailing level of participation would facilitate project execution performance. Stakeholders accounting for 48.4% stated that the prevailing level of participation would facilitate project execution performance highly on a scale of between 40-49%, while another group accounting for 30.5% confirmed that the facilitation would be very highly at a scale of 50% and above (Averagely high influence of 49.5%). In reference to the satisfaction of the stakeholders with the implementation of affordable housing project in Anderson-Ofa estate, most stakeholders (47%) were satisfied with the implementation, 28% of the stakeholders were strongly satisfied, 2% were unable to answer while 4% were strongly dissatisfied. The highest scale of satisfaction level with the execution of the project was 50% and above, confirmed by 48% of the respondents.

The influence of socio-political risk factors on project execution performance is moderate with a mean score of 2.2.6828 (Table 4.12), regulatory risk factors, with also a moderate influence with a mean score of 2.4682 (Table 11), financial risk factors, with a high influence with a mean score of 2.9380 (Table 11) and the development of updated risk register with a low influence of a mean score of 2.3470 (Table 11). Total mean score is 10.436, with an average mean score of 2.609, which is moderate score. Therefore, the overall influence of external risk factors on execution performance of the affordable housing project is moderate with a mean score of 2.609.

The influence of external risk factors on project schedule is calculated as follows-influence of socio-political, regulatory, financial risk factors and development of updated risk register mean scores in that order is, 2.690, 2.4265, 2.8415 and 2.2671. Average mean score is 2.6419. Therefore the influence of external risk factors on project schedule is moderate with a mean score of 2.6419.

The influence of external risk factors on project cost is calculated as follows-influence of socio-political, regulatory, financial risk factors and updated risk register mean scores respectively as, 2.702, 2.5195, 2.9938, 2.4200. Average mean score is 2.6635. Therefore the influence of external risk factors on project cost is moderate with a mean score of 2.6635.

The influence of external risk factors on project quality performance is calculated as follows- influence of socio-political, regulatory, financial risk factors and updated risk register mean scores are as follows in that order, 2.6966, 2.4470, 2.9338, 2.3331. Average mean score is 2.5852. Therefore the influence of external risk factors on project quality performance is moderate with a mean score of 2.5852.

The occurrence of external of external risk factors is calculated as follows- occurrence of socio-political, regulatory, financial risk factors have the respective mean scores of 2.6286, 2.485, 2.7420. Average mean score is 2.6183, meaning a likelihood of occurrence. The magnitude of occurrence of socio-political, regulatory and financial risk factors have their respective mean scores of, 2.6357, 2.4822 and 2.7715. Average mean score is 2.6298, meaning moderate magnitude of occurrence.

G. Multivariate Analysis

This technique tests the relationship between two or more independent variables and a dependent variable.

➤ Factor Analysis

• Introduction

In this study, factor analysis is used to confirm validity of the existing theories and measurement instruments. This is through establishing factorial validity. Factorial validity is a type of validity, which establishes the degree to which a test is measuring what it is intended to measure. In factorial validity, the actual/empirical structure of the test should match the theoretical or intended structure of the test.

• How Factor Analysis Results were to be Interpreted

The researcher will examine the percentage variance value for each factor. Higher values of percentage variance indicate that a factor explains more of the variability. Therefore, the researcher will use percentage variability values to determine which factors are most important. The communality value for percentage of variance will indicate the total variation explained by all the factors in the analysis.

• How Factor Analysis Results were to be Presented

For factor analysis results presentation, graphs or tables are used to show the factor loadings, which indicate how strongly each survey item relates to each factor. Examples or labels are also used to describe the meaning and interpretation of each factor.

A good factor analysis score.

In the SEM approach, as a rule of thumb, 0.7 or higher factor loading represents that the factor extracts sufficient variance from that variable.

NB- SEMs-means structural equation models, which simultaneously combines confirmatory factor analysis and path analysis.

Table 24: Correlation to Test Factor Validity

		SocioP	Regulatory	Financial	DevRR	IR
Correlation	SocioP	1.000	.633	.607	.482	.824
	Regulatory	.633	1.000	.392	.608	.822
	Financial	.607	.392	1.000	.307	.700
	DevRR	.482	.608	.307	1.000	.812
	IR	.824	.822	.700	.812	1.000

Source: Survey Data, 2022

In the table above, correlation analysis is used to test factor validity of a measure or questionnaire. Correlations between responses are clustered together by grouping items in the measurement. The correlation matrix is an array of numbers that gives the correlation coefficients between a single variable and every other variable in the investigation. The results indicate that the factors (independent variables) have strong positive relationships with the response (dependent variable) and; hence, accounts for a large portion of variance in the dependent value. So, in this case the IR dependent value seems to be the major explaining value for all other independent values (SocioP, Regulatory, Financial, DevRR and St-Involv) with commensurate values of 0.824, 0.822, 0.700, 0.812 and .838 respectively, representing higher factor loadings.

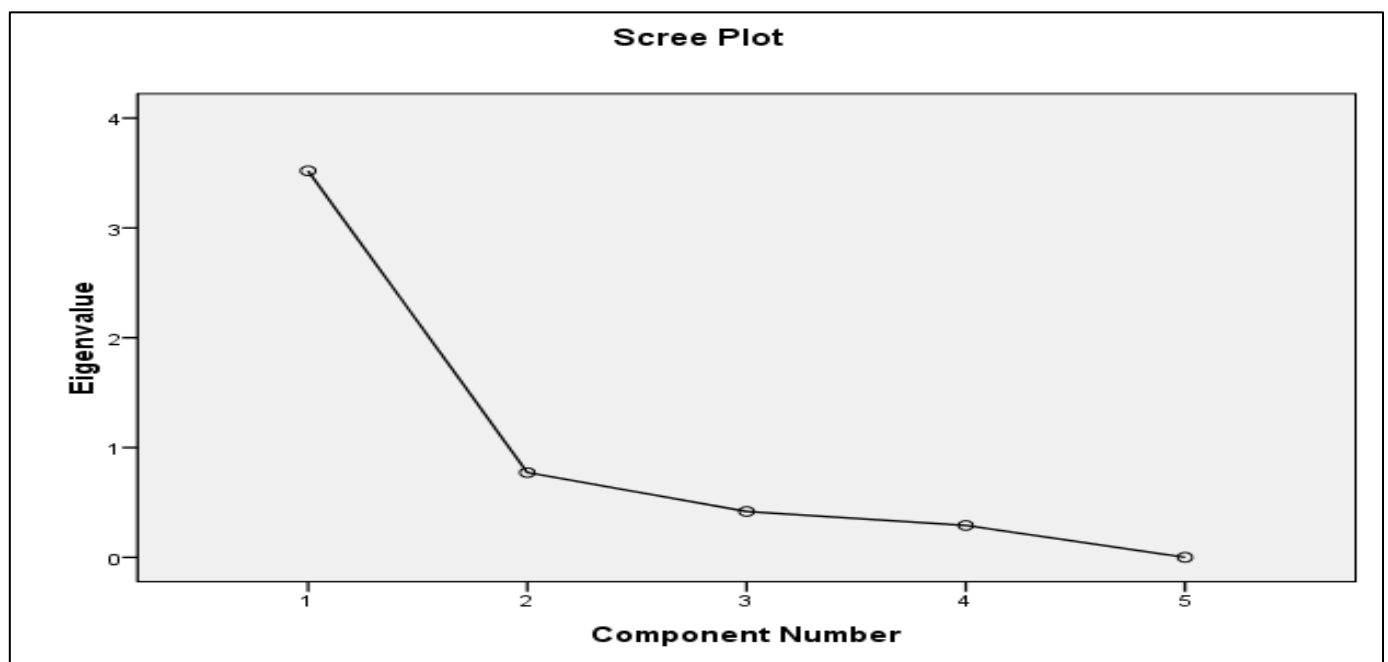


Fig 6: Scree Plot of Eigen Values Against Eigen Vectors

The scree plot is a graph of the Eigen values against the Eigen vectors. Eigenvalues relate to the amount of explained variance. The graph starts to flatten between factors two and three. From factor 2 onwards, have an Eigen value of less than one, so only four factors have been retained. The number of points before the bend is often the correct number of factors to extract. The four Eigen vectors or component numbers or independent variables explain most of the variance. Variance tests are used to assess whether the populations the responses came from significantly differ from each other. Participants in research should reflect the diversity of our culture and conditions; taking into account race, ethnicity, gender, age etc. The lack of diversity among research participants has serious ethical and research consequences.

The results of factor analysis, which is a multivariate technique, confirmed that the theorized dimensions emerged. The technique was used to determine the factor and factor loading of measured variables and to confirm what was expected on the basis of the pre-established theory.

➤ *Multiple Linear Regression Analysis.*

The goal is to determine which variables influence or cause the outcome. This is to help the researcher understand the direction and magnitude of the relationship between independent variables and the dependent variable. The Regression analysis has not been conducted because the researcher believes that it will produce the same results as those of bivariate analysis already conducted (Table 11).

➤ *Test of Hypothesis*

- H_0 : Socio-political risk factors do not have the greatest significant influence on implementation of the affordable housing project in Anderson-Ofafa estate, Northern sub-location of Kisumu Central Sub County.
- H_1 : Socio-political risk factors have the greatest significant influence on the implementation of the affordable housing project in Anderson-Ofafa estate, Northern sub- location of Kisumu Central Sub County.
- Note: This study has set a probability of type 1 error (P-value) at 5% (.05), which will be used to reject the null study hypothesis. If the p-value is greater than 0.05, then the result is statistically insignificant. If P-value is less than 0.05, then the result is statistically significant.
- T-Test

Table 25: One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Socio political risks	333	2.6286	.70403	.03858

Source: Survey Data, 2022.

There are 333 observations. Mean of the observation is 2.6 which is close to three i.e., Possible.

- $H_0: \mu = 3$
- $H_1: \mu > 3$

Where μ is the mean influence of socio-political risk factors on project performance. To secure evidence in support of the hypothesis, the researcher surveyed a random sample of $n=333$, which showed an average influence of $\pi= 2.6$, with a standard deviation of .70403. This necessitated the calculation of a test statistic, which would objectively measure the discrepancy between the sample mean, and the population mean, as assumed under the null hypothesis.

N.B- π - Sample mean.

μ - Mean.

s- Sample standard deviation.

n- Sample size.

Table 26: One-sample Test

Test Value = 1					
T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
				Lower	Upper
42.213	332	.000	1.62863	1.5527	1.7045

Source: Survey Data, 2022.

If the p-value is less than 0.05, then the result is said to be statistically significant. If the p-value is greater than 0.05, then the result is insignificant. If the p-value is less than the significance level (e.g., 0.05), the null hypothesis is rejected.

From the results of the analysis, the p-value is .000, also less than 0.05 (significance level); hence statistically significant. This indicates that the result is unlikely to have occurred by chance and is therefore likely to be true or real. This means that there is a relationship between socio-political risk factors and project performance. The mean difference between population means and sample mean is 1.62863 i.e., different from zero. The decision is that the result did not support null hypothesis fitted. The sample provides enough evidence to conclude that the two-population means are not equal. Therefore, the null hypothesis that socio-political risk factors do not have the greatest significance influence on the implementation of the affordable housing project in Anderson-Ofafa estate, Northern sub-location of Kisumu central sub county has not been substantiated. Based on the large sample size used in this study, the alternative hypothesis has been substantiated. Socio-political risk factors have the greatest significant influence on the implementation of the Affordable housing project in Anderson-ofafa estate, Northern sub location of Kisumu Central Sub

County. This means that socio-political risk factors have significance in history in people's lives or alternatively, socio-political risk factors have multiple impacts over time on the performance of the project.

➤ *Discussion of Key Informant Data Analysis Results.(Refer to Appendix 2).*

• *Demographic Information*

- ✓ Length of stay in Kisumu- The majority of the respondents have stayed in Kisumu for 21-30 years and others below 10 years. This provided a strong foundation on the data collected based on their experience in the project area.
- ✓ What the respondent does for a living- The value that civil servants added on the data collected is immense, bearing in mind the expertise and experience they have in different fields of the civil service. They were the majority of the respondents.
- ✓ Age of the respondents- The age group that topped the list of respondents are 41-50 years. This forms the category of experienced and knowledgeable group, which added value to the data collected.
- ✓ Education level- The majority of the respondents had degree certificates. With that kind of knowledge, it is envisaged that the information they provided are credible to serve the purpose of this research.
- ✓ Gender- Males topped the list of respondents. However, literature alludes to the fact that females are more sensitive to the effects of risks than male. Whether this could be reflected in their capacity to assess and judge the occurrence and severity of risk is still debatable.
- ✓ Having worked in construction industry- Many of the respondents have not had a chance to work in construction industry. However, based on how they answered the questionnaires, it demonstrates that they have credible information on issues of construction industry.
- ✓ Knowledge on risk- Most of the respondents demonstrated having reliable information on what risk is all about. This gave out an impetus in search of information related to risk and making judgements, which is believed to be credible.
- ✓ Knowledge of risk identification- Majority of the respondents proved that they have knowledge on risk identification. This formed one of the key objectives of this study, which is to identify the risk factors facing the affordable housing project. The researcher believes that they knowingly identified the risks and risk factors.
- ✓ Knowledge of risk assessment- A huge chunk of respondents proved that they have knowledge on risk assessment. This means that they knew what they were doing in their endeavor to assess the risks that were likely to affect the project performance.
- ✓ Knowledge on risk management- The majority of respondents came out clearly to demonstrate knowledge on risk management. This provides credibility on their various proposals they gave out as response actions to manage the risks they identified as likely to have great influence on the performance of the affordable housing project.
- ✓ Witnessing or hearing of demolitions of residential buildings or premises- A super majority admitted having heard or seen the demolitions. This means that they had a clear picture of the preparations put in place over the construction of the affordable housing units. Purpose of the demolitions- The respondents expressly knew the purpose of the demolitions and that is why they stated that the purpose was to enable the construction of the affordable houses. Witnessing or hearing of any demonstration over the demolitions- A high number of respondents confirmed witnessing or hearing about the demolitions. This means they had a big picture of the intrigues that surrounded the initiation and implementation of the project. Causes of the demonstrations- By stating that short vacation notice as the main cause of the demonstrations; it means that they had clear insights on the causes of the demonstrations. If the demonstrations witnessed could pose, any danger to the affordable housing project- There was mixed reactions, meaning that the respondents had divergent opinion on the topic. This means that the final report on influence of the demonstration on the affordable housing project could fall in either way.
- ✓ Dangers the affordable housing project is exposed to- Bad relations with the project management team and delays in project implementation are singled out as priority dangers to the implementation of the affordable housing project. However, other intriguing risk factors were later identified to give impetus to the two. Whether any public participation was organized over the affordable housing project, indeed several public participation sessions were organized by the County government of Kisumu and the project sponsor. However, despite this, the stakeholders are still not satisfied with the implementation of the project. It is still not clear where the organizers missed out the point. Whether the public participation addressed the concerns of the stakeholders- The respondents certified that their concerns were indeed addressed. However, based on unfolding events, it seems that only the immediate stakeholder concerns were addressed, leaving out the aftermath concerns.
- ✓ What the addressed concerns were- Employment of the locals in the project was isolated as a major concern. The researcher believes that the concern was partially addressed owing to the near stalling of the project activities. This could serve as one of the reasons for the dissatisfaction of the stakeholders with the project implementation. Why continued resistance if the concerns were addressed- Lack of satisfaction was quoted as a major source of resistance. Obviously as stated above, the near stalling of the project could raise emotions of the stakeholders.

➤ *Discussing the Key Informant Data Analysis that Tests Research Questions or Hypotheses.*

Whether one foresees any adverse effect on the implementation of the affordable housing project? The respondents foresaw the adverse effects on the project. By foreseeing the adverse effects, it means that they were in a good position to comprehend on the adverse effects and give out credible information. The potential problems/ adverse effects identified are lack of political consensus (22.7%), pressure group formation (18.2%), Change in contractors (13.6%), bribery/ corruption (9.1%), bad blood between project management team and the public (4.5%), all these under social, political and cultural factors.

Under regulatory/ legal factors, adverse effects identified are; expropriation (13.6%), delays in payments (13.6%), price fluctuations of goods and services (9.1%), financial failure (4.5%), and minimum community participation (4.5%). Adverse effects under financial/ monetary factors include; inflation (40.9%), challenges in acquiring land (18.2%), natural calamities (4.5%), housing units' affordability (4.5%), and economic downturn (4.5%).

Under stakeholder involvement, results indicate that the stakeholders were involved but despite this, they were not satisfied with how the project is being executed (Table 47).

The results show that the affordable housing project is faced with a number of challenges in various degrees, key among them being those to do with finances (inflation at 40.9%), socio-political (lack of political consensus at 22.7%), and regulatory (expropriation and delays in payments, each at 13.6%). The updated risk register as the fourth variable has also been established to have a very high influence on the project performance of above 50%. This is a risk management tool used by project managers to manage risks. The results prove that its relevance should not be put in disrepute in this project.

The correlations between socio-political risk factors and financial risk factors and the severity of likelihood of harm are statistically significant, meaning that they significantly influenced the severity of likelihood of harm, which relates to project performance. On the other hand, regulatory risk factors are statistically insignificant on influence on severity of likelihood of harm. This could be accounted for by the small sample size (22) and probably by location where the research was carried out. The quantitative data results on the same correlation were significant, the sample size being 384.

➤ *Summary Of The Two Separate Results.*

The qualitative data analysis results to a great extent validated the quantitative data results on the objectives and research questions. A detailed summary of the data sets is presented on a table format on Appendix 4 where integration and evaluation of the two separate data sets are presented.

➤ *Evaluation Of Integrated Results (Triangulation)- Refer To Appendix 4*

The focus of integration and evaluation was to find out the extent to which the results converged, complemented or contradicted one another. Findings was corroborated and any weaknesses in the data was compensated for by the strengths of the other data, thereby increasing the validity and reliability of the results. Refer to Appendix 4 for the detailed triangulation of qualitative and quantitative data analysis results.

H. Main Findings Of The Research After Triangulation

From the results of the integrated data, the qualitative data analysis results have largely validated the quantitative data analysis results save for some contradictory results, which the researcher believes is normal based on differences in expertise, rationality and knowledge between key informants and the general stakeholders who were categorized as laypersons. This can also be associated with the two main dimensions of risk perception including; the cognitive dimension, which refers to how people know and understand risk and emotional dimension, which denotes how they feel about risk (Paek, 2014). Where there was contradiction, the views expressed by the experts/key informants were given precedence/ priority. As such, these are the summary of the research findings based on research objectives, research questions and hypotheses;

➤ *Socio-Emographic Information*

Age of respondents- the average age of respondents is between 35- 44 years, accounting for 38.7%. Age bracket 41-50 years tops at 45.5%, followed by age bracket 29-30 at 31.9% (Fig 5 & Table 7). Gender- average gender representation includes; male at 63.5% and female at 36.5% (Fig 6 & Table 8). Education level- Secondary /college level of education tops the list at 61.6% followed by university degree at 41.5% (Fig 4.3 & Table 9). Main source of income- Self-employment leads the perk at 55.3% followed by civil servants at 31.8% (Fig 9 & Table 10). Stakeholder category- Community members (project users' category of stakeholders) lead at 63.7% followed by civil servants (who fall under governance category of stakeholders) at 31.8% (Fig 10 & Table 11).

➤ *Objective 1- Perception of Influence of Socio-Political Risk Factors on the Execution Performance of the Project .*

The occurrence of socio-political risk factors is almost certain, confirmed by 59.1% of the key respondents (Table 50). The magnitude of occurrence is very high, approved by 54.5% of the key respondents (Table 51). The socio-political risk factors influence on the implementation of the affordable housing project according to general respondents is moderate on project schedule, with a mean score of 2.6290 and a standard deviation of .81916 (Table 12), high on project cost, with a mean score of 2.7209 and a standard deviation of .76627 (Table 13) and moderate on project quality performance, with a mean score of 2.6966 and a standard deviation of .73615 (Table 16). Overall influence on project performance is high, that is 50% and above, affirmed by 27.3% of the key respondents (Table 52).

The adverse effects associated with socio-political risk factors outlined by the key respondents include; lack of political consensus which leads the perk, accounted for by 22.7% of the respondents. Others in order of priority include, pressure group formations (18.2%), Change of contractors (13.6%), Corruption/bribery (9.1%), and on the lowest end is bad blood between the project management team and the public (4.5%) (Table 49). The severity of likelihood of harm would be 50% and above, accounted

for by 31.8% of key respondents (Table 52). The population that would be most affected by socio-political risk factors are the general public, accounted for by 59.1% of the key respondents (Table 53). The general management strategy as proposed by the key respondents is mitigation, affirmed by 54.3% of the respondents (Table 54).

➤ *Objective 2- Perception of Influence of Regulatory Risk Factors on the Execution Performance of the Project .*

The occurrence of regulatory/legal risk factors is almost certain, accounted for by 54.5% of the key respondents (Table 56). The magnitude of occurrence is very high accounted for by 54.5% of the key respondents (Table 57). Regulatory/ legal risk factors influence on the implementation of the affordable housing project according to general respondents is moderate on project schedule, with a mean score of 2.4265 and standard deviation of .86264 (Table 12), moderate on project cost, with a mean score of 2.5195 and a standard deviation of .76627 (Table 13) and moderate on project quality performance, with a mean score of 2.4470 and standard deviation of .84367 (Table 15). The overall influence on the implementation of the affordable housing project is moderate that is between 30-39% accounted for by 27.3% of the key respondents (Table 58).

The leading adverse effects associated with regulatory/ legal risk factors include; expropriation (13.6%) and delays in payments of contractors and workers (13.6%), followed by price fluctuation of goods and services (9.1%), failure by the government to meet its financial obligations towards the project (financial failure) (4.5%), and limited community participation (4.5%) completing the list (Table 55). Severity of likelihood of harm associated with regulatory risk factors is between 30-39%, accounted for by 27.3% of the respondents (Table 58). Populations that could be affected by regulatory risk are the general public, affirmed by 36.4% of the respondents (Table 59). The general management strategy proposed by the respondents for regulatory risk factors is 'Accept' risk response strategy, Confirmed by 36.4% of the key respondents (Table 60).

➤ *Objective 3 –Perception of Influence of Financial/Monetary Risk Factors on the Execution Performance of the Project.*

The occurrence of financial / monetary risk factors is almost certain, accounted for by 45.5% of the key respondents (Table 62). The magnitude of occurrence is also very high, also accounted for by 45.5% of the respondents (Table 63). The influence of financial/ monetary risk factors on implementation of the affordable housing according to general respondents is high on project schedule, with a mean score of 2.8415 and a standard deviation of .95916 (Table 12), high on project cost, with a mean score of 2.9938 and standard deviation of .93154 (Table 13) and also high on project quality performance, with a mean score of 2.9338 and a standard deviation of .93154 (Table 15). The overall influence on project performance is very high, that is above 50%, confirmed by 27.3% of key respondents (Table 64). Financial/monetary risk factors had the greatest impact on the implementation of the affordable housing project in Anderson-Ofa estate, scoring high on every concept under project performance and very high on overall influence on project performance (Table 17 and Table 64). This means that financial risk factors affect in whatever way the project performance. Financial risk factors are one of the main players in influencing the project performance. Alternatively, financial risk factors have a practical significance or real-world relevance to the project performance.

The leading adverse effects associated with financial/ monetary risk factors according to key respondents include; Inflation, accounted for by 40.9%, followed by challenges in acquiring land for construction of the housing units (18.2%), Likelihood of occurrence of Natural calamities (4.5%), Affordability of the constructed housing units (4.5%), and economic downturn (4.5%) at the lower end (Table 61).

The severity of likelihood of harm associated with financial/ monetary risk factors ranges between 40-49% and 50% and above, affirmed by 23.7% each of the key respondents respectively (Table 4.61). Populations that could be affected by financial/ monetary risk factors is perceived to be the general public, accounted for by 59.1% of the key respondents (Table 65). The general management strategy of financial risk factors proposed by the key respondents is 'Escalate' risk response strategy, alluded to by 36.4% of them (Table 66).

➤ *Objective 4- Development of an Updated Risk Register Based on Assessed Risk Value of Perceived Influence on the Implementation of the Project.*

Updated risk register influence on the implementation of the affordable housing project in reference to the general respondents is low on project schedule, with a mean score of 2.2671 and a standard deviation of 1.15591 (Table 12), moderate on project cost, with a mean score of 2.4200 and a standard deviation of 1.21722 (Table 13), and low on quality performance, with a mean score of 2.3470 and a standard deviation of 1.17000 (Table 16). The overall influence of updated risk register is apparently high, that is 50% and above, accounted for by 68.2% of the key respondents (Table 78). The study has developed an updated risk register based on assessed risk value of influence on the implementation of the project (labeled 11).

➤ *Results of Test of Hypothesis*

Socio-political risk factors have the greatest significant influence on the implementation of the affordable housing project in Anderson- Ofa estate, confirmed by a t-test on (proposed explanation that was made on the basis of limited evidence as a starting point that socio-political risk factors did not have the greatest significant influence). Calculated t-value of the t-test (42.213) was less than the critical t-value (43.336) indicating no significant difference between the sample and the population. It also means that the groups are similar, contrary to the principles of null hypothesis. The p-value was also less than 0.05(significance level) i.e. (0.000), and hence; statistically significant. Therefore, the proposition was rejected (Table 26).

I. Discussion of Results

➤ Socio- Demographic Information

Age of respondents- the average age of respondents is between 35- 44 years, accounting for 38.7%. Age bracket 41-50 leads at 45.5%, followed by age 29-30 at 31.9%. Gender- average gender representation includes; male at 63.5% and female at 36.5%. Education level- Secondary /college level of education tops the list at 61.6% followed by university degree at 41.5%. Main source of income- Self-employment leads the perk at 55.3% followed by civil servants at 31.8%. Stakeholder category- Community members lead at 63.7% followed by civil servants (who fall under governance category of stakeholders) at 31.8%.

• Discussion

What the respondent does for a living- The value that civil servants added on the data collected is immense, bearing in mind the expertise and experience they have in different fields of the civil service. The self-employed group contribution in this study is also immense considering their wealth of experience in private sector. Age of the respondents- The age group that topped the list of respondents are 41-50 years, followed by age group 29-30 years. This forms the category of experienced and knowledgeable group, which added value to the data collected. Education level- Secondary/colleges top this category, followed by university degree holders. With that kind of knowledge they possess, it is envisaged that the information they provided are credible to serve the purpose of this research. Gender- Males topped the list of respondents. However, literature alludes to the fact that females are more sensitive to the effects of risks than male. Whether this can be reflected in their capacity to assess and judge the occurrence and severity of risk is still debatable. Nevertheless, Melissa et al, (2000), explains that one traditional example to explain the difference in risk perception revolves around rationality and education. If people are better educated about a particular risk, and then they would be able to comprehend the risk in a more informed way. Stakeholder category- Community members were the majority, followed by civil servants. It is envisaged that community members had vast knowledge on issues surrounding the project, being insiders. Their knowledge, coupled with those of civil servants brought some impetus to the assessment of the risk factors.

➤ Objective 1-Perception of Influence of Socio-Political Risk Factors on the Project Execution Performance. Socio-Political Risk Factors Possibility of Occurrence, Magnitude of Occurrence And Influence on the Implementation of the Affordable Housing Project in Anderson-Ofafa Estate.

The occurrence of socio-political risk factors is almost certain, confirmed by 59.1% of the key respondents. This is supported by the fact that Political realities have a way of intruding often in unexpected and difficult ways in a project environment. Even if a project is technically sound, it may nevertheless be misconceived politically, subverted by vested interests or by borrower governments unwilling to carry out their initial agreements. Politics usually catch up with projects, especially in transition societies where loans are often promised on extremely difficult reforms (Pullock, 2011), and hence; this project was no exception. The magnitude of occurrence is very high, approved by 54.5% of the key respondents. This has been explained by a theoretical perspective that states that unfamiliar risks appear higher up on the axis of a risk map, an indication that people perceive those activities or technologies as posing a higher degree of risk to their health and safety (Slovic, 1997). The socio-political risk factors influence on the implementation of the affordable housing project is high on project schedule and project cost and moderate on project quality performance with the following mean scores; 2.628, 2.720 and 2.629 respectively according to general respondents. Overall influence on project performance is high, that is 50% and above, confirmed by 31.8% of key respondents. This has been confirmed by Ogendo, (2016) who ascertained that those political undercurrents play a critical role, which is least understood in influencing completion of construction projects on a very high note. The results have also been reinforced by Raven et al, (2015) who found out that socio-politics plays a key role in creating, maintaining and expanding protective space. When too little attention is given to high occurrence -low impact risks, they may over time accumulate and then gain the capacity to produce both significant harms and political contention (Black & Baldwin, 2012 b).

The adverse effects associated with socio-political risk factors outlined by the key respondents include; lack of political consensus which leads the perk, accounted for by 22.7% of the respondents. Others in order of priority include, pressure group formations (18.2%), Change of contractors (13.6%), Corruption/bribery (9.1%), and on the lowest end is bad blood between the project management team and the public (4.5%). The severity of likelihood of harm would be 50% and above, accounted for by 31.8% of key respondents. The population that would be most affected by socio-political risk factors are the general public, accounted for by 59.1% of key respondents. The general management strategy as proposed by the respondents is mitigation, affirmed by 54.3% of the key respondents.

The results will impact on society by creating social instability which is a threat to the social fabric, hence security risk. Political factors can have a significant effect on work and life. Changes in legislation, government policies, programs, and funding arrangements can have a direct impact on the type of work people do, the way they are paid, the working conditions, and the rights they have. The results could also have a practical implication on the firm that has been contracted to implement the affordable housing project in Anderson-Ofafa estate, through putting measures to exploit the opportunity created by the accumulation of political risk in the project area to implement various sets of political actions including lobbying, litigation, campaign for contributions from interested partners and forming of coalitions. Politics is a social method for generating collective decisions from divergent and often discordant individual differences (Riker et al, 1973)

Broadly, the findings of this study can be practically applied to study and treat risk of specific activities and to perform generic research and development (research based on what will work best in finding answers to specific questions/ problems under investigation). These findings can be practically applied in resilience analysis. A risk and resilience assessment can employ practical elements of systems thinking to explore the relevant social, political, economic and ecological factors in a given context to identify multi-dimensional risks that different populations face, and to assess their ability to mitigate those risks.

➤ *Objective 2- Perception of Influence of Regulatory Risk Factors on the Project Execution Performance*

Regulatory risk factors possibility of occurrence, magnitude of occurrence and influence on the implementation of the affordable housing project in Anderson-Ofafa estate. The occurrence of regulatory/legal risk factors is almost certain, accounted for by 36.4% of the key respondents. This is supported by Gichunge, (2000), who found out that contract conditions which are made in use in mainstreaming building industry are a major risk factor in construction projects. The results have also been ascertained by Muthoni, (2018) who established that there is need for proper project design, legal approval and adherence to policy requirements. The findings have been supported by Asselt & Renn, (2011), who established that sophisticated risk matrices could be an indicator that a specific volatile net high occurrence/ low impact risk is low for well-motivated regulates with high capacity to comply but is high for those regulates that are less motivated and lack capacity to comply.

The magnitude of occurrence is very high accounted for by 54.5% of the key respondents. Risks are prioritized based on two underlying elements, that is probability and impact (PMBOK, 4th Edition). The high occurrence- moderate impact was manifested in the analysis of regulatory risk factors. Regulatory/ legal risk factors influence on the implementation of the affordable housing project is moderate on project schedule, project cost and project quality performance, with the following mean scores; 2.426, 2.419 and 2.447 according to the general respondents. The overall influence on the implementation of the affordable housing alluded project is moderate, that is between 30-39% accounted for by 27.3% of the key respondents. Confirming the results is a study by Chege, (2013), which to the fact that Government policy and regulation has a moderating effect on the relationship between risk management strategies and firm performance. Also supporting the results is Adeleke et al, (2016) who found out that rules and regulations act as moderating factors between organizational internal and external factors and construction risk management.

The leading adverse effects associated with regulatory/ legal risk factors according to key respondents include; expropriation (13.6%) and delays in payments of contractors and workers (13.6%), followed by price fluctuation of goods and services (9.1%), failure by the government to meet its financial obligations towards the project (financial failure) (4.5%), and limited community participation (4.5%) completing the list. Severity of likelihood of harm associated with regulatory risk factors is between 30-39%, accounted for by 27.3% of the key respondents. Populations that could be affected by regulatory risk are the general public, affirmed by 36.4% of the respondents. The general management strategy proposed by the respondents for regulatory risk factors is 'Accept' risk response strategy, Confirmed by 36.4% of the key respondents.

The requirement for adherence to government regulations have impacted on projects by being tedious and costly to their undertakings, resulting in undesirable performance. Based on the results, practical application points to usage in the development of risk policy and law. Policy makers are bound to reflect the wishes and demands of the majority of the population who are becoming increasingly aware of potential risks in policy formulation.

➤ *Objective 3- Perception of Influence of Financial/ Monetary Risk Factors on the Project Execution Performance.*

Financial risk factors possibility of occurrence, magnitude of occurrence, and influence on the implementation of the affordable housing project in Anderson-Ofafa estate. The occurrence of financial / monetary risk factors is almost certain, accounted for by 45.5% of the key respondents. Supporting the results is Eshner, (2020), who found out that financial risk, is one of the major concerns of every business across fields and geographies. Financial risk generally arises due to instability and losses in the financial market caused by movements in stock prices, currencies, interest rates and more. The magnitude of occurrence is very high, also accounted for by 45.5% of the key respondents. Approving these results is Agnieszka et al, (2015), who established that there is a varying frequency of financial risk factors in construction projects including their impact on project implementation. The results have also been reinforced by Altoryman, (2014), who found out that there is a difference in perception of financial risk factors' negative impact on project completion. However, there is a consensus that financial risk is the main factor threatening project performance. The influence of financial/ monetary risk factors on implementation of the affordable housing according to the general respondents is high on project schedule, high on project cost and also high on project quality performance, with the following mean scores; 2.841, 2.994, 2.934 respectively. The overall influence on project performance is very high, that is above 50%, supported by 27.3% of the key respondents. Financial/monetary risk factors had the greatest impact on the implementation of the affordable housing project in Anderson-Ofafa estate, scoring high on every concept under project performance and very high on overall influence on project performance. This means that financial risk factors affect in whatever way the project performance. Financial risk factors are one of the main players in influencing the project performance. Alternatively, financial risk factors have a practical significance or real-world relevance to the project performance. Similar findings have been recorded by Olukemi et al, (2013) who found out that the key challenges perceived by stakeholders as affecting construction industry are costs of building materials, access to mortgage/credit, high interest rates and high rate of failure of contracting enterprises. Also reinforcing these results is Tasca, (2012), who established that housing constructions are influenced by a number of financial, technical and cultural factors depending on the

concrete political and economic situations. The researcher also went further to explain that countries with high housing standards also have their citizens living on a high standard of living (Tasca, 2019).

The leading adverse effects associated with financial/ monetary risk factors according to the key respondents include; Inflation, accounted for by 40.9%, followed by challenges in acquiring land for construction of the housing units (18.2%), Likelihood of occurrence of Natural calamities (4.5%), Affordability of the constructed housing units (4.5%), and economic downturn (4.5%) at the lower end.

The severity of likelihood of harm associated with financial/ monetary risk factors ranges between 40-49% and 50% and above, affirmed by 23.7% each of the key respondents respectively. Populations that could be affected by financial/ monetary risk factors is perceived to be the general public, accounted for by 59.1% of the key respondents. The occurrence of financial / monetary risk factors is almost certain, accounted for by 45.5% of the key respondents. The magnitude of occurrence is also very high, also accounted for by 45.5% of the key respondents. The influence of financial/ monetary risk factors on implementation of the affordable housing project according to the general respondents is high on project schedule, high on project cost and also high on project quality performance. The overall influence on project performance is very high, that is above 50%, a perception of key respondents. Financial/monetary risk factors had the greatest significant influence on the implementation of the affordable housing project in Anderson-Ofa estate, scoring high on every concept under project performance and very high on overall influence on project performance, a perception of the general respondents.

The leading adverse effects associated with financial/ monetary risk factors according to the key respondents include; Inflation, accounted for by 40.9%, followed by challenges in acquiring land for construction of the housing units (18.2%), Likelihood of occurrence of Natural calamities (4.5%), Affordability of the constructed housing units (4.5%), and economic downturn (4.5%) at the lower end.

The performance of a firm has been established by resource risk, personnel risk and project management practices (Ondara, 2017). All factors and risk variables of a project have significant impact on cost performance on the risk variables. The potential risk that may arise from time factor in completion of construction projects are risk factors related to project resources including equipment factors as a leading variable, followed by material factors and labor factors completing the list (Saifu Husin et al, 2018). The findings can be practically put into practice in economic and benefits analysis. Potential benefits may cause other new types of potential expenses to occur. In a similar manner, a risk -benefit analysis compares potential benefits with associated potential risks. Benefits may be ranked and evaluated based on their likelihood of success or projected impact of the benefits.

➤ *Level of Stakeholder Involvement, Participation and Satisfaction.*

Stakeholders were involved and participated in project activities but were still not satisfied, confirmed by 50% of the key respondents. (Table 47). A majority of stakeholders, accounting for 93.2% were involved in the project. The highest level of engagement with the project sponsors was on a scale of between 40-49%, confirmed by 47.6% of the general respondents. The influence of stakeholder participation on project execution performance was elaborated. A majority of stakeholders accounting for 76% confirmed that the prevailing level of participation would facilitate project execution performance. Stakeholders accounting for 48.4% stated that the prevailing level of participation would facilitate project execution performance highly on a scale of between 40-49%, while another group accounting for 30.5% confirmed that the facilitation would be very highly at a scale of 50% and above (Averagely high of 49.5% influence).

Several factors could affect participation of stakeholders including; social, cultural and institutional, which affect the impact of participation (Reed *et. al*, 2017). These results have been supported by Julian Endenbos and Erik-Hans Klijn, (2006). In their study on managing stakeholder involvement in decision-making, They established that high expectations of interactive decision making are not always met. The results also showed that managing interactions-in network theory called process management is very important for achieving satisfactory outcomes. The main aim of stakeholder involvement is to create customized strategies to enhance communication and collaboration efforts for decision-making purposes (Trappet, 2023). Usually these consultations have a direct impact on the daily lives or well-being of the wider community. These initiatives are designed to foster feedback from a wide range of age groups and demographics. Effective stakeholder involvement is dependent on three factors namely; the nature and organization of participation, the way the process is managed and the relationships of formal democratic institutions (Endelenbos, J, Klijn, E. 2006).

Stakeholder participation boost up the quality and legitimacy of making decision leading to better results (Coenen, 2009). The success of a project depends on the participation of stakeholders at all levels. Stakeholder participation offers a number of demonstrable benefits as demonstrated in the 2030 Agenda (Berry et al, 2019) and other discourse on the subject. Basically stakeholder participation strengthens democracy, increase accountability, improves process quality, manage social conflicts and improves legitimacy (Zikergae et al, 2022b; Reed, 2008; Berry et al, 2019, Bsatidas, 2004). The results necessitate testing the validity of the stakeholder theory in reference to how it guarantees stakeholder satisfaction. Despite the stakeholders being involved in every stage of the project, this did not yield to their satisfaction as envisaged under stakeholder theory. The results can be practically applied in the development of a theory, review of a theory or challenging an existing theory.

Based on the various challenges observed within the affordable housing project implementation time-frame, the key stakeholders gave out recommendations to address the challenges, which includes; regular stakeholder feedback sessions, accounted for by 45.5%, dealing with/ avoiding project delays, affirmed by 18.2%, good management of public projects, approved by 13.6%, Local community involvement in project actualization, affirmed by 9.1%, timely project implementation, alluded to by 9.1% and adequate schedule contingency plans, confirmed by 4.5% of the total respondents in that order of priority (Table 81).

➤ *Objective 4- Development and Influence of Updated Risk Register on the Execution Performance Of The Project*

With mean scores of 2.267, 2.420, and 2.331, respectively, the updated risk register has a low influence on project timeline, a moderate influence on project cost, and a low influence on quality performance when it comes to the affordable housing project's implementation as viewed by the general respondents. According to 68.2% of the key respondents, the updated risk register has a high overall influence on project performance—50% and above. A risk registry with the label 4.6 was created. In the early stages of risk identification and assessment, risk registers and evaluations are essential for small business management (Sahand et al., 2016). When it comes to managing project risks, risk registers are highly effective (Saffin et al., 2012). The most important stages of a project to use risk registers are the front and feasibility stages. The most crucial instruments for an organization to execute risk management operations are risk registers and risk management frameworks (Naphade & Bhangale, 2013). These literature compliments the results of this study. The literature makes reference to the idea that risk registers are typically more helpful during a project's planning stages and less helpful throughout its implementation.

Given that other project performance concepts, such as cost, time, and quality performance received poor scores from the general respondents, the findings require more investigation. The study findings can be replicated in the development of risk-assessment templates to carryout generic risk assessments to assess risks involved in work tasks and activities.

➤ *Hypothesis Test*

The affordable housing project in Anderson-Ofafa Estate is most significantly influenced by socio-political risk factors, as demonstrated by a t-test on (proposed explanation that was made based on limited evidence as a starting point that socio-political risk factors did not have the greatest significant influence). The hypothesis was rejected since the estimated t-value of the t-test (42.213) was less than the critical t-value (43.336) and the p-value was likewise less than 0.05 (0.000). These findings indicated that the groups were similar and that the results were statistically significant.

Significance is frequently used in statistical or scientific research to suggest that a result is likely to be accurate or real because it is unlikely to have happened by accident. Results deemed statistically significant are those that have a significance level of $p < 0.05$, indicating that the likelihood of the result occurring by chance is less than 5%. It is possible for something to be statistically significant without necessarily being important, or for it to be significant without necessarily being important. For instance, a study might discover a practically insignificant difference between two groups, even though it is statistically significant. However, if a discovery has practical significance or ramifications, it may still be noteworthy even if it is not statistically significant (Wadhwa.B.B, Jan, 5th, 2023).

J. What the Results Mean

The results mean that external stakeholder involvement and risk perception influenced the implementation of the affordable housing project in the Anderson-Ofafa estate highly. In furtherance to this, the results mean that there are documented potential consequences and outcomes of stakeholder actions that will have extended effect on all stakeholders, including; project beneficiaries, project providers, project influencers, and the project governance team. Also, to be impacted are researchers, practitioners, policymakers and other stakeholders not mentioned. The meaning of the results to project stakeholders are explained as follows; for project beneficiaries, the results will translate to poor project outcomes and hence limited benefits will accrue for them out of the project, the project providers' services will be curtailed and hence reduce their incomes and this will hurt their livelihoods and their economic wellbeing. The results will impact project influencers in that their role in influencing decisions will be jeopardized by limited opportunities to make decisions. The governance team will have to strive to put their house in order due to the emerging uncertain project environment.

Policymakers and practitioners will benefit from the findings by applying the research findings to the real-world contexts and inform their practice. The decision-makers will make informed decisions based on scientific evidence. On the other hand, researchers will benefit from the gaps identified to focus on areas where more research is needed to fully understand the phenomenon and guide future research. Alternatively, the results will implicate fostering collaboration and engagement by providing a common language and understanding of the practical and theoretical implications between researchers, practitioners, policy makers and other stakeholders. To academicians/ students, the results will assist in generating new research questions that build upon the findings of this study. This study can inform a background to their studies. It also means promoting scientific literacy since the findings are communicated in accessible and relevant way. Theoretical implications in research constitute additions to existing theories or establishment of new theories.

- *How the Results Fit the Theories Underlying or Relevant to them.*

✓ *Psychometric Theory of Risk by Dr Charles Spearman (1863-1945).*

The findings align with stakeholder and psychometric ideas. In order to generate quantitative representations of risk attitudes and perceptions, the psychometric theory of risk is based on psychological scaling and multivariate analysis techniques (Slovic, 1999). Psychometric theory places a lot of emphasis on measuring personality traits, knowledge, attitudes, and abilities. This was demonstrated by the somewhat disparate results of data gathered from professionals and laypeople (important stakeholders). Experts' explanations of the disparities in perception between laypeople and experts are linked to a discrepancy between scientific realities and an overblown public perception of risks.

One of the pillars of psychometric theory is that individual differences also contribute to the outcomes. Individual differences aid in our understanding of both our differences and similarities with one another. We may most fully comprehend the spectrum of human behavior when we take into account the variances that can happen from individual to person. An individual has a finite amount of knowledge (Marcussen, 2). This means that people just use heuristics and other cognitive processes that break down difficult tasks into simpler ones to categorize and systematize the things they see in the world in order to understand reality and achieve cognitive stability (Fiske & Taylor, 1991).

Heuristics are techniques for solving problems that take short cuts to generate adequate answers within a constrained amount of time or space. Heuristics are adaptable methods for making decisions quickly, especially when handling complex data. In reality, the psychometric risk perception model is a cognitive map of social risk perception divided into familiar and dreadful risks. According to Starr (1969), dread risk is a measurement that is calibrated along a horizontal axis to indicate how well a risk is understood and how much it makes one feel afraid that something horrible will happen. The riskier the risk, the more fearful one feels.

The discrepancies in risk perception are further clarified by Mellisa et al. (2000), who report that rationality and education are two conventional examples of the variances. The idea is that individuals would perceive a risk more intelligently if they were better informed about the risk in question. Conversely, a hypothesis derived from the psychometric theory of risk indicates that financial risk factors exert the most substantial influence over the implementation of the affordable housing project in Kisumu City's Anderson-Ofafa estate.

Additional investigation is necessary to validate or refute this hypothesis. The results of this study provided support for the psychometric theory of risk, which has the theoretical consequence that the theory can explain the phenomenon under investigation—namely, the impact of external risk on the operation of the affordable housing project in Kisumu City's Anderson-Ofafa estate. When a person can quantify what they are talking about and put it into numerical form, they are beginning to understand science (Eyserick, 1973).

- *Stakeholder Theory by Dr Edward Freeman (1983)*

✓ *Level of Stakeholder Involvement, Participation and Satisfaction.*

Stakeholders were involved and participated in project activities but were still not satisfied, confirmed by 50% of the key respondents. The results necessitate testing the validity of the stakeholder theory in reference to how it guarantees stakeholder satisfaction. Despite the stakeholders being involved in every stage of the project implementation, this did not yield to their satisfaction as envisaged under stakeholder theory. The study has implications on research methodology. The study has suggested how the findings may be important for policy formulation and development, practice, theory support, theory review or challenge, and importance for subsequent research.

The study has implications on research ethics. Based on the limitation identified involving appreciating some respondents in monetary form vis a vis voluntary participation brings a new ethical dimension in research which requires further research to investigate how it will influence credibility of data collected.

This research plays a crucial role in development of social policy. It provides insight into the needs and concerns of the society, informing policy makers about the best way to address social issues/ problems. This study can assist in development of concepts, theories, Frameworks, approaches, principles and models in research. This research will strengthen the existing theory (Psychometric theory of risk) while at the same time lead to revision of another theory (Stakeholder theory of risk). Psychometric theory of risk has generated a hypothesis, which can be proved or disproved. This research has provided a more complete understanding of the research topic and helped identify areas for future research. Based on results of this study, the approaches used in this study i.e., Survey and interviews have been used to validate the approach of data collection, data analysis and reasoning.

The principles used in this research including; respect of integrity of knowledge, objectivity, collegiality, honesty and openness can be used in fundamental elements of scientific method in formulating hypotheses, designing an experiment to test hypothesis and in collection and interpretation of data. The model used in this research can be used as a reference in the development of new research. The study can also be used to develop new concepts to study external risk factors.

K. What the Study Adds to Existing Knowledge.

This study addresses gaps in existing knowledge as follows; the perception of lay persons on the influence of risk factors on the performance of a project. Previous studies focused on perception of experts including; contractors, project managers and other experts in construction industry. Another gap in knowledge filled is the use of large sample size to study risk. Previous studies majorly used small sample sizes in their studies. The other gap filled is on methodology. This study used quantitative methodology which entailed collection of quantitative data with some aspects of qualitative data for verifying the validity of quantitative data. Previous studies majorly used qualitative or mixed methods to study risks. The study adds to knowledge the study of external risk factors influences on project performance. External risk factors are those which an organization has no control over, if when or how it might occur. Previous studies focused on internal risk factors, i.e., factors which an organization can exercise control over in influence on project performance. The study continues to address gaps in knowledge on management of risk at the execution phase of a project. Previous studies focused on risk management at the planning phase of the project cycle. This study adds knowledge in the study of systemic risks. Systemic risks impact everything and are general and broad. Previous studies majorly focused on un-systemic risks which are more specific to a company, industry or sector. On the list of new knowledge is the assessment of influence of external stakeholder involvement and attitude towards risk on affordable housing project in Kisumu city. There are very few previously documented studies in this area in Kisumu County.

L. Limitations of the Study (During the Study).

The list of limitations of the study include but not limited to; 1) The psychometric theory of risk having generated a hypothesis that states that financial risk factors have the greatest impact/ significant influence on the implementation of the affordable housing project in Anderson- Ofafa estate, Northern sublocation, Kisumu Central sub county. This hypothesis requires further research to approve it, or disprove it, 2) the level of stakeholder involvement and participation that guarantees stakeholder satisfaction in a project set-up has emerged as a limitation in this study. Despite the stakeholders being involved in every stage of the project implementation, this did not yield to their satisfaction as envisaged under stakeholder theory, 3) there is a limitation that updated risk register influenced the affordable housing project on a very high scale. Other concepts of the project performance including, time, cost and quality performance scored lowly, 4) There is a limitation in the hypothesis test results that ' Socio-political risk factors have the greatest significant influence on the affordable housing project in Anderson-Ofafa estate, Northern sublocation, Kisumu central sub county. This is because financial risk factors scored highly in terms of overall performance on project performance and also scored highly on every concept under project performance unlike political risk factors. This needs further research. 5) Some respondents demanded to be appreciated in monetary terms for their time wasted in answering the questionnaires.

The researcher had to go outside his budget for the research to appreciate them after participation in the survey, 6) Males topped the list of respondents in this study. However, some key findings have demonstrated that gender has an impact on how risks are perceived and as such needs to be treated. Women perceive more threat in environment than men (Breakwell, 2007). Whether this can have an influence in this study results is debatable, 7) another limitation is that this research was carried out using psychometric tests in a majorly Luo ethnic group/ culture. However, some research studies by Mellisa et al, (2000), established that ethnicity, race, culture, socio-demographic groups and individuals are factors that play a part in the findings of risk research study . It is not clear whether the test on which the study was based is equally appropriate in all cultures, 8) the study focused on the influence of stakeholder involvement at the execution stage of the project cycle. There is a possibility that issues may change by the time the project is completed.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A. Summary of Findings

➤ Summary of Findings Per Research Objective and Research Question

- *Objective 1- Perception of Influence of Socio-Political Risk Factors on the Project Execution Performance*

The stakeholders mostly responded positively to the questionnaire. Most recorded that the possibility of occurrence of Socio-political risk factors was almost certain, supported by 59.1% of the respondents and the average mean of responses being 2.6286. They also recorded that the magnitude of occurrence of Socio-political risk factors was very high, supported by 54.5% with a mean score of 2.6357.

The influence of Socio-political risk factors on the implementation of the project was perceived as moderate on the project schedule with a mean score of 2.6290, high on project overall cost with a mean score of 2.7209 and moderate on the project quality performance with a mean score 2.6966.

The overall influence of Socio-political risk factors on the project performance was high, that is 50% and above, confirmed by 31.8% of key respondents and an average mean score of 2.6828.

- *Objective 2- Perception of Influence of Regulatory Risk Factors on the Project Execution Performance*

Majority of the stakeholders recorded that the possibility of occurrence of regulatory risk factors was almost certain, supported by 54.5% of the total respondents. They also recorded that the magnitude of occurrence of regulatory risk factors was very high, confirmed by 54.5%.

The influence of regulatory risk factors on the implementation of the project was perceived as moderate on the project schedule with a mean score of 2.4265, moderate on project overall cost with a mean score of 2.5195 and moderate again on the project quality performance with a mean score of 2.4470

The overall influence of regulatory risk factors on the project performance was moderate, that is 30-39%, approved by 27.3% of the respondents and with an average means score of 2.4682.

- *Objective 3- Perception Of Influence Of Financial/Monetary Risk Factors On The Project Execution Performance.*

Many stakeholders recorded that the possibility of occurrence of financial/monetary risk factors was almost certain, supported by 45.5% of the total respondents, with an average mean score of responses being 2.742. They further recorded that the magnitude of occurrence of financial/monetary risk factors was very high, supported by 54.5% of most responses with an average mean score of 2.7715.

The influence of financial/monetary risk factors on the implementation of the project was perceived as very high on the project schedule with a mean score of 2.8415, it was high on project overall cost with a mean score of 2.9938 and high on the project quality performance with a mean score of 2.9338.

The overall influence of financial/monetary risk factors on the project was very high, that is above 50%, affirmed by 27.3% of the respondents, with an average mean score of 2.9380.

- *Level of Stakeholder Involvement, Participation and Satisfaction*

Stakeholders are involved and participate in project activities but are still not satisfied, confirmed by 50% of the respondents. The level of stakeholder satisfaction as documented by the key respondents confirms that the stakeholders are still not satisfied with the implementation of the affordable housing project in Anderson-Ofafa estate, confirmed by 50% of the respondents.

- *Objective 4- Development and Perception of Influence of an Updated Risk Register on the Project Execution Performance*

The influence of development of an updated risk register on the implementation of the project is low on project schedule with a mean score of 2.2671, moderate on project cost with a mean score of 2.3470, and low on quality performance with a mean score of 2.3470. The overall influence is apparently perceived as high, that is 50% and above, supported by 68.2% of the key stakeholders who responded. Updated risk register developed was labeled as 4.6

*B. Summary of Results Per Research Question**➤ What is the Extent to Which Stakeholder Perception towards Socio-Political Risk Factors Influence the Implementation of the Affordable Housing Project in Anderson-Ofafa Estate, Kisumu City?*

The overall influence of Socio-political risk factors on the project was high, that is 50% and above, confirmed by 31.8% of key respondents and an average mean score of 2.6828.

➤ What Level of Influence Does Stakeholder Perception Towards Government Regulatory Risk Factors Have on the Implementation of the Affordable Housing Project in Anderson-Ofafa Estate, Kisumu City?

The overall influence of regulatory risk factors on the project was moderate, that is 30-39%, approved by 27.3% of the respondents and with an average means score of 2.4682.

➤ To What Magnitude Does Stakeholder Perception towards Financial/Monetary Risk Factors Influence the Implementation of the Affordable Housing Project in Anderson-Ofafa Estate, Kisumu City?

The overall influence of financial/monetary risk factors on the project was very high, that is above 50%, affirmed by 27.3% of the respondents, with an average mean score of 2.9380.

➤ To What Extent Does Development of an Updated Risk Register Influence the Implementation of the Affordable Housing Project in Anderson-Ofafa Estate, Kisumu City?

The extent to which development of an updated risk register influenced the implementation of the affordable housing project in Anderson-Ofafa estate was high depicting 50% and above, accounted for by 68.2% of respondents, but a mean score of 2.3470 according to general respondents.

*C. Conclusions and Recommendations**➤ Conclusions*

The study found out that external stakeholder involvement and risk perception influenced the implementation of the affordable housing project in Anderson-Ofafa estate on an averagely high scale of up to 50% and above. The stakeholder involvement and participation were exercised but the stakeholders were still not satisfied with the implementation of the affordable project accounting for approximately 50% of the total stakeholders. The risk perception had majorly a negative influence on the implementation of the affordable housing project with a high magnitude of influence.

The hypothesized dimension did not yield positive results, and hence; the null hypothesis was rejected. The research established that socio-political risk factors had the greatest significant influence on the implementation of the affordable housing project in Anderson-Ofafa estate. Financial risk factors are the key external risk factors that if not factored in risk management plans could jeopardize the success of this project.

Risk analysis encompasses examining how project outcomes and objectives might change due to the consequences of the risk events. Once the risks have been isolated, they are analyzed to detect their qualitative and quantitative impacts on the project performance so that appropriate steps can be taken. This is an important exercise aimed at achieving better performance of construction projects. Success in construction projects is determined by its performance in the achievement of project time, cost, quality performance and environmental sustainability objectives. All stakeholders are called upon to exercise their discretion in whatever ways to enable the project proceed without problems and thereby safeguard its expected hard benefits, which includes; increased likelihood of delivery of desired outcomes, facilitation of decision making and allocation of responsibility to risk owners.

➤ Recommendations.

The recommendations of this study start with re-emphasizing the importance and relevance of this study. In public sector, construction of infrastructure projects is riddled with a lot of challenges. Many things can go wrong leading to cost and time overruns and poor outcomes. This study serves as one of the proactive measures to such negative outcomes. Since sustainable and inclusive growth worldwide is dependent on modern and efficient infrastructure, the uncertainties surrounding this project would slow down sustainable and inclusive growth in the economy of this sector. The study aims at promoting sustainable and inclusive growth through offering practicable solutions to the problems affecting the affordable housing project.

*D. Recommendations Based On Research Objectives And Research Results (Conclusions).**➤ Recommendations to Project Stakeholders and Sponsors*

- *Recommendations Based on Objective 1- Perception of Influence of Socio-Political Risk Factors on the Project Execution Performance.*

- ✓ The county government of Kisumu and the project sponsors (CPF and LAPTRUST) should put in place strategies to manage risk perception and returns expectation. Also to accompany this is to initiate stakeholder dialogue that goes beyond this specific project.
- ✓ The project should be subjected to rigorous appraisals and moderation of political interference. Being a politically motivated project, the happenings indicate that it was not subjected to rigorous project appraisals.

➤ *Recommendations based on Objective 2- Perception of Influence of Regulatory Risk Factors on the Project Execution Performance.*

The public sector needs to carry out robust infrastructure regulation, put measures that guarantee general stability of laws and regulations, strict implementation of anti-corruption and transparency standards and reliable dispute resolution mechanisms.

➤ *Recommendations based on Objective 3- Perception of Influence of Financial/Monetary Risk Factors on the Project Execution Performance*

- The project was flagged off during the regime of former president Uhuru Kenyatta. Regime change could have a big implication in financial viability for the project leading to a delay in implementation. Recommendation is to infuse the project into the new affordable housing scheme under President Ruto to benefit from the housing levy fund.
- Due to delay in completing the affordable housing project, the project owners should figure out the options for pivoting the project so that it still delivers something the clients are happy with while at the same time meeting budgetary timelines and quality constraints. This will mean reducing project scope.

➤ *Recommendations based on Objective 4- Influence of Updated Risk Register on the Project Performance*

The risks identified by the stakeholders should be added to risk register, and monitored and controlled to continue mitigating their side effects by the project manager.

E. Recommendations for Future Research.

Based on the limitations recorded, the researcher recommends future research on these areas; 1) Level of stakeholder involvement that can yield satisfaction- Despite the county government of Kisumu organizing several public participation forums to input involvement of the stakeholders in the implementation of the affordable housing project in Anderson-Ofafa estate, the stakeholders were still not satisfied, 'what level of stakeholder involvement and participation is regarded as adequate to guarantee stakeholder satisfaction? Alternatively, the results necessitate testing the validity of the stakeholder theory in reference to how it guarantees stakeholder satisfaction. 2) Hypothesis validation- The psychometric theory of risk has generated a hypothesis that states that financial risk factors have the greatest significant influence/ impact on the implementation of the affordable housing project in Anderson-Ofafa estate, Northern sublocation, Kisumu Central Sub County. This hypothesis requires further research to approve it or disprove it. 3) Validating the influence of updated risk register on project performance at implementation stage- The results that updated risk register influenced the performance of the affordable housing project in Anderson-Ofafa estate on a high magnitude of 50% and above needs further research since the concepts under project performance, including; time, cost and quality performance scored low on performance. 4) The researcher continues to propose research on the influence of respondent compensation on providing reliable information in a research study- Some respondents demanded to be appreciated in terms of monetary provision for their time wasted in answering the questionnaires. The researcher had to go outside his budget for the research to appreciate them. The question then is 'How does appreciating respondents in monetary terms influence their attitude towards providing reliable information to guarantee credibility of results in a research study?' 5) Another area of further research is on whether males topping the list of respondents in this study could have an influence on the results/ outcome- Key findings have illustrated that gender influences the way risks are perceived and thus needs to be accounted for (Breakwell, 2007). Women tend to perceive more threat in their environment compared to men. Risk researchers such as David and Freudenberg (1997) accept that women exhibit a higher level of psychometric dread than men. 6) Further research is also recommended to find out whether the tests on which this study was based are equally appropriate in all cultures- The research was carried out through psychometric tests and in a majorly Luo ethnic group/culture, not excluding other smaller ethnic groups who participated. Conversely, Mellisa et al. (2000) found that factors such as ethnicity, race, culture, socio-demographic groups, and individual differences also influence the findings of risk research studies. 7) The researcher recommends further research to test the alternative hypothesis that states that socio-political risk factors have the greatest significant influence on the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City. 8) Additional study is required to assess the impact of stakeholder involvement and risk perception as at the project closure.

F. Summary.

This research study provides insights into the influence of external risk factors on organizational performance. The findings can be highly valuable to a wide range of stakeholders, including policymakers, project managers and practitioners, the community, students, and academics, as well as the public and private sectors more broadly. The stakeholders and the organization of the affordable housing project in Anderson-Ofafa estate, Kisumu City, should put more focus on ameliorating the effects of stakeholder actions that is threatening the survival of the project. Stakeholder actions have contributed to risk factors, some carrying more weight than others, and therefore, their efforts should be focused on the more pressing risk factors including financial risks and socio-

political risks. To come up with effective interventions, there is need for the project manager to develop a tactical approach that integrates organizational objectives and stakeholder interests to realize greater project performance. The results of this study offer the external stakeholders an opportunity to change their attitude so that they behave in a legitimate way in future. The study results also serves as a lesson for them to learn on the best way to involve and participate in issues that require collective decision-making or how they can adjust to a changing socio-economic environment.

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APPENDIX 1: PRELIMINARY ANALYSES

- Preliminary analysis for quantitative data.
- HANDLING OF MISSING DATA.
- Missing data was handled through listwise deletion.
- Establishing data normality and outliers through plotting of histograms and scatter plots Demographic Information

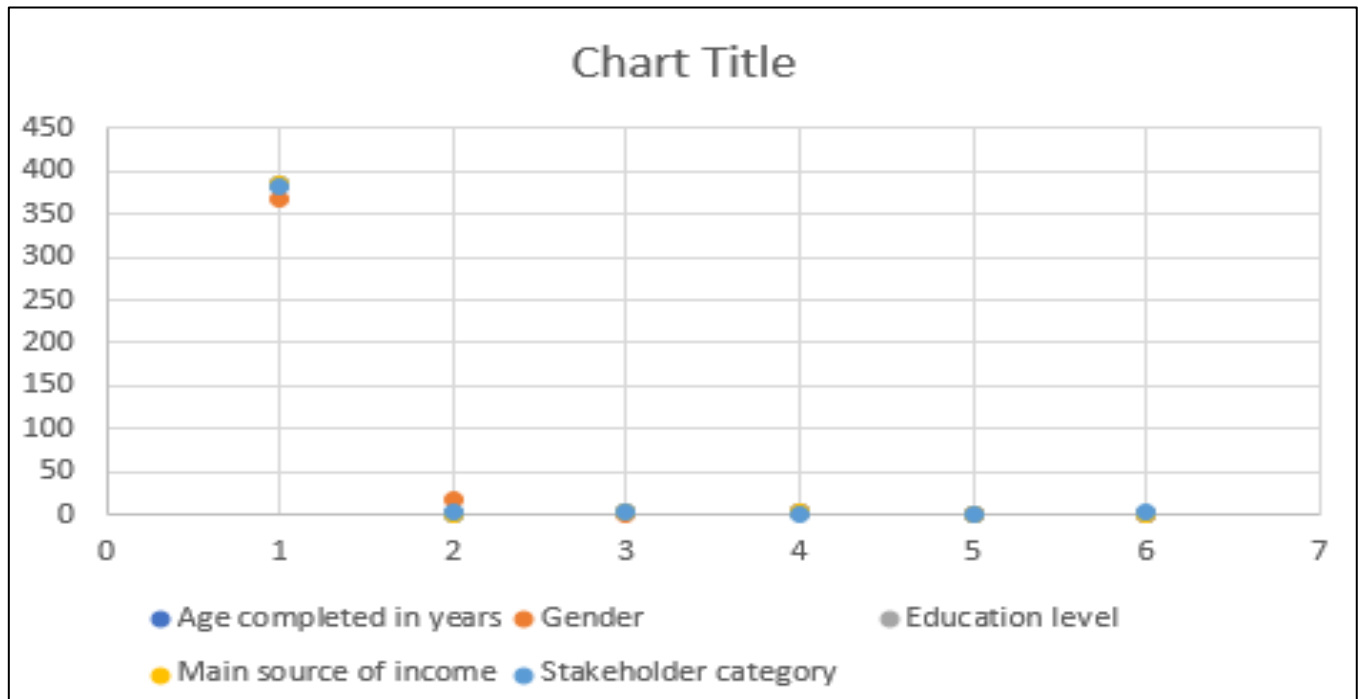


Fig 7: Scatter Plot

As can be seen from the scatter plot, no outlying data points can be detected

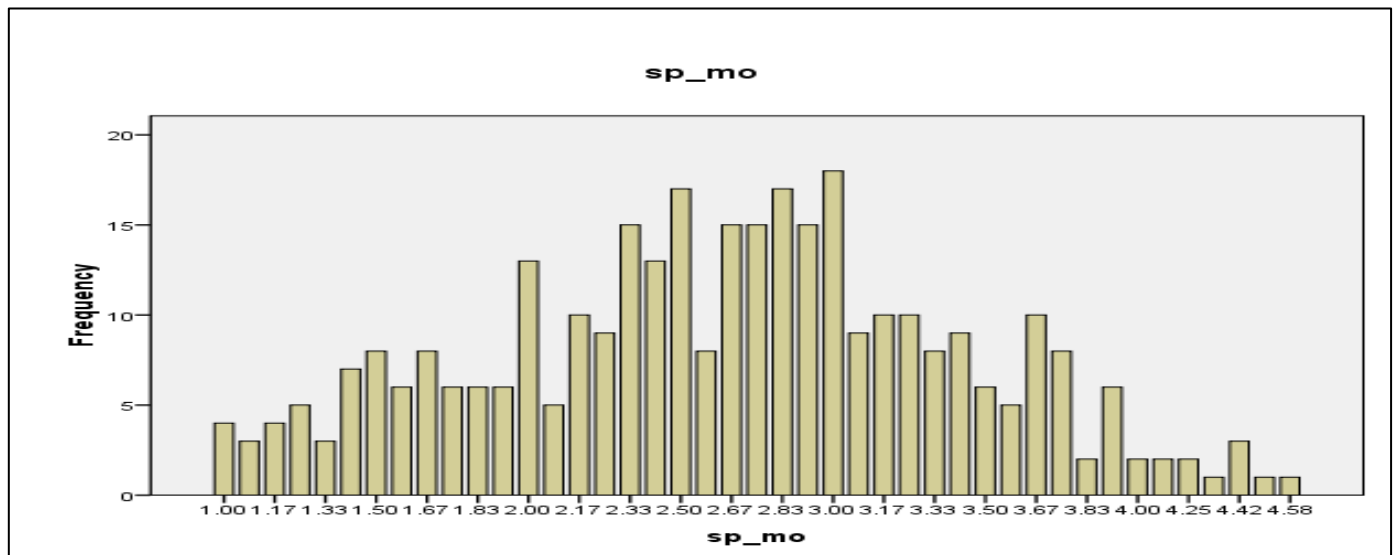


Fig 8: Histogram Plot.

From the histogram plotted above, the data have assumed a bell shaped, i.e., looks the same to the left and right of the center; and hence normal.

In parametric tests like this one, a variable is considered to be symmetrical (or normal) when its mean (or average) and median are similar, and the dispersion of values (distribution of data) looks the same to the left and right of the Centre. If mean, median, and mode of a distribution coincide, then it is called a symmetric distribution, that is, skewness= 0, kurtosis (excess) =0

Table 27: Item Analysis of Responses

Model	Dimension	Eigenvalue	Condition Index.				Variance		Proportions	
			(Constant)				SocioP	Regulatory	Financial	DevRR
1	1	4.768	1.000	.00	.00	.00	.00	.00	.00	.00
	2	.125	6.175	.06	.01	.00	.05	.65	.05	.65
	3	.044	10.411	.01	.00	.57	.40	.25	.40	.25
	4	.040	10.853	.92	.09	.10	.15	.09	.15	.09
	5	.023	14.487	.00	.90	.33	.40	.00	.40	.00

Source-Survey Data, 2022

a. Dependent Variable: IR

- Item Analysis of Responses*

The constants are mostly below 0.50 and with positive relationship with the test score therefore indicating high internal consistency. A further indication that respondents responded to questions well. In practice, values of discrimination index seldom exceed .50. This test examined the responses to individual test items (questions) in order to assess the quality of those items and of the research as a whole. This is an indication that the inferences of the research results are accurate and meaningful.

- Inter-Item Correlation Matrix*

This is a measure of strength of association between two variables, one dependent and one independent.

Table 28: Inter- Item Correlation Matrix.

	IR	SocioP	Regulatory	Financial	DevRR
IR	1.000	.824	.822	.700	.812
SocioP	.824	1.000	.633	.607	.482
Regulatory	.822	.633	1.000	.392	.608
Financial	.700	.607	.392	1.000	.307
DevRR	.812	.482	.608	.307	1.000

Source: Survey Data, 2022.

The inter-item correlation matrix is computed to show the correlation between the independent variables and the dependent variable. Results indicate positive correlations between socio-political, regulatory, financial and development of updated risk register and project performance (implementation of the affordable housing project).

Table 29: Summary Item Statistics Output.

	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Item Means	2.715	2.538	3.066	.528	1.208	.046	5
Item Variances	.830	.541	1.550	1.009	2.865	.172	5
Inter-Item Correlations	.619	.307	.824	.517	2.684	.031	5

Source- Survey Data, 2022.

The result of item variances shows no significant differences at 0.172 while inter-item correlations are significant at p- value of 0.031.

- Establishment of Cronbach's Alpha for Measures.*

The Cronbach's alpha was computed in terms of the average inter-correlations among the items measuring a concept. Cronbach's alpha is a reliability coefficient that indicates how well items in a set are positively correlated to one another.

Scale: all variables

Table 30: Establishment of Cronbach's Alpha for Measures (Reliability Statistics).

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.866	.890	5

Source: Survey data, 2022.

Cronbach's alpha test was computed to assess the reliability of the responses, $r() = .866$

This shows that the variables are excellently reliable in the data set. Since the Cronbach's alpha is closer to one (1) i.e., 0.866, this is an indication of higher internal consistency reliability. Consistency indicates how well the items measuring a concept hang together as a set. Stability which was assessed through test- retest reliability during the pilot study, which indicated reliability of responses, $r() = .837$. This showed higher test- retest reliability.

- **Reliability**

Once the preliminary tests were taken care of, the reliability of measures were checked by using Cronbach's alpha reliability coefficient of the four independent variables (socio political risk, regulatory risk, financial/monetary risk and development of risk register) and the dependent variable (project performance in terms of time, cost and quality performance). Cronbach's alpha coefficient was used to test reliability measured in terms of consistency and stability.

- **Validity.**

During the pilot study, validity is a measure of the extent to which the scores from a measure represent the variable they are intended to measure. For main study, validity refers to the accuracy and meaningfulness of inferences which are based on research results. Validity was estimated by comparing the quantitative data analysis results and qualitative data analysis results which indicated minimum variance; hence valid. Results were compared with those of past studies which also confirmed the same.

- **Test of Multicollinearity.**

This is the test for multicollinearity. It is estimated using three methods;

- ✓ Condition index: if it is above 30, i.e., >30 , then there's serious multicollinearity. And if it is between 15 and 30, then multicollinearity is suspected in the data.
- ✓ VIF (Variance Inflation Factor): if it's above 10, i.e., >10 , then there's serious multicollinearity. The VIF is the inverse of tolerance.
- ✓ Tolerance: if it's less than 0.1, that is, <0.1 , there's a serious multicollinearity between the variables.

In this test, the dependent variable was: influence of risks on schedule, cost and quality performance.

The independent variables were;

- Socio-political risks
- Regulatory risks
- Financial/Monetary risks
- Risk register

Table 31: Collinearity Coefficient^a

Model		Collinearity Statistics	
		Tolerance	VIF
1	SocioP	.440	2.274
	Regulatory	.479	2.086
	Financial	.632	1.583
	DevRR	.614	1.628
Source: Survey data, 2022. a. Dependent Variable: IR			

Table 32: Collinearity Diagnostics

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	SocioP	Regulatory	Financial	DevRR
1	1	4.768	1.000	.00	.00	.00	.00	.00
	2	.125	6.175	.06	.01	.00	.05	.65
	3	.044	10.411	.01	.00	.57	.40	.25
	4	.040	10.853	.92	.09	.10	.15	.09
	5	.023	14.487	.00	.90	.33	.40	.00
Source: Survey data, 2022. a. Dependent Variable: IR								

➤ *From our Multicollinearity Test, We Observe That:*

- In the condition index, our values are not beyond the threshold of 15, hence multicollinearity is not even suspected for all the dimensions 1,2,3,4 and 5.

- In the VIF (Variance Inflation Factor), our values are below the threshold of 2.5 hence multicollinearity is not significant in the data nor even suspected. The highest value is 2.274 hence no possibility of multicollinearity.
- In the tolerance, all the values are beyond 0.4 and below 0.7 hence no alarm for multicollinearity. The highest value is 0.63 and the lowest value is 0.44 hence no possibility of multicollinearity.
- NB- VIF is a measure of the amount of multicollinearity in regression analysis. Multicollinearity exists when there is a correlation between multiple independent variables in a multiple regression model.
- Tolerance- Is used in applied regression analysis to assess levels of multicollinearity. Tolerance measures for how much beta coefficients are affected by the presence of other predictor variable in a model.
- *Preliminary Analyses for Qualitative Data (Main Study).*

✓ Validate data

✓ Warnings

Some or all requested output is not displayed because all cases, variables, or data values passed the requested checks.

Variable Checks

Categorical	Cases Constant > 95	Have you heard of demolition? Any public participation organized?
-------------	---------------------	--

Each variable is reported with every check it fails.

Table 33: Identifier Checks

Duplicate Identifiers Group.	Number of duplicates.	Cases with duplicate identifiers	Identifiers	
			Zscore: Severity of likelihood of harm related to politics, cultural and sociological factors.	Zscore: Severity of likelihood of harm related to regulatory/legal factors.
1	6	2,5,12,13,14,15	1.32311	-1.02915
2	2	3, 11	-1.02434	.85763
3	1	9, 20	-1.02434	.85763

Based on the above results, the Z-scores from responses of two respondents of .85763 each on severity of likelihood of harm related to regulatory/legal risk factors showed positive values, meaning that these scores are above group score. This also applies to response of one respondent on severity of likelihood of harm related to social, political and cultural factors with a Z-score of 1.32311. Overall assumption is that the data have met the validity criteria. Z-scores were used in data validation.

The researcher also employed triangulation by using multiple sources, methods or perspectives to cross-check and validate data and findings, which was also positive (Table).

✓ Reliability Scale: All Variables

Table 34: Case Processing Summary

		N	%
Cases	Valid	22	100.0
	Excludeda	0	.0
	Total	22	100.0

A. Listwise deletion based on all variables in the procedure.

Table 35: Reliability Statistics.

Cronbach's Alpha	N of Items
.079	3

The results indicate that the data is acceptably reliable.

➤ *Normality Test.*

➤ Overall agreement.

Table 36: Fleiss Multirotor Kappa

	Kappa	Asymptotic Standard Error.	Z	Sig	Asymptotic 95% Confidence Interval	
					Lower Bound.	Upper Bound.
Overall agreement	.020	.011	1.794	.073	.020	.021

a. Sample data contains 22 effective subjects and 13 raters.

b.

- *Rating Category Values are Case Sensitive.*

Based on the observed Asymptotic 95 percentage confidence interval, k falls between .020 to .021 indicating non to slight agreement with normality in data. In dealing with violations of normality, the researcher used a technique called bootstrapping. The technique entails keeping variables in the original units (rather than transforming them) and calculating effect sizes.

APPENDIX 2 KEY INFORMANT INTERVIEW DATA ANALYSIS.

➤ *Introduction.*

The qualitative data analysis method used was content analysis, which is also a quantitative data analysis technique.

➤ *Data Analysis Results.*

Socio-demographic information. descriptive statistics

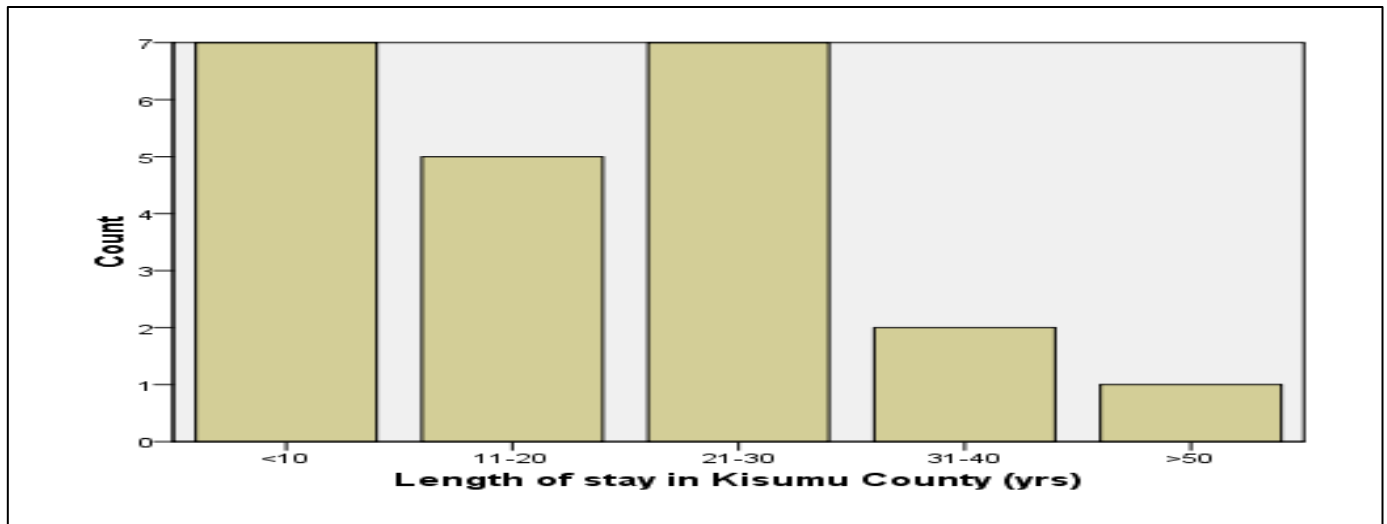


Fig 9: Descriptive Statistics

Those who have stayed for less than 10 yrs and those who have stayed for between 21-30 yrs are the majority, accounted for by 31.8% each. The 11-20 yrs were 22.7%, 31-40 yrs were 9.1% and above 50 yrs were 4.5%.

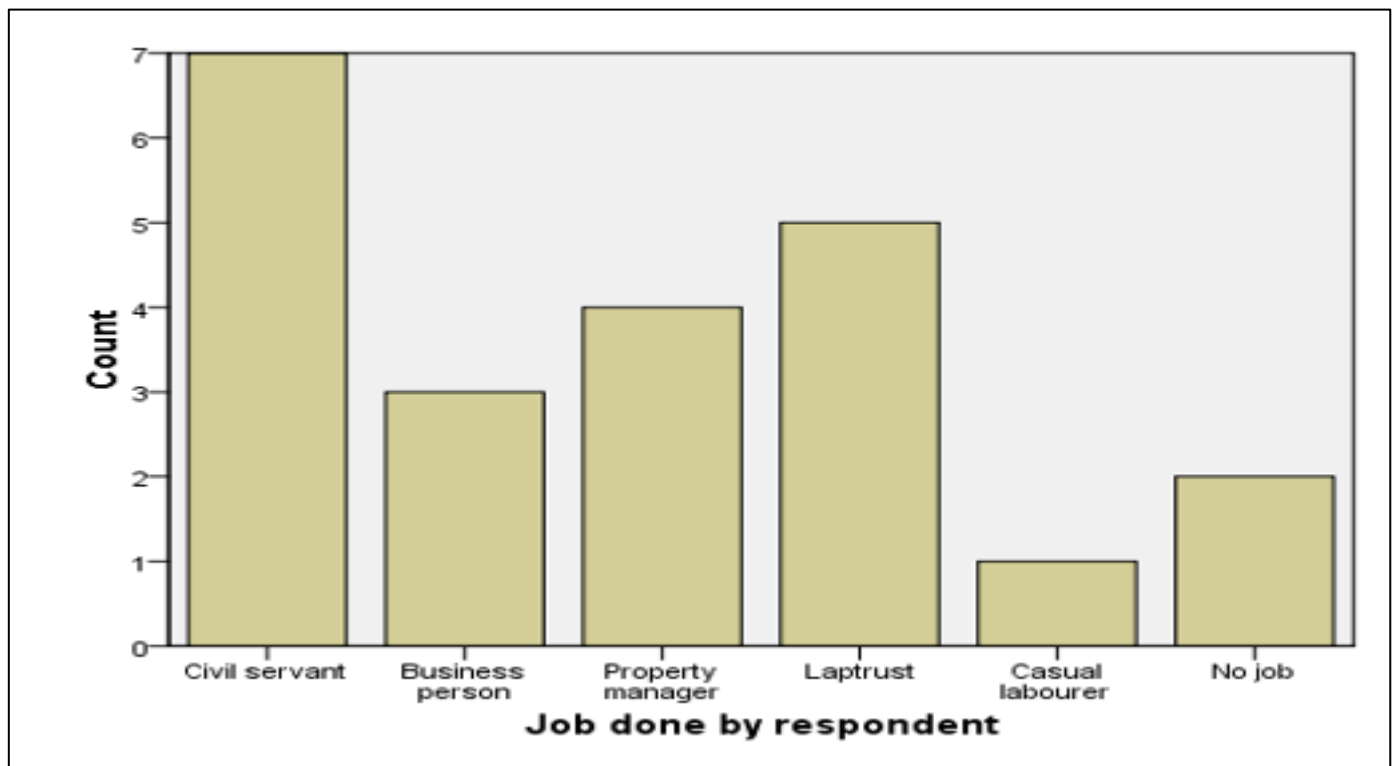


Fig 10: Civil Servants Topped the List of Respondents, Approved by 31.8%, followed by LAPTRUST at 22.7%, property managers at 18.2%, businesspersons at 13.6%, No job at 9.1% and casual laborers at 4.5%.

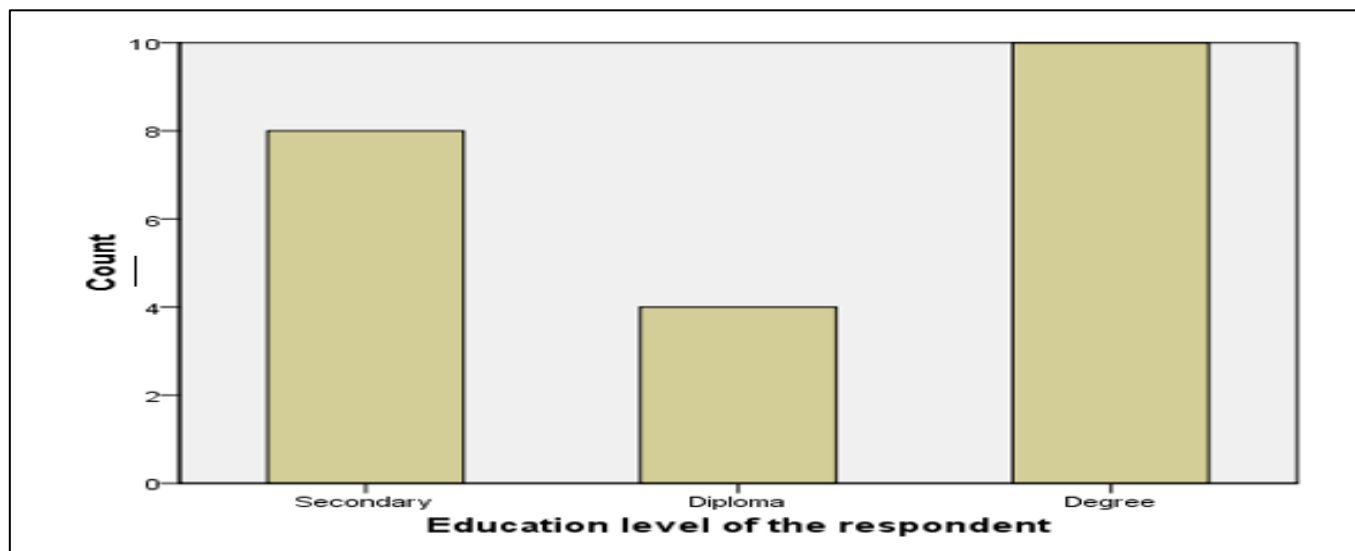


Fig 4.32: The degree certificates topped the list of respondents, confirmed by 45.5%, followed by those with secondary level certificates at 36.3% and diploma at 18.2%.

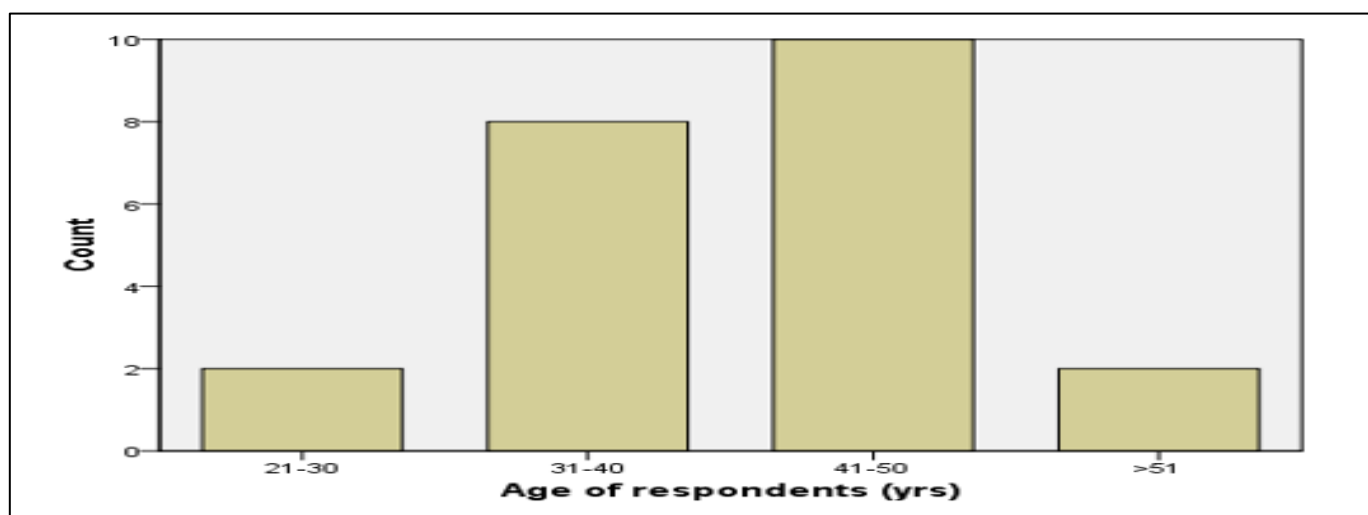


Figure 4.1: Age 41-50 yrs are the majority at 45.5%, followed by age 31-40 yrs and tying at 9.1% each were ages 21-30 and above 50 yrs

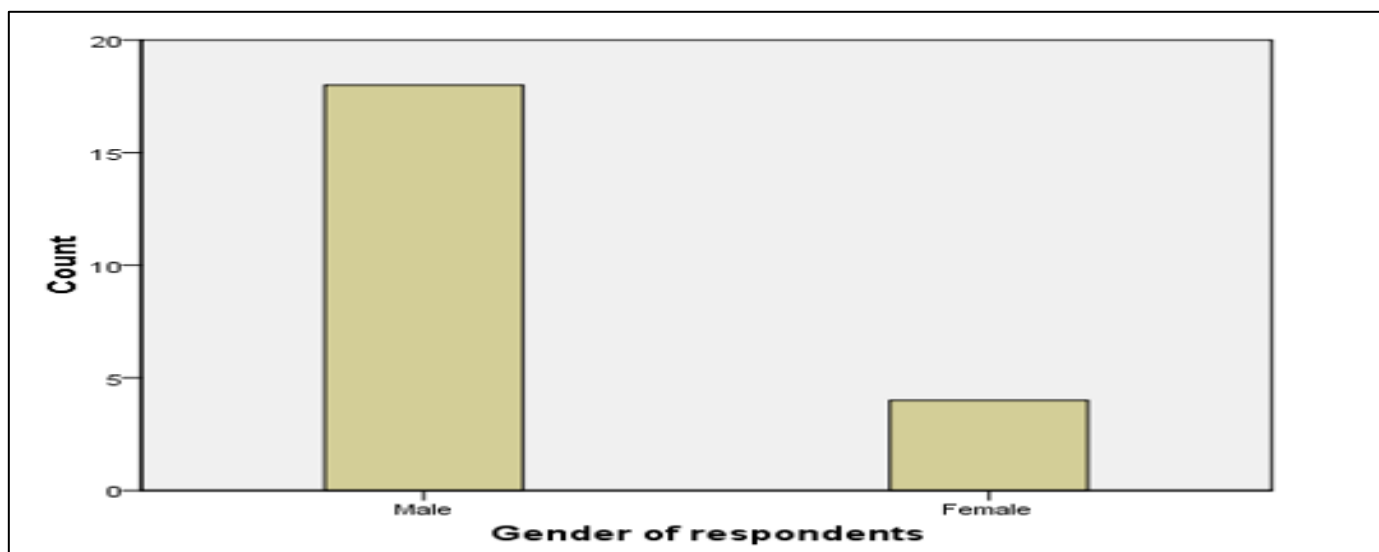


Fig 4.34: Male gender was the majority at 77.3%, followed by female Gender at 22.7

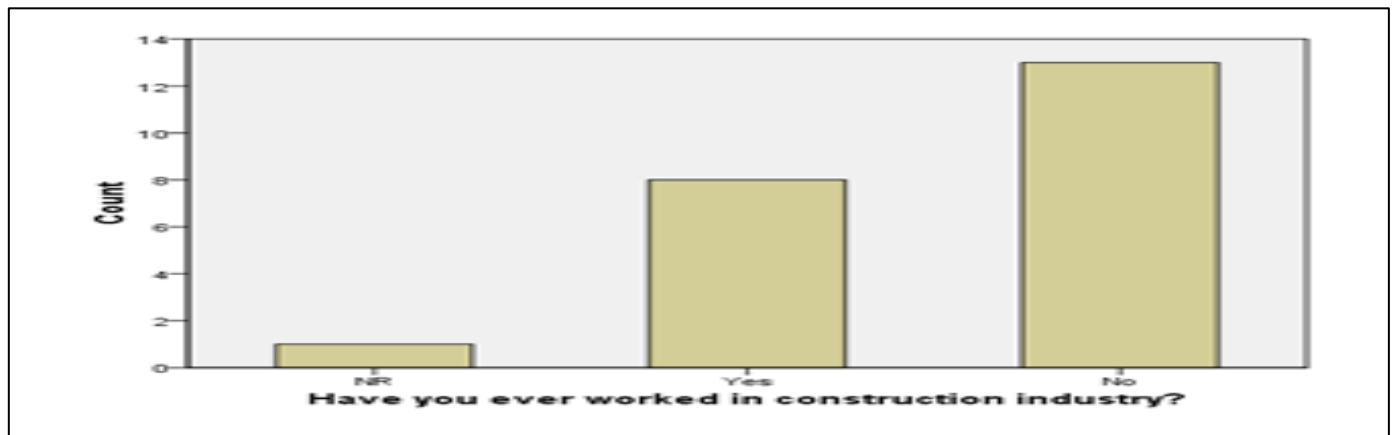


Fig 4.35: A majority accounting for 59.1% have not worked in Construction Company, while 36.3% have worked.4.5% did not answer the question.

➤ *Analyses Related to Stakeholder Involvement.*

Table 37: Whether One Witnessed Any Demolition of Residential Buildings and Premises in Anderson- Ofafa Estate, Kisumu Town?

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	No response	1	4.5	4.5	4.5	.0	4.2
	Yes	21	95.5	95.5	100.0	.0	4.2
	Total	22	100.0	100.0		-33.6	47.3

Source- Interview Data, 2022

Those who witnessed the demolitions were the majority, accounting for 95.5% of the respondents. 4.5% of the respondents did not respond.

Table 38: What was the Purpose of the Demolitions?

		Frequency	percent	Valid percent	Cummulative percent	Bootstrap for percenta Bias.
Valid	Demolition of unwanted structures.	3	13.6	13.6	13.6	- .1
	Reduce road reserve encroachment.	1	4.5	4.5	18.2	- .1
	Urban regeneration.	5	22.7	22.7	40.9	.1
	Construction of affordable housing.	13	59.1	59.1	100	.2
	Total.	22	100.0	100.0		.0

Source- Interview Data, 2022

Many respondents admitted that the purpose of the demolitions was to pave way for construction of the affordable housing units, approved by 59.1%. Those who believed that it was for urban regeneration were 22. 7%. Those who quoted demolition of unwanted structures as the purpose were 13.6%, while 4.5% believed that it was to reduce road reserve encroachment

Table 39: Whether one Witnessed or heard of any Demonstration over the Demolitions?

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	No response	1	4.5	4.5	4.5	-.1	4.4
	Yes	19	86.4	86.4	90.9	.3	7.5
	No	2	9.1	9.1	100.0	-.1	6.4
	Total	22	100.0	100.0		-5.0	21.8

Source -Interview Data, 2022

Many respondents accounting for 86.4% confirmed hearing or witnessing the demolitions.9.1percentage did not hear or witness and another 4.5% did not respond.

Table 40: What Were the Causes of the Demonstrations?

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}
						Bias
Valid	Resistance to change	2	9.1	9.1	9.1	.1
	Not applicable	2	9.1	9.1	18.2	-.1
	Land grabbing	1	4.5	4.5	22.7	.0
	Project resistance	3	13.6	13.6	36.4	.1
	Politics	2	9.1	9.1	45.5	.2
	Project communication deficit	1	4.5	4.5	50.0	-.1
	Relocation of social amenities	4	18.2	18.2	68.2	-.4
	Short vacation notice	5	22.7	22.7	90.9	.0
	Unlawful demolitions	2	9.1	9.1	100.0	.0
Total		22	100.0	100.0		.0

Source- Interview Data, 2022

The cause of the demonstrations was majorly as a result of short vacation notice, confirmed by 22.7% of the respondents. Other causes were relocation of social amenities, 18.2%, project resistance, 13.6%, unlawful demolitions, 9.1%, mere politicking, 9.1%, resistance to change, 9.1%, project communication deficit, 4.5%, land grabbing, 4.5%. Those who had no idea were 9.1%

Table 41: If The Demonstrations Witnessed Could Pose Any Danger to the Project

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	Yes	10	45.5	45.5	45.5	.0	10.7
	No	10	45.5	45.5	90.9	.3	10.6
	Not sure	2	9.1	9.1	100.0	-.2	6.1
	Total	22	100.0	100.0		.0	.0

Source- Interview Data, 2022

The majority of the respondents were non-committal on whether the demonstrations could pose any danger, with those on the positive side accounting for 45.5%, while at the same time those thought otherwise were also 45.5%. Only 9.1% were not sure.

Table 42: What Dangers

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}
						Bias
Valid	Bad relations with project team	3	13.6	13.6	13.6	-.1
	Delays in project implementation	3	13.6	13.6	27.3	-.1
	Erosion of public confidence	1	4.5	4.5	31.8	-.2
	Sabotage	1	4.5	4.5	36.4	.1
	Scare away investors	1	4.5	4.5	40.9	.2
	No dangers	1	4.5	4.5	45.5	.1
	Not applicable	12	54.5	54.5	100.0	.0
	Total	22	100.0	100.0		.0

Source- Interview Data, 2022

Among the dangers topping the list as a result of the demonstrations, are bad relations with the project team and delays in project implementation each confirmed by 13.6% of the respondents? Others are erosion of public confidence, sabotage, and scare away investors, all at 4.5% approval. Those who had no idea were 54.5%

Table 43: Any Public Participation Organized

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percental	
						Bias	Std. Error
Valid	Yes	21	95.5	95.5	95.5	-.2	4.5
	No	1	4.5	4.5	100.0	.2	4.5
	Total	22	100.0	100.0		-34.5	47.6

Source: Interview Data, 2022

The overwhelming majority, accounting for 95.5% confirmed that public participation was indeed organized by the county government of Kisumu and the project sponsors. Only 4.5% were of the contrary opinion

Table 44: Did they Address Concerns?

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percental	
						Bias	Std. Error
Valid	Yes	19	86.4	86.4	86.4	-.2	7.8
	No	1	4.5	4.5	90.9	.1	4.6
	Not sure	2	9.1	9.1	100.0	.2	6.4
	Total	22	100.0	100.0		-4.0	19.6

Source- Interview Data, 2022

The concerns of the stakeholders including the project-affected persons were addressed, confirmed by 86.4% of the respondents. 9.1% were not sure and another 4.5% said no.

Table 4.5: What are the Concerns

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}
						Bias
Valid	Affordability of houses	3	13.6	13.6	13.6	.4
	Compensation period	2	9.1	9.1	22.7	-.1
	Employment of locals in construction	6	27.3	27.3	50.0	-.4
	Unclear relocation plans available	5	22.7	22.7	72.7	-.2
	Project implementation timeframe	3	13.6	13.6	86.4	.1
	Not applicable	3	13.6	13.6	100.0	.2
	Total	22	100.0	100.0		.0

Source: Interview Data, 2022

Employment of locals topped the concerns of the project stakeholders, accounting for 27.3%, followed by unclear relocation plans at 22.7%. Other concerns were affordability issues of the completed housing units, at 13.6%, project implementation timeframe at 13.6%, and compensation period at 9.1%. Those who had no idea accounted for 13.6%.

Table 46: Were the Concerns Addressed?

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	Yes	20	90.9	90.9	90.9	-.2	6.4
	Not sure	2	9.1	9.1	100.0	.2	6.4
	Total	22	100.0	100.0		-14.3	35.0

Source- Interview Data, 2022

Overwhelming majority confirmed that the concerns were addressed, accounting for 90.9%. Only 9.1% were not sure.

Table 47: Why Continued Resistance?

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	
Valid	Don't want change	1	4.5	4.5	4.5	.0	
	Incomplete compensation	5	22.7	22.7	27.3	.2	
	Unsatisfied residents	11	50.0	50.0	77.3	-.2	
	Political interests	3	13.6	13.6	90.9	-.1	
	Varied interests	1	4.5	4.5	95.5	-.1	
	Not applicable	1	4.5	4.5	100.0	.2	
	Total	22	100.0	100.0		.0	

Source- Interview Data, 2022

Many respondents were still not satisfied despite several public participation sessions organized over the project, accounting for 50% of the total respondents. Others quoted incomplete compensations at 22.7%, political interests, at 13.6%, resistance to change and varied interests each at 4.5%. Those who had no idea were 4.5%.

➤ *Objective 1-*

To examine the extent to which stakeholder perception towards socio-political risk factors influence the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City.

Table 48: Do you Foresee any Adverse Effect of Stakeholder Actions towards the Implementation of the Housing Project?

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Yes	14	63.7	63.7	63.7
	No	4	18.2	18.2	81.9
	DK	1	4.5	4.5	86.4
	Not sure	3	13.6	13.6	100
	Total	22	100	100	

Source: Interview Data 2022

A majority of the respondents, accounting for 63.7% were of the opinion that the stakeholder actions could have adverse effects on the implementation of the affordable housing project. The 'No' response accounted for by 18.2%, 'Not sure' by 13.6% and the 'Don't know' group by 4.5%.

Table 49: Potential Problems/Adverse Effects Related To Social, Political And Cultural Factors.

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	
Valid	Pressure groups	4	18.2	18.2	18.2	.1	
	Political consensus	5	22.7	22.7	40.9	-.8	
	Corruption	2	9.1	9.1	50.0	.1	
	Bad blood between PMT and the public.	1	4.5	4.5	54.5	-.2	
	Contractor change	3	13.6	13.6	68.2	.7	
	Not applicable	7	31.8	31.8	100.0	.1	
	Total	22	100.0	100.0		.0	

Source- Interview Data, 2022

Potential problems/adverse effects related to politics, cultural and sociological factors isolated in order of priority were; lack of political consensus, affirmed by 22.7%, pressure group formations/threats, 18.2%, change of contractors, 13.6%, Corruption/bribery, 9.1% and bad blood between project management team and the public, affirmed by 4.5% of the respondents.

Table 50: Possibility of Occurrence related to Politics, Cultural and Sociological Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	Almost certain	13	59.1	59.1	59.1	-.1	10.5
	Likely	2	9.1	9.1	68.2	.1	6.1
	UN	7	31.8	31.8	100.0	.1	9.8

	Total	22	100.0	100.0		.0	.0
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Source: Interview Data, 2022

The possibility of occurrence of socio-political, and cultural factors is almost certain, confirmed by 59.1%, those who proposed their occurrence as likely were 9.1% and those who had no idea were 31.8%

Table 51: Degree of Occurrence related to Politics, Cultural and Sociological Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	VH	12	54.5	54.5	54.5	.4	10.3
	H	3	13.6	13.6	68.2	-.5	7.2
	UN	7	31.8	31.8	100.0	.1	9.8
	Total	22	100.0	100.0		.0	.0

Source: Interview Data, 2022

The degree of occurrence is very high, approved by 54.5%, high, 13.6%, while those who were unable to answer were 31.8%.

Table 52: Severity of likelihood of harm related to Politics, Cultural and Sociological Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	>50%	7	31.8	31.8	31.8	.0	10.1
	40-49%	4	18.2	18.2	50.0	-.1	8.5
	30-39%	3	13.6	13.6	63.6	.1	7.2
	20-29%	1	4.5	4.5	68.2	.0	4.5
	N/A	7	31.8	31.8	100.0	.1	9.8
	Total	22	100.0	100.0		.0	.0

Source- Interview Data, 2022

The severity of likelihood of harm is 50% and above, supported by 31.8%. Those who argue that the severity is between 40-49% were 18.2%, while for those whose opinion supported a severity of between 20-29 were 4.5%. Those who had no idea were 31.8%.

Table 53: Populations that could be Affected by Politics, Cultural and Sociological Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	Contractors	2	9.1	9.1	9.1	.5	6.2
	General public	13	59.1	59.1	68.2	-.6	10.3
	Not applicable	7	31.8	31.8	100.0	.1	9.8
	Total	22	100.0	100.0		.0	.0

Source- Interview Data, 2022

The general public is the category of stakeholders who will be affected most by socio-political and cultural factors, accounted for by 59.1% while contractors follow suite, accounted for by 9.1%. Those with no idea are accounted for by 31.8%.

Table 54: Management Strategy for Problems/Adverse Effects Related to Politics, Cultural and Sociological Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	Mitigate	12	54.5	54.5	54.5	-.4	10.7
	Escalate	1	4.5	4.5	59.1	.0	4.5
	Avoid	2	9.1	9.1	68.2	.4	6.3
	Not applicable	7	31.8	31.8	100.0	.1	9.8
	Total	22	100.0	100.0		.0	.0

Source- Interview Data, 2022

The most important strategy to manage socio-political and cultural risks is mitigation, accounted for by 54.5%, avoid risk response strategy follows, supported by 9.1% and escalate, approved by 4.5%.

➤ *Objective 2*

To explore the level of influence that stakeholder perception towards government regulatory risk factors influence the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City.

Table 55: Potential Problem/Adverse Effects Related to Regulatory or Legal Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al} Bias	
Valid	No response	8	36.4	36.4	36.4	-.1	
	Expropriation	3	13.6	13.6	50.0	.0	
	Price fluctuation	2	9.1	9.1	59.1	.1	
	Financial failure	1	4.5	4.5	63.6	.0	
	Delays in payments to contractors/workers.	3	13.6	13.6	77.3	-.1	
	Minimal community participation	1	4.5	4.5	81.8	-.2	
	Delays in Implementation	1	4.5	4.5	86.4	-.3	
	Unemployment	2	9.1	9.1	95.5	.5	
	Not applicable	1	4.5	4.5	100.0	.0	
	Total	22	100.0	100.0		.0	

Source- Interview Data, 2022

The listed problems/ adverse effects related to regulatory/ legal risks in order of relevance are; Expropriation and delays in payments to workers / contractors, accounted for by 13.6% each, followed by fluctuation of prices of goods and services and unemployment each at 9.1%, and financial failure / minimal community participation each at 4.5%. Those who did not respond were 36.4%, while those with no idea were 4.5%.

Table 56: Possibility of Occurrence of Regulatory/Legal Risks

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al} Bias Std. Error	
Valid	NR	8	36.4	36.4	36.4	-.1	10.0
	Almost Certain	8	36.4	36.4	72.7	-.2	10.4
	Likely	5	22.7	22.7	95.5	.2	9.1
	Rare	1	4.5	4.5	100.0	.0	4.5
	Total	22	100.0	100.0		.0	.0

Source: Interview Data, 2022

The possibility of occurrence of regulatory/ legal risks is almost certain, at 36.4%. Those who view their occurrence as likely are 22.7%, while those who see it as rare are 4.5%. No response accounted for by 36.4%.

Table 57: Degree of Occurrence of Regulatory Risk

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al} Bias Std. Error	
Valid	NR	8	36.4	36.4	36.4	-.1	10.0
	VH	6	27.3	27.3	63.6	.2	9.5
	H	7	31.8	31.8	95.5	-.2	10.0
	UN	1	4.5	4.5	100.0	.0	4.5
	Total	22	100.0	100.0		.0	.0

Source- Interview Data, 2022

The degree of occurrence of regulatory risk is high at 31.8%. Other propositions are; very high at 27.3%. Those unable to answer are 4.5% and those with no response are 36.4%.

Table 58: Severity of Likelihood of Harm Related to Regulatory or Legal Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	NR	8	36.4	36.4	36.4	-.1	10.0
	>50%	2	9.1	9.1	45.5	.2	6.1
	40-49%	5	22.7	22.7	68.2	.0	8.6
	30-39%	6	27.3	27.3	95.5	-.2	9.6
	N/A	1	4.5	4.5	100.0	.0	4.5
	Total	22	100.0	100.0		.0	.0

Source- Interview Data, 2022

Severity of likelihood of harm stands at between 30-39%, confirmed by 27.3%. Those with different proposals include; between 40-49% at 22.7%, 50% and above at 9.1%, the no response group at 36.4% and those with no idea are 4.5%.

Table 59: Populations that could be Affected by Regulatory or Legal Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	No response	8	36.4	36.4	36.4	-.1	10.0
	Clients	1	4.5	4.5	40.9	-.3	4.2
	Contractors	4	18.2	18.2	59.1	.0	8.0
	General public	8	36.4	36.4	95.5	.4	9.8
	Not applicable	1	4.5	4.5	100.0	.0	4.5
	Total	22	100.0	100.0		.0	.0

Source- interview data, 2022.

The population that could be adversely affected by regulatory/legal risk factors is the general public, confirmed by 36.4% of the respondents. Those who cited contractors were 18.2%, and clients were 4.5%. Those who did not respond were 36.4% and the not applicable groups were 4.5%.

Table 60: Management Strategy Related to Regulatory or Legal Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	No response	8	36.4	36.4	36.4	-.1	10.0
	Mitigate	1	4.5	4.5	40.9	.2	4.5
	Escalate	5	22.7	22.7	63.6	.0	8.7
	Accept	7	31.8	31.8	95.5	-.2	9.9
	Not applicable	1	4.5	4.5	100.0	.0	4.5
	Total	22	100.0	100.0		.0	.0

Source: Interview Data, 2022

The most appropriate management strategy for regulatory risk factors is the 'Accept risk response strategy', supported by 31.8%. Other proposals are 'Escalate', at 22.7%, and 'Mitigate' at 4.5%. No response accounted for by 36.4%. Those with no idea accounted for by 4.5%.

➤ Objective 3

To find out by what magnitude stakeholder perception towards financial /monetary risk factors influence the implementation of the affordable housing project in Anderson-Ofafa estate, Kisumu City.

Table 61: Potential Problems/Adverse Effects Related to Financial or Monetary Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	
Valid	Inflation	9	40.9	40.9	40.9	.5	
	Natural calamities	1	4.5	4.5	45.5	.0	
	Housing units Affordability.	1	4.5	4.5	50.0	-.2	
	Challenges in acquiring land.	4	18.2	18.2	68.2	.0	
	Economic downturn	1	4.5	4.5	72.7	-.3	
	Not applicable	6	27.3	27.3	100.0	.0	
	Total	22	100.0	100.0		.0	

Source- Interview Data, 2022

The potential problems associated with financial/ monetary risk factors in order of relevance are; Inflation, supported by 40.9%, followed by challenges in acquiring land at 18.2%, housing units' affordability and economic downturn each at 4.5%. Those with no idea accounted for 27.3%.

Table 62: Possibility of Occurrence Related to Financial or Monetary Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	Almost certain	10	45.5	45.5	45.5	-.4	10.5
	Possible	3	13.6	13.6	59.1	.2	7.4
	Unlikely	1	4.5	4.5	63.6	.1	4.3
	Rare	1	4.5	4.5	68.2	.0	4.5
	UN	7	31.8	31.8	100.0	.1	9.8
	Total	22	100.0	100.0		.0	.0

Source: Interview Data, 2022

The possibility of occurrence of financial/ monetary risk factors is almost certain, accounted for by 45.5%. Other proposals include, possible at 13.6%, unlikely and rare at each at 4.5% and those with no idea accounted for by 31.8%.

Table 63: Degree of Occurrence of factors related to Financial or Monetary Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	VH	10	45.5	45.5	45.5	.0	10.4
	H	3	13.6	13.6	59.1	-.2	7.0
	M	1	4.5	4.5	63.6	.1	4.3
	VL	1	4.5	4.5	68.2	.0	4.5
	UN	7	31.8	31.8	100.0	.1	9.8
	Total	22	100.0	100.0		.0	.0

Source: Interview Data, 2022

The degree of occurrence of financial/ monetary risk factors is very high, affirmed by 45.5%. Other proposals are, high at 13.6%, medium and very low each at 4.5%. Those unable to answer accounted for 31.8% of the respondents.

Table 64: Severity of likelihood of harm related to Financial or Monetary Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	>50%	6	27.3	27.3	27.3	.7	9.4
	40-49%	6	27.3	27.3	54.5	-.5	9.3
	30-39%	2	9.1	9.1	63.6	-.2	5.7
	<19%	1	4.5	4.5	68.2	.0	4.5

	N/A	7	31.8	31.8	100.0	.1	9.8
	Total	22	100.0	100.0		.0	.0

Source- Interview Data, 2022

There was a difference in opinion in the severity of likelihood of harm associated with financial/ monetary risk factors with others quoting above 50%, while others quoting between 40-49%. However, results from quantitative data analysis on the same subject indicated above 50%; and hence is adopted. Other proposals were between 30-39% at 9.1% and below 19% at 4.5%. Those with no idea accounted for 31.8%

Table 65: Populations that could be Affected by Financial or Monetary Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	Contractors	2	9.1	9.1	9.1	-.3	6.0
	General public	13	59.1	59.1	68.2	.3	10.0
	Not applicable	7	31.8	31.8	100.0	.1	9.8
	Total	22	100.0	100.0		.0	.0

Source: Interview Data, 2022

The population that could be greatly affected by financial/ monetary risk factors is the general public, supported by 59.1%. The other proposal is contractors at 9.1%. Those with no idea accounted for 31.8%.

Table 66: Management Strategy Related to Financial or Monetary Factors

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	No response	1	4.5	4.5	4.5	.2	4.6
	Mitigate	1	4.5	4.5	9.1	.0	4.5
	Escalate	8	36.4	36.4	45.5	.0	10.3
	Avoid	1	4.5	4.5	50.0	-.1	4.3
	Accept	4	18.2	18.2	68.2	-.2	8.0
	Not applicable	7	31.8	31.8	100.0	.1	9.8
	Total	22	100.0	100.0		.0	.0

Source: Interview Data, 2022

The most important management strategy is 'Escalate risk response strategy', supported by 36.4%, followed by 'Accept' at 18.2%, 'Avoid' and 'Mitigate', each at 4.5%. The no idea group accounted for 31.8%, while the no response group accounted for 4.5%.

- Note- The test was originally set at 5% level of significance, which represents 95% confidence interval.

Table 67: Proximity Matrix

	Correlation between Vectors of Values		
	Severity of likelihood of harm related to Politics, Cultural and Sociological Factors	Severity of likelihood of harm related to Regulatory or Legal Factors	Severity of likelihood of harm related to Financial or Monetary Factors
Severity of likelihood of harm related to Politics, Cultural and Sociological Factors	1.000	-.373	.838
Severity of likelihood of harm related to Regulatory or Legal Factors	-.373	1.000	-.381
Severity of likelihood of harm related to Financial or Monetary Factors	.838	-.381	1.000

Source- interview data, 2022.

This is a similarity matrix

Table 68: Correlations

		Severity of likelihood of harm related to Politics, Cultural and Sociological Factors	Severity of likelihood of harm related to Regulatory or Legal Factors	Severity of likelihood of harm related to Financial or Monetary Factors
Severity of likelihood of harm related to Politics, Cultural and Sociological Factors	Pearson Correlation	1	-.373	.838**
	Sig. (2-tailed)		.087	.000
	N	22	22	22
Severity of likelihood of harm related to Regulatory or Legal Factors	Pearson Correlation	-.373	1	-.381
	Sig. (2-tailed)	.087		.080
	N	22	22	22
Severity of likelihood of harm related to Financial or Monetary Factors	Pearson Correlation	.838**	-.381	1
	Sig. (2-tailed)	.000	.080	
	N	22	22	22
Z-score: Severity of likelihood of harm related to Politics, Cultural and Sociological Factors	Pearson Correlation	1.000**	-.373	.838**
	Sig. (2-tailed)	.000	.087	.000
	N	22	22	22
Z-score: Severity of likelihood of harm related to Regulatory or Legal Factors	Pearson Correlation	-.373	1.000**	-.381
	Sig. (2-tailed)	.087	.000	.080
	N	22	22	22
Z-score: Severity of likelihood of harm related to Financial or Monetary Factors	Pearson Correlation	.838**	-.381	1.000**
	Sig. (2-tailed)	.000	.080	.000
	N	22	22	22

Source: Interview Data, 2022.

The correlation of severity of likelihood of harm between social, political and cultural factors and regulatory risk factors is not statistically significant (.087) at 0.05, 2-tailed and a negative correlation coefficient of -.373. The results means that there is a 5% chance that the results were found by chance alone and no true relationship exist between the variables compared. The results further indicate that the correlation of severity of likelihood of harm between social, political and cultural factors and financial risk factors is statistically significant (.000) at 0.05, 2-tailed and a positive correlation coefficient of .838. The results mean that there is a 95% probability that the results represent a true relationship between the variables compared. On the other hand, the severity of likelihood of harm between regulatory risk factors and financial risk factors is not statistically significant (.080) at 0.05, 2-tailed and a negative correlation coefficient of -.381. The results also means that there is a 5% chance that the results were found by chance alone and no true relationship exist between the variables compared.

The correlation between socio-political risk factors and severity of likelihood of harm is statistically significant at the 0.05 level (2-tailed) with a perfect positive correlation (1.000). On the other hand, correlation between financial risk factors and severity of likelihood of harm is also statistically significant at the 0.05 level (2-tailed) with a strong positive correlation (.838). All the three results mean that three variables significantly predicted the severity of likelihood of harm. Alternatively, there is 95% confidence interval that the results are correct. As the three risk factors increased in intensity, their influence on project performance also increased. The correlation between regulatory risk factors and severity of likelihood of harm is statistically insignificant at the 0.05 level (2-tailed) with a negative correlation (-.373) (no difference between the group). This means that the regulatory risk factors did not significantly predict/ influence project performance. As regulatory risk factors increased in intensity, its influence on project performance also decreased.

Table 69: Are there Any Factors Affecting Costs and Schedule Overrun?

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	No Response	1	4.5	4.5	4.5	.2	4.7
	Yes	15	68.2	68.2	72.7	.0	10.1
	No	4	18.2	18.2	90.9	-.1	8.4
	Not sure	2	9.1	9.1	100.0	-.1	6.1
	Total	22	100.0	100.0		.0	.0

Source: Interview Data, 2022

The majority of the respondents, accounting for 68.2% said yes. The no response group accounted for 4.5% and the not sure group at 9.1%. Those who said there are no factors affecting costs and schedule overruns accounted for by 18.2%.

Table 70: Which are the Factors?

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}
						Bias
Valid	No response	3	13.6	13.6	13.6	-.2
	High Cost of living	5	22.7	22.7	36.4	-.1
	Inflation of material cost	4	18.2	18.2	54.5	.1
	Conditions on construction site	1	4.5	4.5	59.1	-.1
	Errors in Project Design	1	4.5	4.5	63.6	.1
	High taxation regime	1	4.5	4.5	68.2	-.3
	Inadequate cost estimation	4	18.2	18.2	86.4	.4
	Not applicable	3	13.6	13.6	100.0	.0
	Total	22	100.0	100.0		.0

Source: Interview Data, 2022

The factors affecting cost and schedule overruns in order of relevance include; high cost of living at 22.7%, inflation of building materials cost and inadequate cost estimation each at 18.2%, conditions on construction site, errors in project design and high taxation regime, all at 4.5% each. Those with no idea and the no response groups each accounted for 13.6%.

Table 71: Likelihood of Cost and Schedule Impacts on this Project?

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	Yes	17	77.3	77.3	77.3	.1	8.8
	No	3	13.6	13.6	90.9	.0	7.4
	Don't know	1	4.5	4.5	95.5	.0	4.4
	Not sure	1	4.5	4.5	100.0	-.1	4.4
	Total	22	100.0	100.0		-.2	4.5

Source: Interview Data, 2022

There is a likelihood of cost and schedule impact on the affordable housing project, supported by 77.3%. Other responses were; No at 13.6%, don't know and not sure each at 4.5%.

Table 72: Factors that Could Impact on Project Cost and Schedule

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}
						Bias
Valid	Competition for houses	3	13.6	13.6	13.6	.0
	Delays in project implementation	3	13.6	13.6	27.3	.5
	High cost of housing units	6	27.3	27.3	54.5	-.5
	Inflation	5	22.7	22.7	77.3	.0
	Not applicable	5	22.7	22.7	100.0	-.1

	Total	22	100.0	100.0		.0
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Source: Interview Data, 2022

The factors that could impact on project cost and schedule in order of relevance include; high cost of housing units at 27.3%, inflation at 22.7%, competition for the completed houses and delays in project implementation each at 13.6%. The no idea group accounted for 22.7%.

Table 73: Degree of Impact

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	NR	9	40.9	40.9	40.9	-.1	10.3
	30-39%	3	13.6	13.6	54.5	.1	7.2
	40-49%	2	9.1	9.1	63.6	.0	6.2
	>50%	2	9.1	9.1	72.7	.0	6.3
	N/A	6	27.3	27.3	100.0	.0	9.3
	Total	22	100.0	100.0		.0	.0

Source: Interview Data, 2022

The degree of impact of the listed factors on project cost and schedule is 30-39%, supported by 13.6%. Other proposals are that the impact is at between 40-49% and above 50% each at 9.1%. The no idea group and the no response group accounted for 27.3% and 40.9% respectively.

Table 74: Are there Factors that Could Compromise Quality?

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	Yes	14	63.6	63.6	63.6	.6	10.0
	No	4	18.2	18.2	81.8	-.1	8.3
	Not sure	4	18.2	18.2	100.0	-.5	8.2
	Total	22	100.0	100.0		.0	.0

Source- Interview Data, 2022

There are factors that could compromise quality, affirmed by 63.6%. The no response and the not sure groups each accounted for 18.2%.

Table 75: Factors that could compromise project quality performance

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}
						Bias
Valid	Low quality materials	2	9.1	9.1	9.1	.2
	Not applicable	8	36.4	36.4	45.5	-.6
	Change in contractors	2	9.1	9.1	54.5	-.1
	Conflict in Project implementation	2	9.1	9.1	63.6	.4
	Inflation	2	9.1	9.1	72.7	.1
	Unrevised project cost	2	9.1	9.1	81.8	-.2
	Labor outsourcing	1	4.5	4.5	86.4	.2
	Political interference	3	13.6	13.6	100.0	.0
	Total	22	100.0	100.0		.0

Source: Interview Data, 2022.

The factors in order of relevance include; political interference at 13.6%, low quality materials, change in contractors, conflict in project implementation, inflation, and unrevised project cost, all at 9.1% each, labor outsourcing completes the list at 4.5%. Those with no idea account for 36.4%.

Table 76: Degree of Impact

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	40-49%	2	9.1	9.1	9.1	.4	6.3
	>50%	12	54.5	54.5	63.6	.2	11.0
	N/A	8	36.4	36.4	100.0	-.6	10.0
	Total	22	100.0	100.0		.0	.0

Source: Interview Data, 2022

The degree of impact on project quality performance is above 50%, confirmed by 54.5%. the other proposal is between 40-49%, affirmed by 9.1%. The no idea group is at 36.4%.

➤ *Objective 4*

To develop an updated risk register based on assessed risk value of perceived influence on the implementation of the affordable housing project in anderson-ofafa estate, kisumu city.

Table 77: Whether Development of Updated Risk Register and Risk Management Plan Could Influence Project Performance?

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	Yes	20	90.9	90.9	90.9	-.1	6.2
	No	1	4.5	4.5	95.5	.1	4.5
	Not sure	1	4.5	4.5	100.0	.0	4.4
	Total	22	100.0	100.0		-12.8	33.4

Source: Interview Data, 2022

The development of updated risk register and risk management plan will influence project performance, supported by 90.9%. Those with contrary opinion and those not sure of any answer are each at 4.5%.

Table 78: Influence of Updated Risk Register on Project Performance According to Scale

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}	
						Bias	Std. Error
Valid	NR	1	4.5	4.5	4.5	.0	4.4
	<20%	1	4.5	4.5	9.1	-.1	4.3
	20-29%	1	4.5	4.5	13.6	-.1	4.4
	40-49%	4	18.2	18.2	31.8	-.2	8.3
	>50%	15	68.2	68.2	100.0	.5	10.1
	Total	22	100.0	100.0		.0	.0

Source: Interview Data, 2022

The influence of updated risk register according to scale is above 50%, accounted for by 68.2%. Other proposals include 40-49 % at 18.2%, 20-29% and less than 20% each at 4.5%. The no response group accounted for by 4.5% of the respondents.

Table 79: Risk Identified for Inclusion in a Risk Register

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^{al}
						Bias
Valid	No response	1	4.5	4.5	4.5	.0
	Bribery/Corruption	3	13.6	13.6	18.2	.1
	Delays in workers payment	1	4.5	4.5	22.7	-.1
	Changes in land ownership policies	3	13.6	13.6	36.4	-.2
	Delay in project implementation	3	13.6	13.6	50.0	.0
	High unemployment rates	1	4.5	4.5	54.5	.3

	Political interference	5	22.7	22.7	77.3	-.3
	Interference of civil rights groups	4	18.2	18.2	95.5	.2
	Not applicable	1	4.5	4.5	100.0	.0
	Total	22	100.0	100.0		.0

Source: Interview Data, 2022

The risks identified for inclusion in s risk register in order of relevance include; political interference at 22.7%. Interference from civil rights group at 18.2%, delays in workers payments, changes in land ownership policies in Kisumu town, delay in project implementation, all at 13.6%. The no idea group and no response group each accounted for by 4.5%.

Table 80: Other Additional Risks of Concern

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a Bias
Valid	No response	1	4.5	4.5	4.5	.0
	Land acquisition risk	2	9.1	9.1	13.6	.0
	Nor applicable	1	4.5	4.5	18.2	.0
	Inflation	4	18.2	18.2	36.4	.1
	Financial difficulties	1	4.5	4.5	40.9	-.1
	Level of political consensus	4	18.2	18.2	59.1	-.2
	Pressure groups	3	13.6	13.6	72.7	-.1
	Bribery/corruption	3	13.6	13.6	86.4	.2
	Delays in payments	2	9.1	9.1	95.5	.1
	Inadequate Community participation	1	4.5	4.5	100.0	-.1
Total		22	100.0	100.0		.0

Source: Interview Data, 2022

The other additional risks of concern for the stakeholders in order of importance include; inflation and level of political consensus each at 18.2%, pressure group formation and bribery/ corruption each at 13.6%, land acquisition risk and delays in payments each at 9.1%, and inadequate community participation at 4.5%. Those who did not respond accounted for 4.5%.

Table 81: Recommendations Regarding Housing Project in Anderson Ofafa Estate

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a Bias
Valid	Good management of public projects	3	13.6	13.6	13.6	.4
	Adequate Schedule Contingency	1	4.5	4.5	18.2	.0
	Regular stakeholder feedback	10	45.5	45.5	63.6	-.3
	Avoid Project delays	4	18.2	18.2	81.8	-.4
	Timely project Implementation	2	9.1	9.1	90.9	.3
	Local community involvement in project actualization	2	9.1	9.1	100.0	.0
	Total	22	100.0	100.0		.0

Source: Interview Data, 2022

The various recommendations put forward by stakeholders in order of priority include; regular stakeholder feedback at 45.5%, avoiding project delay at 18.2%, good management of public projects at 13.6%, timely project implementation and local community involvement in project actualization each at 9.1%, and adequate schedule contingency at 4.5%.

APPENDIX 3: QUESTIONNAIRE

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY KISUMU CAMPUS

DATA COLLECTION TOOL.

1) QUESTIONNAIRE

INFORMED CONSENT FOR RESPONDENTS.

You are invited by Peterlis Ochieng ADM No P152/4343/2018, a student from Jaramogi Oginga Odinga University of Science and Technology, Kisumu Campus to take part in this research study. The research will study stakeholder attitude/ perception towards risk factors that are likely to influence the smooth implementation of affordable housing project in Anderson-Ofafa estate, Northern sub location, Kisumu Town. We would very much appreciate your participation in this survey. The survey will be done through administration of a questionnaire. You will be asked some questions concerning risk factors that could impact on the construction of the affordable housing. The whole process will take about 25 to 30 minutes. There are no direct benefits that you will gain in participating in this study like payments, but the outcome of this study will be used by policy makers to formulate policies and strategies on matters building construction which will have long term benefits.

Your response together with others will enable us gain an in- depth understanding on the deterrent factors facing this project. The information you give us will be kept confidential and will not be shared with anyone outside this study. Your name will not at any time be used or linked to any response you give. Participation in this study is voluntary ie you may choose to participate or not to participate. You are also free to respond to questions which you feel comfortable to answer. You can also stop participating at any time during the survey; however we hope that you will participate to the end since your views are very important. . Would you like to ask any question? Are you willing to participate in this study?

Yes..... No.....

Signature of interviewee..... Date.....

Signature of interviewer..... Date.....

NB- Relevance of socio-demographics: it will assist this study in determining whether it is reaching the target population, whether the researcher is gathering the information that is sought effectively and also assist in determining how close the sample replicates the population. However; only the most important socio-demographic data relevant to this study will be collected.

SECTION 1. RESPONDENT DEMOGRAPHIC INFORMATION.

101) Age in completed years.

- 1)18-28 yrs. ☐
- 3)29-39 yrs. ☐
- 2)40-50 yrs. ☐
- 4)51-61 yrs. ☐
- 5) Above 61 yrs. ☐

102) Gender

- 1) Male ☐
- 2) Female ☐
- 3) Others specify..... ☐

103) Education level

- 1) None ☐
- 2) Primary ☐
- 3) Secondary /college ☐
- 4) University ☐

104) Main source of income

- 1) None ☐
- 2) Farming ☐
- 3) Self-employed ☐
- 4) Salaried ☐
- 5) Remittances ☐
- 6) Others specify..... ☐

105) Stakeholder category

- 1) Community ☐
- 2) Political group ☐
- 3) Governmental group ☐
- 4) Business group ☐

5) Oversight organization ☐

6) Others, specify.....

SECTION 2(SOCIO-POLITICAL RISK FACTORS), SECTION 3(REGULATORY/ LEGAL RISK FACTORS), SECTION 4(FINANCIAL/ MONETARY RISK FACTORS)

This questionnaire (Table) below is designed to collect information regarding risk factors related to the occurrence of socio-political barriers, regulatory or legal barriers, financial or monetary barriers during the construction of the affordable housing project in Anderson Ofafa estate, Kisumu town and their magnitude of occurrence. You are expected to answer the questions to the best of your knowledge, truthfully and without prejudice or bias. Answer by ticking only one box per question.

Category of Risk.	Risk Factors.	Possibility of occurrence.					Un abl e to ans wer	Magnitude of occurrence					Un abl e to ans wer
		Alm ost Cert ain.	Lik ely.	Poss ible	Unli kely.	Ra re.		V er y Hi gh	Hi gh .	Mo der Ate .	L o w.	V er y L o w.	
Socio- Political		1	2	3	4	5	6	1	2	3	4	5	6
	1) Likelihood of occurrence of Bribery/runa way corruption. (Bribery/Corruption).												
	2)Limited application of the rule Of law. (Application of the rule of law).												
	3)Non-inclusion of political stake-Holders in decision making. (Level of political consensus).												
	4)Conflict between groups within the sub-county over the project(revolution)												
	5) Likelihood of cultural differences. (Cultural differences).												
	6)Likelihood of language barrier for project participants.(

	Language barriers)												
	7)Likelihood of threat of terrorism Or blackmail. (Terrorism/ blackmail).												
	8) Likelihood of barriers in award of contracts to qualified firms/local residents. (Contracts).												
	9)Likelihood of non-adherence to the rules governing efficient use of government revenue (fiscal policy)												
	10) Likelihood of pressure group formation to champion for the interest of the community. (Pressure groups)												
	11) Likelihood of lack of collaboration between national and county governments and private partners. (Level of collaboration between project partners)												
	13) Likelihood of unavailability of persons of quality or educational achievement that is												

	acceptable as a bargaining power. (Standard of education).												
Regulatory	1) Limited stakeholder participation. (Stakeholder participation)												
	2) Limited application of relevant laws and regulations during the implementation e.g., unchecked imports which frustrate locally produced goods (Laws and regulations).												
	3)The act of government taking by force private property for public good (Expropriation)												
	4) Likelihood of delays in payments to contractors/ workers. (Delays in payments)												
	5) Likely Laxity in controlling quality and performance of work done. (Quality and performance control)												
	6) Likelihood of Fluctuation of prices for construction materials and equipment.												

	(Price fluctuations)												
	7) Likelihood of the government's failure to meet financial obligations towards the project (Financial failure).												
Financial/ monetary	1) Likelihood of discrimination on how the government will tax business entities in the project. (Tax discrimination).												
	2) Likelihood of risks associated with exchange of money/ currency as a result of the project. (Exchange risks).												
	3) Likelihood of occurrence of general rise in prices of goods and services and a fall in purchasing power as a result of the project. (Inflation).												
	4) Likelihood of decrease in quantity of goods and services produced in Kenya. (National Output) as a result of the project.												
	5) Likelihood of decrease or												

	increase in the ratio of people employed by the project in relation to working age population (18-64 yrs. old)- (Employment rates.)												
	6) Likelihood of occurrence of external events that indirectly affect the operations of the project such as earthquakes, thunderstorms and other natural disasters. (. Natural calamities).												
	7) Likelihood of occurrence of challenges involving acquiring of land for construction of affordable houses. (Land acquisition risk).												
	8) Likelihood of occurrence of persons actively searching for employment but are unable to find one during the construction of affordable houses. (Unemployment).												
	9)Likelihood of non-adherence to the rules governing efficient use of												

	government revenue (fiscal policy)												
	10) Likelihood of pressure group formation to champion for the interest of the community. (Pressure groups)												
	11) Likelihood of lack of collaboration between national and county governments. (Level of collaboration between project partners)												
	13) Likelihood of unavailability of persons of quality or educational achievement that is acceptable as a bargaining power. (Standard of education).												
Regulatory	1) Limited stakeholder participation. (Stakeholder participation)												
	2) Limited application of relevant laws and regulations during the implementation e.g., unchecked imports which												

	frustrate locally produced goods (Laws and regulations).												
	3)The act of government taking by force private property for public good (Expropriation)												
	4) Likelihood of delays in payments to contractors/ workers. (Delays in payments)												
	5) Likely Laxity in controlling quality and performance of work done. (Quality and performance control)												
	6) Likelihood of Fluctuation of prices for construction materials and equipment. (Price fluctuations)												
	7) Likelihood of the government's failure to meet financial obligations towards the project (Financial failure).												
Financial/ monetary	1) Likelihood of discrimination on how the government will tax business entities in the project. (Tax												

	discrimination).												
	2) Likelihood of risks associated with exchange of money/ currency as a result of the project. (Exchange risks).												
	3) Likelihood of occurrence of general rise in prices of goods and services and a fall in purchasing power as a result of the project. (Inflation).												
	4) Likelihood of decrease in quantity of goods and services produced in Kenya. (National Output) as a result of the project.												
	5) Likelihood of decrease or increase in the ratio of people employed by the project in relation to working age population (18-64 yrs. old)- (Employment rates.)												
	6) Likelihood of occurrence of external events that indirectly affect the operations of the project such as earthquakes, thunderstorm												

	s and other natural disasters. (. Natural calamities).												
	7) Likelihood of occurrence of challenges involving acquiring of land for construction of affordable houses. (Land acquisition risk).												
	8) Likelihood of occurrence of persons actively searching for employment but are unable to find one during the construction of affordable houses. (Unemployment).												

SECTION 5 (RISK REGISTER) AND SECTION 6(RISK INFLUNCE ON PROJECT SCHEDULE, COST AND QUALITY PERFORMANCE)

The questionnaire (Table) below is designed to collect information on the influence of the risk factors you had identified in table 1 above, to the implementation of the affordable housing project in Anderson ofafa estate, Kisumu town. In addition, we will also be seeking your opinion on how the development of a list of identified risks and their management plan (Risk register) will influence the same project. Answer by ticking only one box per question to the best of your knowledge, truthfully and without prejudice or bias.

Category Of risk	Risk Factors	How the Risks will influence project completion time (1950 housing units within 2 years)						How the Risks will influence project overall cost (ksh3.8billionapprox . for 1950 housing units within 2 years)						How the Risks will influence project quality performance (Approval of construction and handover of the houses to the off taker)					
		V H	H .	M .	L .	V L	U N	V H	H .	M .	L .	V L	U N	A. 50 %	4 0 - 4 9 %	3 0 - 3 9 %	2 0 - 2 9 %	B . 2 0 %	U N
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
	1)Bribery/r unaway corruption																		
	2) Limited application of the rule																		

	of law to implementation processes.																	
	3)Non-inclusion of political leaders in decision making																	
	4)Conflict between groups within the sub-location over the project (Revolution)																	
	5)Likelihood of cultural differences of the project participants																	
	6)Likelihood of language barriers for project participants																	
	7)Likelihood of threat of terrorism or blackmail																	
	8)Likelihood of barriers in award of contracts to qualified firms/ local residents																	
	9)Likelihood of non - adherence to rules governing efficient use of government revenue (Fiscal policy)																	
	10)Likelihood of pressure group																	

	formation to champion for interest of the community																	
	11)Likelihood of lack of collaboration between national and county governments																	
	12)Likelihood of lack of political goodwill from political leadership																	
	13) Likelihood of unavailability of persons of quality or educational achievement that is acceptable as a bargaining power.																	
Regulatory	1) Limited community participation.																	
	2) Limited application of the relevant laws and regulations during project implementation e.g., unchecked imports which frustrates locally produced goods.																	
	3) The act of government																	

	taking by force private property for public good.																	
	4) Likelihood of delays in payment to contractors/ work.																	
	5) Likelihood of laxity in controlling quality and performance of work done.																	
	6) Likelihood of fluctuation of prices for construction materials and equipment.																	
	7) Likelihood of the county government's failure to meet financial obligations or commitment toward the project.																	
Financial/ Monetary	1) Likelihood of discrimination on how government will tax business entities in the project.																	
	2) Likelihood of risks associated with exchange of money or																	

	currency as a result of the project.																	
	3) Likelihood of occurrence in general rises in prices of goods and services and fall in purchasing power as a result of the project.																	
	4) Likelihood of decrease in quantity of goods and services produced in Kenya (National Output) as a result of the project.																	
	5) Likelihood of decrease in the ratio of people employed by the project in relation to the working age population (15-64 yrs.)- Employment rate)																	
	6) Likelihood of occurrence of external events that indirectly affect the operations of the project such as earthquakes, thunderstor																	

	ms and other natural disasters.																	
	7) Likelihood of occurrence of challenges involving acquiring land for construction of affordable houses.																	
	8) Likelihood of occurrence of persons actively searching for employment but are unable to find during the construction of affordable houses.																	
Develop ment of a risk register	1)Assignin g of a unique identificatio n number for the identified risk if any and proper description of the risk involved (Risk identificatio n)																	
	2) Determinin g the cause and effects of identified risk, stating the objective for which analysis is																	

	carried out and documentin g the likelihood of occurrence and severity. (Risk Analysis).																		
	3) Taking actions that are geared towards reducing the probability of the impact of the identified risk. (Risk mitigation and control action).																		
	4) Putting in place actions involved in monitoring and controlling risk. (Risk monitoring and control).																		

KEY-

V.H-Very high**H**-High**M**-Moderate**L**.-Low**V.L**-Very low

B- Below.

A- Above

UN- Unable to answer

SECTION 7- LEVEL OF STAKEHOLDER INVOLVEMENT**i)LEVEL OF STAKEHOLDER SATISFACTION.**

Please indicate based on the following scale your level of satisfaction or dissatisfaction in relation to the following statements:

Scale- 1) Satisfied 2) strongly satisfied 3) Neither satisfied nor dissatisfied 4) Dissatisfied 5) strongly dissatisfied 6) Unable to answer

Statements:

701 The county government of Kisumu through its pension fund has set aside a budget of approximately ksh 3.8 billion for construction of approximately 1950 affordable housing units within Anderson-Ofafa estate

1) ☐ 2) ☐ 3) ☐ 4) ☐ 5) ☐ 6) ☐

702 The county government of Kisumu through its pension fund has planned to build approximately 1950 affordable housing units in Anderson-Ofafa estate within a period of two years.

1) ☐ 2) ☐ 3) ☐ 4) ☐ 5) ☐ 6) ☐

703 The county government of Kisumu has put in place measures to check quality of work done during the construction of affordable housing units in Anderson-Ofafa estate by approving the construction work before handing over the houses to the off taker for client satisfaction.

1) ☐ 2) ☐ 3) ☐ 4) ☐ 5) ☐ 6) ☐

704 What is your level of satisfaction in regards to the methods that have been used generally to implement this project ? (in a scale of 1-7)

1) Above 50% () 2) 40-49% () 3) 30-39% () 4) 20-29% () 5) Below 20% (). 6) No engagement () 7) Unable to answer ()

ii)LEVEL OF STAKEHOLDER PARTICIPATION.

801) Did the project sponsors engage with the community living in this area?

1) Yes () 2) No ()

802) Indicate the kind of engagement the project sponsors had with community among the following-

1) Information sharing () 2) Consultations () 3) Involvement in their activities () 4) Collaboration ()

803) In a scale of 1-7 ,rate the level of engagement the project sponsors had with the community living in this area.

1) Above 50% () 2) 40-49% () 3) 30-39% () 4) 20-29% () 5) Below 20% (). 6) No engagement () 7) Unable to answer ()

804) Please gauge the following statements according to the scales provided-(correct, wrong, neither correct nor wrong, Unable to answer)-

1) The prevailing level of participation would hinder project execution performance.
2) The prevailing level of participation would facilitate project execution performance.
3) The prevailing level of participation would neither hinder nor facilitate project execution performance.
4) Unable to answer..

805) Please gauge the prevailing level of participation in terms of hindering the project execution outcome-

1) Very highly(50% and above) 2) Highly(40-49%) 3) Moderately(30-39%)
4) Lowly(20-29%) 5) Very lowly (Below 20%) 6) Unable to answer.

806) Please gauge the prevailing level of participation in terms of facilitating the project execution outcome-

1) Very highly(50% and above) 2) Highly(40-49%) 3) Moderately (30-39%)
4) Lowly(20-29%) 5) Very lowly(Below 20%) 6) Unable to answer.

END OF THE QUESTIONNAIRE.

THANK YOU FOR YOUR TIME.

APPENDIX 4

TRIANGULATION OF QUALITATIVE AND QUANTITATIVE DATA RESULTS

Complementary Findings. (Quantitative)	Convergent Findings.	Complementary Findings. (Qualitative)	Contradictory Findings.
<p>Quantitative data Analysis Results,</p> <p>1) Descriptive statistics-</p> <p>Demographic information:</p> <p>i) Age-Majority of the respondents were of the age bracket of between (29-39 years) accounting for 31.9% of the respondents.</p> <p>ii) Gender- Gender was evenly distributed between male and female at 49.7% male and female at 50.3%.</p> <p>iii) Education level- Most respondents had secondary/college education level accounting for 61.6% of the respondents.</p> <p>iv) Main source of income-Main source was self-employment at 55.3%.</p> <p>v) Stakeholder Category-Majority of the stakeholders were ordinary community members accounting for 63.7% of the respondents.</p> <p>2) Data analysis that tests research questions, hypothesis or objectives.</p> <p>a) Risk factors possibility of occurrence</p> <p>i) Socio-political risk factors- there were a possibility of occurrence with a mean</p>	<p>Demographic information:</p> <p>QTR-Age of respondents-majority age bracket (29-39yrs), accounting for 31.9%.</p> <p>QLR-Age of respondents-majority age bracket-(41-50 yrs) accounting for 45.5%.</p> <p>Average age of respondents-(35-44.5 yrs), accounting for 38.7% $(31.9+45.5)/2$ and $29+41=70/2=35$. $39+50=89/2=44.5$.</p> <p>QTR-Gender- male (49.7%), female (50.3%).</p> <p>QLR- male (77.3%), female (22.7%).</p> <p>Average gender representation- male (63.5%), female (36.5%) i.e., $male-49.7+77.3=127/2=63.5\%$.</p> <p>Female-$50.4+22.7=73.1/2=36.5$.</p> <p>QTR-Education level- majority (secondary/college), accounting for 61.6%.</p> <p>QLR- majority (University degree), accounting for 41.5%. N. B- the two separate groups are literate groups capable of comprehending the questionnaires and interview tools.</p> <p>Main source of income-</p> <p>QTR- Self-employment at 55.3%.</p> <p>QLR- Civil servants at 31.8%.</p> <p>Averagely, self-employment tops the list of respondents at 55.3%.</p> <p>QTR-Stakeholder category-ordinary community members at 63.7%.</p> <p>QLR- Civil servants, who are regarded as governance team of stakeholders, at 31.8%.</p>	<p>Qualitative data Analysis Results.</p> <p>Demographic information:</p> <p>Descriptive statistics-</p> <p>1) Length of stay in Kisumu-Stakeholders who have stayed for less than 10 years and those who have stayed for between 21-30 years are the majority accounting for 31.8% each of the respondents.</p> <p>2) What the respondent does for a living- Civil servants topped the list of respondents accounting for 31.8% of the total respondents.</p> <p>3) Age of respondents- Age group between 41-50 years topped the list of respondents accounting for 45.5% of total respondents.</p> <p>4) Education level- Stakeholders with degree certificates topped the list of respondents accounting for 41.5% of total respondents.</p> <p>5) Gender-Male gender topped the list of respondents accounting for 77.3% of total respondents.</p> <p>6) Having worked in construction industry-A majority accounting for 51.1% has not worked in construction industry.</p> <p>Data analysis that tests research questions, objectives or hypothesis-</p> <p>7) Knowledge on risk- The majority of the respondents illustrated having knowledge on what risk is all about accounting for 81.8%.</p>	<p>Data analysis that tests research questions, objectives or hypothesis-</p> <p>1) Socio-political risk factors magnitude of occurrence (Moderate, very high).</p> <p>2) Regulatory risk factors magnitude of occurrence (moderate, very high).</p> <p>3) Influence of updated risk register on overall project performance (Low, very high).</p> <p>4) Overall influence of the risk factors on project performance (moderate, high).</p> <p>1) Correlation between regulatory risk factors and overall project performance (correlation is statistically sig. at the 0.01 level (2- tailed) with a highly positive correlation coefficient of .822., correlation is statistically insignificant at the 0.05 level (2-tailed), with a negative correlation coefficient of -.373).</p> <p>5) Level of stakeholder satisfaction with implementation of the project-(Most stakeholders satisfied, accounted for by 75.8% of the</p>

<p>of 2.6286 and std of .70403.</p> <p>ii) Regulatory risk factors-it was possible the risk would occur with a mean of 2.485 and std of.79532.</p> <p>iii) Financial risk factors-Likely to occur with a mean of 2.7420 and std of.75296.</p> <p>b) Risk factors magnitude of occurrence</p> <p>i) Socio-political risk factors- moderate magnitude of occurrence with a mean of 2.6357 and std of .77404.</p> <p>ii) Regulatory risk factors-moderate magnitude of occurrence with a mean of 2.4822 and std of.85152.</p> <p>iii) Financial risk factors-high magnitude of occurrence with a mean of 2.7715 and std of.82209.</p> <p>c)Risk factors influence on project schedule-</p> <p>i) Socio-political risk factors- have influence of between high and moderate with a mean of 2.6290 and std of .76627.</p> <p>ii) Regulatory risk factors-have moderate influence with a mean of 2.4262 and std of .84925.</p> <p>iii) Financial risk factors- have high influence with a mean of 2.8415 and std of .92215.</p> <p>iv) Development of an updated risk register-has a low influence with</p>	<p>Averagely, ordinary community members topped the list of respondents at 63.7%.</p> <p>Data Analysis that tests research objectives, research questions or hypothesis. A) Risk factors possibility of occurrence.</p> <p>1) socio-political risk factors – (Possibility of occurrence)</p> <p>QTR-(more likely to occur with a mean of 2.6286.</p> <p>QLR-Almost certain at 59.1% occurrence.</p> <p>2) Regulatory/ Legal risk factors- (Possibility of occurrence).</p> <p>QTR-Possible to occur with a mean of2.85.</p> <p>QLR-Almost certain at 36.4%.</p> <p>3) Financial/ monetary risk factors- (Possibility of occurrence).</p> <p>QTR-Likely to occur with a mean of 2.7420.</p> <p>QLR- Almost certain at 45.5%.</p> <p>B) Risk factors Magnitude of occurrence.</p> <p>1) Socio-political risk factors- (Magnitude of occurrence)</p> <p>QTR-Moderate with a mean of 2.6357.</p> <p>QLR- Very High at 54.5%.</p> <p>(Contradictory results).</p> <p>2) Regulatory/ Legal risk factors- (Magnitude of occurrence).</p> <p>QTR- Moderate with a mean of 2.4822.</p> <p>QLR-Very High at 36.4%.</p> <p>(Contradictory results).</p> <p>3) Financial/ monetary risk factors. (Magnitude of occurrence)</p> <p>QTR- High with a mean of 2.7715.</p> <p>QLR- Very High at 45.5%.</p>	<p>8) Knowledge on risk identification-Those who exhibited knowledge of risk identification was the majority accounting for 81.8%.</p> <p>9) Knowledge on risk assessment- Most stakeholders demonstrated having knowledge on risk assessment accounting for 81.8%.</p> <p>10) Knowledge on risk management-A majority of the respondents illustrated knowledge on risk management accounting for 81.8%.</p> <p>11) Whether one witnessed or heard of any demolitions of residential buildings and business premises in Anderson-Ofafa estate? -Most respondents accounting for 95.5% said ‘yes’.</p> <p>12) If one witnessed demolition, what was the purpose? -Most respondents accounting for 59.1% said that the purpose was for construction of the affordable houses.</p> <p>13) Whether one witnessed or heard of any demonstrations over the demolitions? -A majority of the respondents accounting for 86.4% confirmed either witnessing or hearing about the demonstrations.</p> <p>14) Causes of the demonstrations- A majority accounting for 22.7% cited short notice of vacation as the cause of the demonstrations.</p> <p>15) If the demonstrations witnessed could cause any adverse effect or danger to the affordable housing project? - There were mixed reactions on whether the demonstrations could pose any danger or adverse effects, accounting for 45.5% each for ‘yes’ and ‘no’.</p> <p>16) The dangers/adverse effects affordable housing is exposed to? - Bad relations with the project team and delays in</p>	<p>respondents. Stakeholders are still not satisfied, accounted for by 50% of the respondents).</p>
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<p>a mean of 2.2671 and std of 1.21722.</p> <p>d) Risk factors influence on project cost-</p> <p>i) Socio-political risk factors- have high influence with a mean of 2.7209 and std of .73615.</p> <p>ii) Regulatory risk factors- have a moderate influence with a mean of 2.5195 and std of .84367.</p> <p>iii) Financial risk factors- have a high influence with a mean of 2.9938 and std of .93154.</p> <p>iv) Development of an updated risk register- has a moderate influence on schedule with a mean of 2.2671.</p> <p>e) Risk factors influence on project quality performance.</p> <p>i) Socio-political risk factors- have moderate influence with a mean of 2.6966 and std of .73615.</p> <p>ii) Regulatory risk factors- have a moderate influence with a mean of 2.4470 and std of .84367.</p> <p>iii) Financial risk factors- have high influence with a mean of 2.9338 and std of .93154.</p> <p>iv) Development of an updated risk register- has a low influence with a mean of 2.331 and std of 1.17000.</p> <p>f) Influence of the four variables of socio-political risks, regulatory risks, financial risks and</p>	<p>C) Risk factors influence on project implementation/performance.</p> <p>1) Socio-political risk factors. (Influence on project performance).</p> <p>QTR- High on project schedule, project cost but moderate on quality performance. Overall influence on project performance is high.</p> <p>QLR-Severity of likelihood of harm- Above 50% confirmed by 31.8% of respondents.</p> <p>2) Regulatory risk factors. (Influence on project performance).</p> <p>QTR-Moderate on project schedule, moderate on project cost and also moderate on project quality performance. Overall influence on project performance is moderate.</p> <p>QLR-Severity of likelihood of harm is perceived at between 30-39 % (moderate), confirmed by 27.3% of respondents.</p> <p>3) Financial/ monetary risk factors. (Influence on project performance).</p> <p>QTR-High on project schedule, high on project cost and high on project quality performance. Overall influence on project performance is perceived to be very high.</p> <p>QLR-Severity of likelihood of harm-Ranges between 40-49% and 50% and above, confirmed by 27.3% each of the respondents.</p> <p>4) Updated Risk register- (Influence on project performance).</p> <p>QTR- Low on project schedule, moderate on project cost and also low on project quality performance. Overall influence on project performance is low.</p> <p>QLR- A majority of the respondents of the respondents accounting for 68.2% rated the influence at 50% and above (Very High).</p> <p>(Contradictory results).</p> <p>4) Overall influence of all the variables on project performance-</p>	<p>project implementation tied as the priority dangers/adverse effects, accounting for 13.6% each.</p> <p>17 Knowledge on any public participation organized? - A majority accounting for 95.5% confirmed that indeed public participation was organized.</p> <p>18) Did the public participation address stakeholder concerns? - Most respondents accounting for 86.4% confirmed that stakeholder concerns were addressed.</p> <p>19) What the concerns were- Employment of locals in the construction work topped in the concerns of stakeholders, accounting for 27.3%.</p> <p>20) Whether the concerns were addressed? - Majority of the respondents accounting for 90.9% confirmed that the stakeholder concerns were addressed.</p> <p>21) If the concerns were addressed, why continued resistance? - A majority of the respondents accounting for 50% said that the stakeholders were still not satisfied despite their concerns being addressed.</p> <p>22) Whether one foresees any adverse effect on the project? - Many respondents, accounting for 63.3% said 'yes'.</p> <p>Data analysis to test research questions/ hypotheses.</p> <p>23) (1) Potential problems/ Adverse effects associated with socio-political and cultural risk factors- Lack of political consensus leads the perk, accounting for 22.7% of the adverse effects. Others in order of priority include; pressure groups (18.2%), contractor change (13.6%), and corruption (9.1%) and on the lowest end is, bad blood between the PMT and the public (4.5%).</p>
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<p>development of updated risk register on overall project performance.</p> <p>i) Socio-political risk factors- have more moderate to high influence with a mean of 2.6825 and std of .74249</p> <p>ii) Regulatory risk factors- have a moderate influence with a mean of 2.4682 and a std of .81415.</p> <p>iii) Financial risk factors- have a high influence with a mean of 2.9380 and std of .90306.</p> <p>iv) Development of an updated risk register- has a low influence with a mean of 2.3470 and a std of 1.308.</p> <p>g) Overall influence of the four variables in (f) above on the overall project performance-</p> <p>-All the variables have an average mean of 2.6089 depicting a moderate influence on the project performance.</p> <p>3) Testing the strength of association between variables-</p> <p>i) Relationship between socio-political risk factors and overall project performance- correlation is statistically significant at 0.01 level (2-tail) with a strong positive correlation coefficient of .824</p> <p>ii) Relationship between regulatory risk factors and overall project performance- correlation is statistically significant</p>	<p>QTR- Moderate with a mean of 2.6089.</p> <p>QLR- Overall impact of the risk factors is critical on the project performance (High).</p> <p>(Contradictory results).</p> <p>D) Testing the strength of association between variables.</p> <p>QTR- Socio-political risk factors and project overall performance- correlation is statistically sig. at the 0.01 level (2-tailed) with highly positive correlation coefficient of .824.</p> <p>QLR- Socio-political risk factors and severity of likelihood of harm- correlation is statistically sig. at the 0.05 level (2-tailed) with a perfect positive correlation of 1,000.</p> <p>QTR- Financial risk factors and overall project performance- correlation is statistically sig. at the 0.01 level (2-tailed) with a positive correlation of .700.</p> <p>QLR- Financial risk factors and severity of likelihood of harm- correlation is statistically sig. at the 0.05 level (2-tailed) with a strong positive correlation of .838.</p> <p>QTR- Regulatory risk factors and project overall performance- correlation is statistically sig. at the 0.01 level (2-tailed) with a highly positive correlation of .822.</p> <p>QLR- Regulatory risk factors and severity of likelihood of harm- correlation is statistically insignificant at the 0.05 level (2-tailed) with a negative correlation of -.373.</p> <p>(Contradictory results).</p> <p>E) Level of stakeholder satisfaction analysis-</p> <p>QTR- Most stakeholders were satisfied with the implementation of the affordable housing project accounting for 47.7%.</p>	<p>(2) Possibility of occurrence- most respondents confirmed that there was almost certainty in the occurrence of socio-political risk factors, accounting for 59.1%.</p> <p>3) Degree/magnitude of occurrence of socio-political risk factors- Majority perceived very high occurrence.</p> <p>(4) Severity of likelihood of harm- Many respondents accounting for 31.8% affirmed that the severity of likelihood of harm would be 50% and above.</p> <p>5) Population that could be affected by socio-political risk factors- Most respondents perceived that the general public would be the most affected, accounting for 59.1%.</p> <p>(6) Management strategy of socio-political risks- majority of the respondents perceive mitigation as the most appropriate management strategy, accounting for 54.3%.</p> <p>24) (1) Potential problems / Adverse effects associated with regulatory/ legal risk factors- Majority of the respondents perceive expropriation and inflation as the leading adverse effects, accounting for 13.6% for each.</p> <p>2) Possibility of occurrence of regulatory/ legal risk factors- The occurrence was almost certain confirmed by 36.4% of the respondents.</p> <p>3) Degree of occurrence of regulatory/legal risk factors- A majority of the respondents perceived that the risk factors would occur very highly, accounting for 36.4% of the respondents.</p> <p>4) Severity of likelihood of harm- Many respondents accounting for 27.35 affirmed that the severity of harm would be between 30-39%.</p>	
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<p>at 0.01 level (2-tail) with a strong positive correlation coefficient of .822</p> <p>iii) Relationship between Financial risk factors and overall project performance- correlation is statistically significant at the 0.01 level (2-tail), a positive correlation coefficient of .700</p> <p>iv) Relationship between the development of an updated risk register and overall project performance- correlation is statistically significant at the 0.01 level (2-tail), with a strong positive correlation coefficient of .812</p> <p>h) Level of stakeholder satisfaction with implementation of the project.</p> <p>-Many stakeholders were satisfied with project implementation process accounting for 47.7%, while another 28.1% were strongly satisfied. This means that approximately 75.8% were satisfied and only 8.1% were dissatisfied.</p> <p>i) Measures of strength between variables.</p> <p>Testing Factorial validity.</p> <p>i) Factor analysis- Results indicate that the factor (dependent variable) has a strong relationship with the indicators (independent variables) and hence; account for a large portion of the variance</p>	<p>QLR- Stakeholders are still not satisfied, confirmed by 50% of respondents.</p> <p>(Contradictory results).</p> <p>QLR- Knowledge on any public participation organized over the project- A majority accounting for 95.5% confirmed that indeed public participation was organized.</p> <p>QLR- If public concerns were addressed during public participation. Why did they continue to resist? -The majority of the respondents accounting for 50% said that they were still not satisfied.</p> <p>F) Test of Hypotheses-</p> <p>QTR- Results of the t-test- Socio-political risk factors have the greatest significant influence on the implementation of the affordable housing project in Anderson -Ofafa estate, Northern sub location of Kisumu Central sub county.</p> <p>QLR- Socio-political risk factors have the greatest significant influence on project performance at above 50%, confirmed by 31.8%, highest impact for financial risk factors (27.3%), and for regulatory risk factors high, confirmed by (27.3%) of the respondents. Also, the degree of occurrence of socio-political risk factors is very high, confirmed by 54.5% of the respondents, unlike financial risk factors whose occurrence is also very high but confirmed by (45.5%), regulatory risk factors have high occurrence, confirmed by 36.4% of the respondents.</p> <p>(Contradictory results).</p>	<p>5) Population that could be affected by regulatory/ legal risk factors- Most respondents accounting for 36.4% perceived the general public as the population sector that would be most affected.</p> <p>6) Management strategy of regulatory/ legal risk factors- Many respondents accounting for 31.8% singled out 'Accept 'risk response strategy as the best.</p> <p>25) 1) Potential problems/ Adverse effects associated with Financial/ monetary risk factors- A majority of the respondents isolated inflation and delays in payment as the greatest adverse effects, accounting for 40.9% and 18.2% respectively.</p> <p>2) Possibility of occurrence of financial/ monetary risk factors- The possibility of occurrence was almost certain, accounting for 45.5% of the respondents' perceptions.</p> <p>3) Degree of occurrence of financial/ monetary risk factors- Very high occurrence as affirmed by 45.5 % of the respondents.</p> <p>4) Severity of likelihood of harm associated with financial/monetary risk factors- Many respondents, accounting for 27.3% each gauged the likelihood of severity of harm to be either between 40-49% or 50% and above respectively.</p> <p>5) Population that could be affected by financial/monetary risk factors-The general public still leads as the most affected by financial/ monetary risk factors, accounting for 59.1 of the respondents.</p> <p>6) Management strategy of financial/ monetary risk factors- Escalate risk response strategy was isolated as the best management strategy for financial/ monetary risk factors,</p>
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<p>in the indicators (independent variables).</p> <p>j) Testing hypothesis.</p> <p>From the results of one-sample t-test, the calculated t-value was 42.213, while the critical t-value was 43.336, meaning that the calculated t-value was less than the critical t-value and hence; there was no significant difference between the sample and the population. The p-value was also less than 0.05 was (0.000), hence; statistically significant. The conclusion was that the null hypothesis was accepted. Alternative hypothesis was rejected. The summary is that Socio-political risk factors have the greatest significant influence on the implementation of the affordable housing project in Anderson-Ofafa estate, Northern sub-location in Kisumu city.</p>		<p>accounted for by 36.4% of the respondents.</p> <p>Measurement of strength of association between variables.</p> <p>26) The correlation of severity of likelihood of harm between social, political and cultural factors and regulatory risk factors is not statistically significant (.087) at 0.05, 2-tailed and a negative correlation coefficient of -.373. The results means that there is a 5% chance that the results were found by chance alone and no true relationship exist between the variables compared.</p> <p>27) The results further indicate that the correlation of severity of likelihood of harm between social, political and cultural factors and financial risk factors is statistically significant (.000) at 0.05, 2-tailed and a positive correlation coefficient of .838. The results mean that there is a 95% probability that the results represent a true relationship between the variables compared.</p> <p>28) On the other hand, the severity of likelihood of harm between regulatory risk factors and financial risk factors is not statistically significant (.080) at 0.05, 2-tailed and a negative correlation coefficient of -.381. The results also means that there is a 5% chance that the results were found by chance alone and no true relationship exist between the variables compared.</p> <p>29) Whether there are factors affecting cost and schedule overrun? - Majority of the respondents accounting for 68.2% responded 'yes'.</p>	
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➤ *Key*

- QTR- Quantitative Data Results.
- QLR- Qualitative Data Results.

APPENDIX 5**LANGUAGE TRASLATED INTERVIEW SCHEDULE FOR ILLITERATE OR SEMI- LITERATE RESPONDENTS (INTERVIEW SCHEDULE)****INFORMED CONSENT FOR RESPONDENT.**

You are invited by Peterlis Ochieng, a student from Jaramogi Oginga Odinga University of Science and Technology, Kisumu Campus to take part in this research study. The research will study stakeholder attitude/ perception towards risk factors that are likely to influence the smooth implementation of affordable housing project in Anderson-Ofafa estate, Northern sub location, Kisumu Town. We would very much appreciate your participation in this survey. The survey will be done through administration of a questionnaire. You will be asked some questions concerning risk factors that could impact on the construction of the affordable housing. The whole process will take about 25 to 30 minutes. There are no direct benefits that you will gain in participating in this study like payments, but the outcome of this study will be used by policy makers to formulate policies and strategies on matters building construction which will have long term benefits.

Your response together with others will enable us gain an in- depth understanding on the deterrent factors facing this project. The information you give us will be kept confidential and will not be shared with anyone outside this study. Your name will not at any time be used or linked to any response you give. Participation in this study is voluntary i.e. you may choose to participate or not to participate. You are also free to respond to questions which you feel comfortable to answer. You can also stop participating at any time during the survey; however we hope that you will participate to the end since your views are very important. The interview session will take approximately 30 minutes. Would you like to ask any question? Are you willing to participate in this study?

Yes..... No.....
 Signature of interviewee.....Date.....
 Signature of interviewer.....Date.....

LANGUAGE TRANSLATION FOR INFORMED CONSENT FOR RESPONDENTS**ANDIKO MAR YIE DONJO E NONRO KUOM JAL MA IDWA PENJ PENJO**

Ikwayi gi jal miluongo ni Peterlis Ochie'ng, ma en japuonjre mar mbalariany mar Jaramogi Oginga Odinga, bade mani Kisumu mondo ichiu thuolo mar donjo e chenro mar nonro motenore gi kawo pach jopiny ewii kit ohinga manyalo neon kuom chenro mar gero ute ma negogi yot matimore ekar dak mar Anderson Ofafa, mani e boma ma Kisumu. Dwagombi mondo idonji e nonro ni. Nonro ni ibiro tim kitiyo gi andiko moselosi mag kit penjo monego iduoki. Ibiro penji penjo motenore gi kit ohinga ma ineno, kata iparo ni nyalo bedo rage'ng mar duoko maber kotenore gi gedo mag udi ma nengo gi yotgi. Duoko penjogi biro kawo thuolo madirom dakika piero ariyo gi abich(25) nyaka dakika piero adek(30). Onge gimoro ma ibiro miyi kaka pesa kuom chiwo thuolo mari mar duoko penjogi, makmana ni duoko mar nonro ni ibiro tiigo gi jolony maloso chenro mar gedo mowinjore kata malon'go kuom udi monego dhano dage. Maa biro bedo gi ohala maduo'ng ne oganda modak e kar dak mar Anderson Ofafa, kata jogo modak ei kisumo kata Kenya mangima. Duoko mari korigi gi duoko mag jok mamoko mabe ibiro penj penjo gi biro konyowa e n'geyo matut gigo manyalo bedo rage'ng ne duoko malon'go mar chenro mar gero udigi. Duoko ma ibiro chiwonwa ibiro kan e yor siri ma ok bigol oko ne n'gat an'gata mani oko mar nonro ni. Nyingi ok bi tiigo kata teno gi duoko ma ichiwo. Donjo e nonro ni en kuom hero mari, inyalo yiero mar donjo e nonro ni kata inyalo tamori. Kendo in thuolo mar duoko penjo ma in go thuolo. Bende inyalo chungo dhii nyime gi duoko penjogi e saa moro amora ma chunyi ohero e thuolo ma penjogi imedo penji, makmana ni wan gi geno ni idhi chiwo pachi nyaka giko mag penjogi nikech paro ma idhi chiwonwa dhi bedo konyruok maduo'ng ne wan. Bende dived gi penjo moro amora ma inyalo penjo? Bende in gi dwaro mar dojo e nonro ni?

AYIE ☐ OK AYIE ☐ ☐
 SEI mar jal ma idwa penj penjo.....TARIK..... SEI mar jal ma penj
 penjo.....TARIK.....

SECTION 1. RESPONDENT DEMOGRAPHIC INFORMATION (NONRO MOTENORE GI JAL MADUOKO PENJO)**101) Age in completed years. (In gi higa adii?)**

- 1) 18-28 yrs (Ekind 18 nyaka 28) ☐ • 4) 51-61 yrs (Ekind 51 nyaka 61) ☐
 3) 29-39 yrs (Ekind 29 nyaka 39) ☐ 5) Above 61 yrs (Moingo 61) ☐
 2) 40-50 yrs (Ekind 40 nyaka 50) ☐

102) Gender (Kit chwech Mari)

- 1) Male (Dichuo) ☐ 3) Others (Kit chwech mopogore gi
 2) Female (Dhako) ☐ mowachigo
 Ler.....

103) Education level (Igikeclassadii?)

- 1) None (Ok atemo somo) ☐ 3) Secondary and above (Agik e
 2) Primary (Agik e praimari) ☐ sekondari/ kata akadho kanyo) ☐

104) Main source of income (Yori mar yuto?)

- 1) None (**Aonge gi yor yuto**)
- 2) Farming (**Pur**) ☐
- 3) Self-employed (**Andikora kenda**) ☐
- 4) Salaried (**Achamo msara**) ☐
- 5) Remittances (**Ayuta ore mag**) ☐
- 6) Others specify (**Yore mopogore gi achigo, Ler ane.....**) ☐

109) Stakeholder categories (In e kidienny mane mag jogo ma gedo mag utegi nyalo dongo kata hinyo eyoo moro amora?).

- 1) Community (Onyuola kata adak e gwen'gni)
- 2) Political group(**An e kidienny mar josiasa ma gwe'ngni**) ☐
- 3) Government group(**An jatich mar migao mar sirikal**) ☐
- 4) Shareholder (**An gi mwanduna ma asoyo e chenro mar gedoni kageno yudo ohalaban'ge**) ☐
- 5) Oversight organization (**An jakanyo mar jogo ma goyo thurbim kabe chenromoketi mag gero utegi bended dhi nyime maber kotenore gi chike mag pinyin**) ☐
- 6) Others specify (**An e kidienny mopogore gi mosewachigo ma en.....**)

SECTION 2(SOCIO-POLITICAL RISK FACTORS). KIDIENY MAR ARIYO (OHINGA MOTENORE GI KIDO GI TIMBE MAG OGANDA, N'GIYO GI DAK KANYAKLA GI WECHE MOTENORE GI SIASA),

SECTION 3(REGULATORY RISK FACTORS) KIDIENY MAR ADEK (OHINGA MIKELO KOTENORE GI CHIKE MAG SIRKAL),

SECTION 4(FINANCIAL/ MONETARY RISK FACTORS) KIDIENY MAR AN'GWEN (OHINGA MIKELO GI WECHE MOTENORE GI PESA).

This questionnaire (Table) below is designed to collect information regarding risk factors related to the occurrence of socio-political barriers, regulatory or legal barriers, financial or monetary barriers during the construction of the affordable housing project in Anderson Ofafa estate, Kisumu town and their magnitude of occurrence. You are expected to answer the questions to the best of your knowledge, truthfully and without prejudice or bias. Answer by ticking only one box per question.

Chenro molos mar penjo mani piny kaeni olosi mondo ochok pach jopiny kaluwore gi ohinga motenore gi kido gi timbe mag oganda, n'giyo gi dak kanyakla, weche motenore gi siasa, ohinga mikelo kotenore gi chike mag sirkal, ohinga mikelo gi weche motenore gi pesa ethuola mar gedo mar udi ma nengogi yot e kar dak mar Anderson Ofafa ei boma ma Kisumu, gi pek maginyalo nenogo/ kata kiwango mar gi. Nitie geno ni idhiduoko penjogi kaluwore gi n'geyo gi mari, e yor adiera maonge akwede kata ajara moroamora. Duok penjogi ka igoyo alama mar (tick) achiel kende e thuolo moketi (box) e nyim penjo ka penjo.

Table 1 (Chenro Mar Penjo Mokuongo)

Category of risk (Kidienny mar Ohinga)	Risk Factors. (kit ohinga)	Possibility of occurrence. (Be gimakama nyalo timore?)					Magnitude of occurrence (Onyalo timore e kiwango mane?)						
		al mo st cer tai n (A n gi adi era).	Lik ely. (Sa mo ro nya lo tim ore)	Poss ible (Ny alor e)	Unl ikel y. (Ok nya lre)	Ra re. (O k ny alr e ka bis a)	Un abl e to ans we r(Pe njo no ota ma du ok o	Ver y Hig h (Ki wan go ma mal o said i)	Hig h. (Ki wan go ma mal o)	Mod er Ate. (Ki wan go man i e dier e)	Low . (Ki wan go man i piny)	Ver y Low . (Ki wan go man i piny zaid i)	
Category of risk (Kidienny mar Ohinga)	Risk Factors. (kit ohinga)	Possibility of occurrence.(Be gimakama nyalo timore?)					Magnitude of occurrence (Onyalo timore e kiwango mane?)						
		al mo st cer tai n (A n gi adi era).	Lik ely. (Sa mo ro nya lo tim ore)	Poss ible (Ny alor e)	Unl ikel y. (Ok nya lre)	Ra re. (O k ny alr e ka bis a)	Un abl e to ans we r(Pe njo no ota ma du ok o	Ver y Hig h (Ki wan go ma mal o said i)	Hig h. (Ki wan go ma mal o)	Mod er Ate. (Ki wan go man i e dier e)	Low . (Ki wan go man i piny)	Ver y Low . (Ki wan go man i piny zaid i)	

		cer tai n (A n gi adi era).	nya lo tim ore)		(Ok nyal re)	alr e ka bis a)		(Ki wan go ma mal o zaidi)	ma mal o)	go man i e dier e)	man i piny)	(Ki wan go man i piny zaidi)	
		1	2	3	4	5	6	1	2	3	4	5	6
Socio- Political (Ohinga mikelo nikech n'giyo kendo gi siasa)	1) Bribery/run away corruption. (Mit bilie kata mibadhi mokalo ton'g)												
	2)Limited application of the rule of law (Koso tiyo gi chike matayo piny)												
	3)Non inclusion of political stake- Holders in decision making(Re m nywando jo siasa seche ma ichoko paro mar dongruok)												
	4)Conflict between groups within the Loc over the project(rev olution) (Gwandru ok e kind kidienje mag jii mopogere e loc nikech dongruogn i)												
	5)Likeliho od of cultural												

	differences (Pogruok mar oganda kaluwore gi kitgi gi timbegi)												
	6)Likelihood of language barrier for project participants (Pogruok mar oganda kaluwore gi dhok ma giwacho)												
	7)Likelihood of threat of terrorism Or blackmail (Bwok mar oganda kaluwore gi muoch mar timbe njore kata ndhogo oganda)												
	8)Likelihood of barriers in award of contracts to qualified firms/local residents (Ohinga manyalo nenokotenore gi chiwo orak ne jogwe'ng kata kembegi e gedo mag utege)												
	9)Likelihood of non- adherence to the rules governing efficient use of government												

	t revenue(fiscal policy) (Koso tiyo maber gi chike mag sirikal marito tiyo maber gi pes rahia)												
	10) Likelihood of pressure group formation to champion for the interest of the community .(Muoch mar kidienje mag jii makedo ne ratiro mar oganda)												
	11) Likelihood of lack of collaboration between national and county governments.(Muoch mar gwenyruo k kata koso tiyo kanyakla e kind sirikal ma malo kod mar county kinde migero udigi)												
	12) Likelihood of lack of political goodwill from political leadership.(Muoch												

	mar jo siasa loko n'gegi ne chenro mar gero udigi)												
	13) Likelihood of unavailabili ty of persons of quality or educational achieveme nt that is acceptable as a bargaining power.(Sta ndard of education)(Koso bedo joma nigi somo mowinjore kata midwaro mondo oyud thuolo mag tije)												
Regulato ry (Ohinga mikel nikech chike mag sirikal)	1)Limited community participatio n(Rem nywando jopiny e chenro mar gero udigi)												
	2) Limited application of relevant laws and regulations during project implementa tion e.g. unchecked imports which frustrate locally produced goods.(Re m tiyo gi chike mag sirikal e												

	kinde ma igero udigi)												
	3)The act of government taking by force private property for public good(Expropriation) (Muoch mar tim sirikal mar kawo mwandu mag jopiny gi thuo kuom konyruok mar oganda mathoth)												
	4) Likelihood of delays in payments to contractors/workers. (Muoch mar sirikal koso chulo joma otiyo kata jomane okawo kata mabiro kawo orak mar gero udigi)												
	5) Likely Laxity in controlling quality and performance of work done. (Muoch mar koso nono makare kit kaka onego obed ni igero utegi gi jok ma												

	sirikal omiyo teko mar timo kamano)												
	6) Likelihood of Fluctuation of prices for constructio n materials and equipments (Muoch mar dhi malo kata dok chien ne nengo mag gigo migerogo udigi)												
	7) Likelihood of the governmen t's failure to meet financial obligations towards the project (Muoch mar sirikal koso chiwo omenda mowacho ni odhigolo e chenro mar gero utegi).												
Financial /monetar y (Ohinga mikel o nikech weche motenore gi pesa)	1) Likelihood of discriminat ion on how the governmen t will tax business entities in the project.(M uoch mar akwede kaka sirikal biro choko												

	osuru kuom jii mopogore seche migero udigi)												
	2) Likelihood of risks associated with exchange of money/ currency as a result of the project.(Muoch mar ohinga mar pesa miloko kata miwilo e seche migero udigi)												
	3) Likelihood of occurrence of general rise in prices of goods and services and a fall in purchasing power as a result of the project.(M uoch mar dhi malo mar nengo mag gikmoko to gi dok chien e yuto mar jopiny e thuolo mar gedo mar udigi.)												
	4) Likelihood of decrease in quantity of goods												

	and services produced in Kenya.(National Output) as a result of the project.(Muoch mar dok chien ne gigo ma wapuro kata mawaloso makelonwa konyruoke gwe'ngwani nikech gedo mag udigi)												
	5) Likelihood of decrease or increase in the ratio of people employed by the project in relation to working age population (15-64 yrs old)- (Employment rates) (Muoch mar dokchien e kiwango mag jogo ma indiko e tich kipimo gi jogo ma oromo andika e tich (higa 18 nyaka 64) kotenore gi gedo mag udigi.)												
	6) Likelihood of												

	<p>occurrence of external events that indirectly affect the operations of the project such as earthquakes, thunderstorms and other natural disasters. (Natural calamities)(Muoch mar gigo mabiro apoya kaka yiengni mar piny, riadruok mar polo gi mamaoko manyalo bedo ohinga ne tije mag gedo mag udigi).</p>				
	<p>7) Likelihood of occurrence of challenges involving acquiring of land for construction of affordable houses (Land acquisition risk)(Muoch mar bedo matek yudo kata nyiewo lope ma inyalo gere ute ma nengogi yotgi)</p>				

[illegible]

SECTION 5 (PROJECT RISK REGISTER) KIDIENY MAR ABICH(LOSO KITAP ANDIKO MOHIU MAG KIT OHINGA MANYALO ROCHO CHENRO MAR GERO UDI MA NENGOGI YOT E KAR DAK MA ANDERSON OFAFA EI BOMA MA KISUMO.

SECTION 6 (RISK INFLUENCE ON PROJECT SCHEDULE, TIME AND QUALITY PERFORMANCE). KIDIENY MAR AUCHIEL(KIT KAKA OHINGA MOFWENY GI JAPINY NYALO ROCHO THUOLO MOCHAN MAR GEDO,NENGO MOCHAN MAR GEDO,GI TIYO TICH MA OPUODHI KOTENORE GI GEDO MAG UTE MA NENGO GI YOT E KAR DAK MA ANDERSON OFAFA EI BOMA MA KISUMO.

The questionnaire (Table) below is designed to collect information on the influence of the risk factors you had identified in table 1 above, to the implementation of the affordable housing project in Anderson ofafa estate, Kisumu town. In addition, we will also be seeking your opinion on how the development of a list of identified risks and their management plan (Risk register) will influence the same project. Answer by ticking only one box per question to the best of your knowledge, truthfully and without prejudice or bias.

Chenro molos mar penjo mani piny kaeni olosi mondo ochok pach jopiny kaluwore gi pek manyalo neon kotenore gi kit ohinga mane isefwenyo ni nyalo nenore kotenore gi gedo mag udi ma nengogi yot e kar dakma Anderson Ofafa ei boma ma Kisumo. Tok mano wabiro manyo pachi kendo kaka loso kitap andiko ma ohiu mag kit ohinga manyalo rocho chenromar gedo mag udi ma nengogi yot ekar dak achiel onogo ma Anderson Ofafa ni nyalo kelo konyruok kata dokchien ne chenro ni. Duok penjogi ka igoyo alama mar (tick) achiel kende e nyim penjo ka penjo kaluwore gi n'geyo kata lony mari, e yor adiera, maonge akwede kata ajara moro amora.

Table 2: (Chenro Mar Penjo Mar Ari)

Cat ego ry Of ris k (Ki die ny ma r ohi ng a)	Risk Factors (Kit Ohing a)	How the Risks will influence project completion time(2000 housing units per year) (E kiwango mane ma Ohinga gi nyalo bedo kaka rage’ng mar tieko udigi e seche mano chan mar tiekogi-Maen higa 1 migere ute 2000?)							How the Risks will influence project overall cost(ksh150 million approx per year) (E kiwango mane ma Ohinga gi nyalo tero malo nengo mar gero udigi- Mean shilling million 150 e higa?)							How the Risks will influence project quality performance(Approval of construction and handover of the houses to the off taker) (E kiwango mane ma Ohinga gi nyalo bedo rage’ng mars tieko ud udigi kaka chik dwaro kendo ketogi gi e lwet migao mabiro usogig ne jopiny?)						
So cio - pol itic al (O hin ga mi kel o nik ech n’g iyo kat a nik ech Sia sa)		V · H (K i w a n g o M a n i m a l o s a i d i ·)	H · (K i W a n g o M a n i m a l o s a i d i ·)	M · (K i n g o m a n i d i p i n y)	L · (K i w a n g o m a n i p i n y s a i d i)	V · L (K i w a n g o m a n i p i n y s a i d i)	U n a b l e t o a n s w e r (p e n j o n o t a m a d u o k o)	V. H (K i w a n g o m a n i m a l o s a i d i)	H. (K i w a n g o m a n i m a l o s a i d i)	M · (K i w a n g o m a n i d i p i n y)	L. (K i w a n g o m a n i p i n y)	V. L (K i w a n g o m a n i p i n y s a i d i)	U N (P e n j o n o t a m a d u o k o)	A · 5 0 % (M a l o m a r a t a m a l o 5 0 e w i i m i a)	4 - 4 9 % (E k i n d a t a m a l o 4 0 g i 4 9)	3 - 3 9 % (E k i n d a t a m a l o 3 0 g i 3 9)	2 - 2 9 % (E k i n d a t a m a l o 2 0 g i 2 9)	B. 20 % (M a t i n e n e a t a m a l o 20)	U n a b l e t o a n s w e r (P e n j o n o t a m a d u o k o) .			
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6			
	1)Bribe ry/runa way corrupt ion(Mi t bilie kata mibad hi mokal o ton’ng)																					

2) Limited application of the rule of law to implementation processes. (Kosotiyo gi chike matayo piny)																		
3) Non inclusion of political leaders in decision making (Remnywando jo siasa seche ma ichoko paro mar dongruok)																		
4) Conflict between groups within the sub-loc over the project (Revolution) (Gwandruoke kind kidienje mag jii mopogore e)																		

	location nikech dongru ok)																	
	5) Likelihood of cultural differences of the project participants. (Pogru ok mar oganda kaluwo re gi kitgi gi timbeg i)																	
	6) Likelihood of language barriers for project participants. (Pogru ok mar oganda kaluwo re gi dhok magiw acho)																	
	7) Likelihood of threat of terrorism or blackmail (Bwok mar oganda kaluwo re gi muoch mar timbe njore kata ndhog)																	

	o oganda)																		
	8)Likel ihood of barriers in award of contrac ts to qualifie d firms/ local residen ts (Ohing a ma nyalo neon koten ore gi chiwo orak ne jogwen 'g kata kembe gi e gedo mag ute gi)																		
	9)Likel ihood of non - adhere nce to rules governi ng efficien t use of govern ment revenu e(Fisca l policy) (Koso tiyo maber gi chike mag sirikal marito tiyo maber																		

	gi pes rahia)																
	10)Likelihood of pressure group formation to champion for interest of the community (Muoch mar kidienje mag jii maked o ne ratiro mar oganda)																
	11)Likelihood of lack of collaboration between national and county governments (Muoch mar gweny ruok kata koso tiyo kanya kla e kind sirkal ma malo kod mar county kinde migero udigi)																
	12)Likelihood of lack																

	of politi l goodwi ll from politi l lead ers hip (Muoc h mar jo siasa loko n'gegi ne chenro mar gero udigi)																	
	13) Likeli ood of unavail ability of persons of quality or educati onal achieve ment that is accepta ble as a bargain ing power (Standa rd of educati on)(Ko so bedo joma nigi somo mowin jore kata midwa ro mondo oyud thuolo mag tije).																	

Regulatory (O hin ga mi kel o nik ech chi ke ma g siri kal)	1) Limited community participation.(Rem nywan do jopiny e chenro mar gero udigi)																
	2) Limited application of the relevant laws and regulations during project implementation e.g. unchecked imports which frustrates locally produced goods.(Rem tiyo gi chike mag sirkal e kinde ma igero udigi)																
	3) The act of government taking by force private property for																

	public good (Muoch mar tim sirikal mar kawo mwan do mag jopiny gi thuo konyru ok mar oganda mathot h)																
	4) Likelihood of delays in payment to contractors/work.(Muoch mar sirikal koso chulo joma otiyo kata jomane okao kata biro kawo orak mar gero udigi)																
	5) Likelihood of laxity in controlling quality and performance of work done. (

	Muoch mar koso nono kit kaka onego obedni igero utegi gi jok ma sirikal omiyo teko mar timo kaman o)																
	6) Likelihood of fluctuation of prices for construction materials and equipments(Muoch mar dhi malo kata dok chien ne nengo mag gigo migero udigi)																
	7) Likelihood of the government's failure to meet financial obligations or commitment toward the																

	project. (Muochi mar sirikal koso chiwo omenda mowach ho ni odhigo lo ne chenro mar gero utegi)																	
Financial/ Monetary (Ohin gami kel o nik ech we che mo ten ore gi pes a)	1) Likelihood of discrimination on how government will tax businesses entities in the project(Muoch mar akwede kaka sirikal biro choko osuru kuom jii mopog ore seche migero udigi)																	
	2) Likelihood of risks associated with exchange of money or currency as a result of the																	

	project. (Muoc h mar ohinga mar pesa miloko kata miwilo e seche migero udigi)																
	3) Likelihood of occurrence in general rise in prices of goods and services and fall in purchasing power as a result of the project. (Muoc h mar dhi malo mar nengo mag gik moko to gi dok chien e yuto mar jopiny e thuolo mar gedo mar udigi)																
	4) Likelihood of decrease in quantity of																

goods and service s produc ed in Kenya(Nation al Output) as a result of the project(Muoch mar dok chien ne gigo ma wapur o kata waloso makelo nwa konyru ok e gwe'ng wani nikech gedo mag udigi)																	
5)Likel ihood of decreas e in the ratio of people employ ed by the project in relation to the workin g age populat ion(15-64 yrs)- Emplo yment rate) (Muoc h mar dok chien e kiwang																	

	o ma indiko e tich kipimo gi jogo ma oromo andika e tich- higa 18 nyaka 64) kotenore gi gedo mag udigi)																
	6) Likelihood of occurrence of external events that indirectly affect the operations of the project such as earthquakes, thunder storms and other natural disasters (Natural calamities).																
	7) Likelihood of occurrence of challenges involving acquiring of land for constru																

	ction of afforda ble houses (Land acquisit ion risk)(M uoch mar gigo mabiro apoya kaka yiengni mar piny, riadru ok mar polo gi mamoko manya lo bedo ohinga ne tije mag gedo mag udigi).																
	8) Likelih ood of occurre nce of persons activel y searchi ng for employ ment but are unable to find one during the constru ction of afforda ble houses (Unem ployme nt)(Bed o ni nitie jogo ma hikgi																

	oromo dwaro tich mabiro dwaro tich to tije magid warog o ok biyudo re e kinde gedo mag udigi).																
De vel op me nt of Ris k Re gist er.	1) Assigni ng a unique identifi cation number for the identifi ed risk, if any and proper descrip tion of the risk involve d (Risk identifi cation) Keto chenro mar fwenyo kit ohinga manya lo thiro gedo mag udigi).																
	2) Determ ining the cause and effects of identifi ed risk, stating the																

objecti ve for which analysi s is carried out and docum enting the likeliho od of occurre nce and severit y (Risk Analysi s)(Keto chenro mar doyo matut gigo makelo ohinga , togi rach manya lo neno kotenore gi ohinga gi ekinde gero udigi).																	
3)Taki ng actions that are geared toward s reducin g the probabi lity of the impact of the identifi ed risk(Ri sk mitigati on and control action)(Keto chenro mar																	

	nenokaka inyaloduokchien chandruogemanyalobirokotenore gi ohingama osefweny ni nyalohinyogedomag utegi)																	
	4) Putting in place actions involved in monitoring and controlling risk (Risk monitoring and control) (Keto chenromar rangoka chenromoketi mar duokochien ohingamosef weny bende dhii nyime maber) .																	

➤ Key-

V.H-Very high (**Kiwango mamalo saidi**)**H**-High (**Kiwango ma malo**)**M**-Moderate (**Kiwango Mani e diere**)

L.-Low (Kiwango manipiny)**V.L-Very low (Kiwango Mani piny saidi)****A- Above 50% (Malo mar atamalo piero abich ewii mia)****B-Below 20% (Piny ne atamalo piero ariyo ewii mia)****UN-Unable to answer (Penjono otama duoko).****SECTION 7 –LEVEL OF STAKEHOLDER SATISFACTION (RAN'GINY MAR YIE KATA RWAKO CHENRO MAR GEDO MAG UDI MA NENGOGI YOT E KARDAK MA ANDERSON OFAFA)**

Please indicate based on the following scale, your level of satisfaction or dissatisfaction in relation to the following statements. (Ikwayi mondo igol pachi e weche mowachi piny kaeni kiluwo ratil moket piny kaeni)

Scale (Ratil) - 1) Satisfied (Onyong'a/ Ayiego) 2) Strongly satisfied (Onyon'ga/Ayiego saidi) 3) Neither satisfied nor dissatisfied (ok onyong'a, to be ok ayiego) 4) Dissatisfied (Ok onyon'nga / ok Ayiego) 5) Strongly dissatisfied.(Ok onyon'ga/ok ayiego saidi) 6) Unable to answer (Penjono otama duoko)

Statements (Weche)-

701 The county government of Kisumu has set aside a budget of approximately ksh 3.8 billion for construction of approximately 1950 affordable housing units per year per county (Sirikal mar Kenya oseketo tenge pesa madirom million miachiel gi piero abich mar gero Ute manengogi yot higa ka higa ne sirikende mag county.).

1) 2) 3) 4) 5) 6)

702 The government of Kenya has planned to build approximately 1950 affordable housing units per county within a period of two years (Sirikal mar Kenya oseketo chenro mar gero Ute manengogi yot ma kwangi dirom elfu ariyo e thuolo mar higni ariyo).

1) 2) 3) 4) 5) 6)

703 The government of Kenya has put in place measures to check the quality of work done during the construction of affordable housing units by approving the construction work before handing over the houses to the off taker for client satisfaction.(Sirikal mar Kenya oseketo chenro mar cheko gedo mag ute manengogi yot kabe ibiro gergi e kiwango machick opuodho kapok oketgi e lwet jalno/ kata jogo mabiro usogi ne rahia

1) 2) 3) 4) 5) 6)

704 What is your level of satisfaction in regards to the methods that have been used generally to implement this project (In a scale of 1-5)?(En an'go minyalo wacho kuom chenro motigo kuom gero udi ma nengo gi yot gi, e ratil mar 1-5)?

1) 20-39% (Atamalo pier ariyo nyaka pier adek gi ochiko.) () 2) 40-59% (Atamalo pier an'gwen nyaka pier abich gi ochiko) () 3) Below 20% (Atamalo matin ne pier ariyo) () 4) 80% and above (Atamalo pier aboro kata mokadho) () 5) 60-79% (Atamalo pier auchiel nyaka pier abirio gi ochiko) ().

ii)LEVEL OF STAKEHOLDER PARTICIPATION.(Kiwango kaka ne onywandu e chenro mar gero udigi)

801) Did the project sponsors engage with the community living in this area?(Bende jotelo mag gero utegi ne onywandou e chenro mar gero udigi?)

1) Yes(Eech) () 2) No(Oooyo) ()

802) Indicate the kind of engagement the project sponsors had with community among the following-(Ler kaka ne jogo mane ochu'ngne gedo mag udigi ne onywandou kuom magi)

1) Information sharing(Chiwo ler motenore gi chenro mag gedo) () 2) Consultations(Penjou kaka uneno weche madhi nyime) () 3) Involvement in their activities(Nywandou e tijegi) ()

4) Collaboration(Tudruok e kindu kodgi) ()

803) In a scale of 1-6 ,rate the level of engagement the project sponsors had with the community living in this area.(E ratil mar 1-5,ler kiwango mane jotend udigi onywandou e tijegi)

1) Above 50%(Maduo'ng ne atamalo pier abich) () 2) 40-49% (Atamalo pier an'gwen nyaka pier an'gwen gi ochiko) () 3) 30-39% (Atamalo pier adek nyaka pier adek gi ochiko) () 4) 20-29%(Atamalo pier ariyo nyaka pier ariyo gi ochiko) () 5) Below 20%(Matin ne atamalo pier ariyo) ().6) No engagement (Ne ok gidich kodwa)

804) Please gauge the following statements according to the scales provided-(correct, wrong, neither correct nor wrong,Unable to answer)-(Akwayi ni ikonya keto e ratil weche ma ondiki piny kae kaluwore gi ratil mar(adieri, Ok adieri,Ok adieri be ok miriambo,otama duoko).

1) The prevailing level of participation would hinder project execution performance.(Kiwngo ma jogi osenywandowa e chenrogi biro hinyo chenro mar gedo)

2) The prevailing level of participation would facilitate project execution performance(Kiwango ma jogi osenywandowa e chenrogi biro chwal nyime chenro mar gedo).

3)The prevailing level of participation would neither hinder nor facilitate project execution performance(Kiwngo ma jogi osenywandowa e chenrogi ok bi hinyo kat chwal mbelo chenro mar gedo).

4) Unable to answer(Otama duoko)

805) Please gauge the prevailing level of participation in terms of hindering the project execution outcome (Akwayi ni ikonya keto e ratil kiwango mar nywandou e chenro mar gero utegi kaluwore gi ratil mochiu pinykae)-

1) Very highly(50% and above)(**Atamalo ma malo ahinya mar piero abich kadhi malo**) () 2) Highly(40-49%)(**Atamalo ma malo mar piero an'gwen nyaka piero an'gwen gi ochiko**) () 3)Moderately(30-39%)(**Atamalo mani e diere mar piero adek nyaka piero adek gi ochiko**) ().

4) Lowly(20-29%)(**Atamalo mani piny mar piero ariyo nyaka piero ariyo gi ochiko**) () 5) Very lowly (Below 20%)(**Atamalo mani piny ahinya mar matin ne piero ariyo**) () 6) Unable to answer.(**Otama duoko**) ()

806) Please gauge the prevailing level of participation in terms of facilitating the project execution outcome-(**Akwayi ni ikonya keto e ratil kiwango mar rwakou e dongruok mar gero udigi kaluwore gi ratil moket piny kae**)

1) Very highly(50% and above)(**Atamalo ma malo ahinya mar piero abich kadhi malo**) () 2) Highly(40-49%)(**Atamalo ma malo mar piero an'gwen nyaka piero an'gwen gi ochiko**) () 3) Moderately (30-39%)(**Atamalo mai e diere mar piero adek nyaka piero adek gi ochiko**) ()

4) Lowly(20-29%) (**Atamalo mani piny mar piero ariyo nyaka piero ariyo gi ochiko**) ()

5) Very lowly(Below 20%)(**Atamalo mani piny ahinya mar matin ne piero ariyo**) ()

6) Unable to answer(**Otama duoko**) ()

END OF THE QUESTIONNAIRE (GIKO MAR CHENRO MAR PENJO)

Thanks for your time (Herokamano kuom thuolo Mari michiwo ne duoko penjogi

APPENDIX 6

KEY INFORMANT INTERVIEW TOOL

INFORMED CONSENT FOR KEY INFORMANTS

Hello, this is Peterlis Ochieng ADM No P152/4343/2018, a student from Jaramogi Oginga Odinga University of Science and Technology (Kisumu Campus), carrying out a research project on 'How external stakeholder risk identification and perception influence the implementation of the affordable housing project in Anderson –Ofafa estate in Northern sub location, of Kisumu central sub county. We would appreciate very much your participation in this interview. The student is inviting you to participate in this research through answering of the key informant questionnaire. The researcher has added the key informant approach to achieve an informed and detailed input on this topic.

Key informants are stakeholders like you who come in contact with project participants and local stakeholder needs and aspirations on a daily basis. The researcher needs an expert input from you. Your ideas will give an impetus to the views of the ordinary stakeholders on the same topic to arrive at a credible perspective of the research questions. There are no direct benefits that you will gain in participating in this study. The outcome of the study will be used by policy makers in policy and strategy formulation on matters of building construction which will have long term benefits.

The information you give to us will be kept confidential and will not be shared with anyone outside this study. Your name will not at any time be used or linked to any response you give. Participation in this study is voluntary i.e. you may choose to participate or not to participate. You are also free to respond to questions which you feel comfortable to answer. You can also stop participating at any time during the interview; however, we hope that you will participate to the end since your views are very important. The interview session will take approximately one hour.

Would you like to ask any question?

Are you willing to participate?

Yes.....	No.....	Signature	of
interviewee.....	Date.....	Signature	of
interviewer.....	Date.....		

KEY INFORMANT INTERVIEW TOOL

INTRODUCTIONS:

A) Interviewer introduction- Name Peterlis Ochieng, a student from Jaramogi Oginga Odinga University of science and Technology

Project- A research project titled 'How external stakeholder risk identification and perception influence the implementation of the affordable housing project in Anderson Ofafa estate in Northern sub location, Kisumu Central Sub County.'

Those involved in the process- All residents of Kisumu town.

Establishment of credibility for the interview/interviewer- I will compile interview information to ensure data collection efficiency, quality and consistency across interviews. I will also try to make sure all information is collected and captured through audio-recording of interview responses by both note- taking and tape recording. However tape recording will be used only if you consent. If I may ask- do you approve of that? Yes (...) No (). You will be expected to answer all questions to the best of your knowledge, truthfully and without any bias or prejudice..

Importance of your cooperation- Your views are very important as they will assist this research study get an expert and insightful information on the problem under study.

B) Interviewee Introductions: Name of interviewee.....

Organization..... Title.....

Phone No..... Address.....

This questionnaire is designed to make a deeper analysis of the probable risk factors and their influence to the affordable housing project in Anderson Ofafa estate, Kisumu town. In addition, we will also be seeking your views on how the development of a list of identified risks (Risk register) and their management plan will influence the same project. You are expected to answer the questions to the best of your knowledge, belief, truthfully and without prejudice or bias.

Interview questions-

1) How long have you lived in Kisumu town?.....Days/Weeks/ Months/Years

2) What do you do for a living?.....

- 3) What is your level of education?.....
4) How old are you?.....
5) What is your gender?.....
6) Have you ever worked in construction industry?.....
7) What do you understand by the following terms?
A) Risk?.....
.....
B) Risk Identification?.....
.....
C) Risk Assessment?.....
.....
D) Risk Response?.....
E) Risk management?.....
.....
8) Have you witnessed or heard of any demolitions of residential buildings and business premises in Anderson Ofafa estate early this year?
1) Yes () 2) No () 3) don't know () 4) Not sure ().
9) If yes, what could have been the purpose.....
.....
10) Have you by any chance witnessed or heard of any demonstration over the demolitions in Kisumu town?
1) Yes () 2) No () 3) Don't know () 4) Not sure ().
11) If yes, what could be the cause of such demonstrations?
.....
.....
12) Do you think that such actions could pose dangers to implementation of the housing project in Aderson ofafa estate? 1) Yes () 2) No () 3) Don't know () 4) Not sure ()

13) If yes, which could be some of the dangers that the project is exposed to due to actions of the project stakeholders in Anderson Ofafa estate?.....
.....
.....
14) Do you know of any public participation organized by the county government of Kisumu over the housing project?
1) Yes () 2) No () 3) don't know () 4) Not sure ()
15) If yes, did it address the public concerns over the housing project?
1) Yes () 2) No () 3) don't know () 4) Not sure ().
16) If yes, what were some of the public concerns?.....
.....
.....
17) Were the concerns addressed?
1) yes () 2) No () 3) don't know () 4) Not sure ()
18) If the concerns were addressed, why is there still some resistance from some quarters in the city over the housing project including petitions in court.....
.....
.....
19) Do you foresee any adverse effects of the stakeholder actions towards the implementation of this housing project?
1) Yes () 2) No () 3) Don't know () 4) Not sure ().
20) If yes, could you please highlight possible adverse effects under the following headings?

- a) Potential problem/ adverse effect (1- Problems/ adverse effects related to politics, cultural and sociological factors, 2-regulatory/legal factors, 3-Financial /monetary factors).
- b) Probability of occurrence (1) VH, 2) H, 3) M, 4) L, 5) VL) 6) UN
- c) Degree of occurrence (1) VH, 2) H, 3) M, 4) L, 5) VL) 6) UN
- d) Severity of the likelihood of harm (1) (Above.50%, 2) 40-49% 3), 30-39%, 4)20-29% 5), below 20%
- e) Population that could be affected (1) Clients, 2) Consultants, 3) Contractors, 4) General public) 5) Others, specify.....)
- f) Management strategies.

Potential problem/adverse effect.	Probability of occurrence.	Degree of occurrence	Severity of likelihood of harm.	Populations that could be affected.	Management strategies.
a) Political, social and cultural factors	1,2,3,4,5,6	1,2,3,4,5,6	1,2,3,4,5	1,2,3,4,5,6	1) Political, social & Cultural factors). 2) Regulatory/Legal factors). 3) Financial/Monetary factors).
1)					
2)					
3)					
4)					
5)					
6)					
7)					
8)					
9)					
10)					
11)					
12)					
13)					
b) Regulatory/ Legal factors.					
1)					
2)					
3)					
4)					
5)					
6)					
7)					
c) Financial/ monetary factors					
1)					
2)					
3)					
4)					
5)					
d) Other problems / adverse effects, (Explain)					
1)					
2)					
3)					
4)					
5)					
6)					

21) As a key stakeholder of the affordable housing project in Anderson Ofafa estate, are there factors that you foresee that could affect cost and schedule overruns?

1) Yes 2) No 3) Don't know 4) Not sure

22) If yes, which are these factors?

.....

.....

.....

.....

23) Do you foresee the likelihood of cost and schedule impact on this project?

1) Yes 2) No 3) Don't know 4) Not sure

24) If yes, what are the factors that could impact on project cost and schedule and in what proportion?.....

.....

.....

.....

25) Are there factors that could compromise the quality performance of the project?

1) Yes 2) No 3) Don't know 4) Not sure

26) If yes, what are the factors and to what extent do they impact on quality performance in terms of proportion?

.....

.....

.....

.....

27) Do you think that the development of an updated risk register and risk management plan could influence the implementation of the affordable housing project?

1) Yes () 2) No () 3) Don't know () 4) Not sure ().

28) If yes, please highlight the influence according to this scale:

1) Above 50% 2) 40-49% 3) 30-39% 4) 20-29% 5) Below 20%

1) () 2) () 3) () 4) () 5) ().

29) As an expert / Key stakeholder to this project, we would like to get your expert/ informed opinion that could assist in the development of an updated risk register by filling the following table below:

[illegible]

Table Key

1) Risk ID NO-Unique number created for each risk for easy identification.

- 1) Risk ID-NG Unique number created for each risk for easy identification.
- 2) Risk Identified-Documenting and communicating the concern whether negative or positive to the project.

3) Risk description-Uncertain events that are significant enough to warrant tracking and monitoring.

- 4) Date identified-Date the uncertain event was isolated/ noted.
- 5) Date updated-Date that contingency plans were put in place to take care of the threats or opportunities.
- 6) Risk level of occurrence-Degree of occurrence in a scale of 1-5(Very high, High, Medium, Low, Very low).
- 7) Risk severity-Highest level of risk which could be; (Catastrophic, Critical, Moderate or negligible).
- 8) Risk rating-Assessing risks involved in the project and classifying them in a scale of 1-5(Very high, High, Medium, Low, Very low).
- 9) Expected impact-Assessing the likelihood that the impact will be different from the expected and the perspective of people who experience the impact.
- 10) Current status-Current mitigation/ control measures in place and their weaknesses.
- 11) Possible response actions- Proposed treatment/ control options for the identified negative / positive risks (Avoid, Mitigate, Transfer, Escalate, Accept)- for negative, and (Enhance, Exploit, escalate, Accept, Share)- for positive risks.
- 12) Target date-Proposed date to start implementing control actions for the risks.
- 13) Closure date-Proposed date to close-up implementation of control actions.
- 14) Responsible Persons-Proposed persons that will be responsible for implementation of control actions.
- 15) How to monitor control actions-Proposed measures to be employed to monitor control actions.
- 16) Notes-Issues that don't fit under the categories discussed but important to note.
- 29) Do you foresee any management inadequacies during the construction of the affordable houses?
- 1) Yes () 2) No () 3) Don't know () 4) Not sure ()

30) If yes, which of the following do you foresee?

- i) Coordination hurdles 1) Yes () 2) No () 3) Don't know () 4) Not sure ().
- ii) Poor project documentation 1) Yes () 2) No () 3) Don't know () 4) Not sure ().
- iii) Inconsistent reporting of errors 1) Yes () 2) No () 3) Don't know () 4) Not sure ().
- iv) Inadequate labor productivity 1) Yes () 2) No () 3) Don't know () 4) Not sure ().
- v) Unsatisfactory labor quality 1) Yes () 2) No () 3) Don't know () 4) Not sure ().
- vi) Incomplete drawings and poorly defined scope 1) Yes () 2) No () 3) Don't know () 4) Not sure ().
- vii) Change order management challenges 1) Yes () 2) No () 3) Don't know ()
- 1) Not sure ()
- viii) Other management challenge(S) explain
-
-

31) How would you rate the following critical success factors for effective risk management in construction industry in terms of their influence to the implementation of the affordable housing project in Anderson Ofafa estate?(please rate in terms of proportion)

- 1) Management style () 2) Awareness of risk management process ()
- 3) Cooperative culture ()
- 4) Positive human dynamics ()
- 5) Customer requirements /satisfaction ()
- 6) Goals and strategic objectives ()
- 7) Impact of environment ()
- 8) Usage of tools ()
- 9) Teamwork and communications ()
- 10) Availability of specialist in risk management ()
- 11) Other factors, (Explain).....
-
-
-

32) Is there anything else that you would like to tell me that I have not asked for concerning this project?

- 1) Yes () 2) No () 3) Not sure ()
- If yes, please give any additional information or comment.....
-
-

33) Any recommendation / recommendations for addressing the challenges affecting the affordable housing project in Anderson Ofafa estate? Please highlight if there is any.....

.....

.....

.....

END OF THE INTERVIEW

Thank you for your time.

NB- Follow-up' Thank you note" to be issued after the interview session.

APPENDIX 7
RESEARCHER'S GUIDE FOR DEVELOPMENT AND ADMINISTRATION OF KEY
INFORMANT INTERVIEW TOOL.
PREPARATIONS FOR KEY INFORMANT INTERVIEWS

The researcher will start preparing for key informant interviews by putting in place the following measures; determining what additional measures is needed to be collected from key informants, identification of the information the researcher wants to gather, identification of the information data that the researcher need in performing key stakeholder assessment, formulation of primary questions that the researcher want to answer, determining what kind of data is needed. Like in this case, the researcher will collect data on stakeholder opinions, stakeholder practices, and service utilization.

Following will be determining target population and brainstorming key informants through mapping out of population of interest, choice/ identification of key informants to be interviewed-those with first-hand knowledge about the community, its residents and issues or problem the researcher is trying to investigate, identifying and creating a list of potential informants, that is; a diverse set of representatives with different backgrounds and from different sectors.

Next will be determining how many key informants to be interviewed, deciding when and how the researcher will interact with key informants, determining the questions that will structure the interviews, choosing the type of interview- in this case, it will be face –to-face interview, developing an interview tool- in this case, it will be a semi-structured interview guide whose components include: introduction, development of the following questions- key questions, probing questions and closing questions and a summary of major responses.

In that order will be determining documentation method. In this case, it will be through both note-taking and tape recording. However, consent will be sought from respondents before tape recording. Selection of designated /interviewers will follow. These will be those with skills or background to conduct interviews. Key informant interviews will be conducted thereby summarizing the narrative responses by recording the results and listing of participants of the interview and including these in the report. In compiling and organizing key informant interview data, the researcher will keep in mind the following questions: What will the key informant interview data look like?, how will the key informant interview data be compiled?, where will the key interview data be processed and compiled?, what about informant confidentiality or anonymity?

APPENDIX 8

INTERVIEW PROCEDURE CHECKLIST

- An interview template will be used to standardize the administration of the questionnaire. This is aimed at protecting the validity and comparability of answers generated during the interview, and present questions and prompts to all respondents in the same way.
- The researcher will remain neutral and avoid substantive conversation with respondents prior to or during the interview while maintaining an engaging tone.
- The researcher will avoid giving impression by having a strong view on the topic to avoid bias.
- The researcher will try to take care of cues that could influence respondents to answer questions in a particular way rather than simply answering the intended question. Key on the cues is tone of voice, body language or interviewer characteristics which might cause the respondent to answer questions in ways that reflect attitudes towards the interviewer.
- Active listening technique will be used by the researcher. This will be through allowing sufficient time for interviewee to respond to each question and to elaborate on answers, listening for perceptions, ideas and themes, balance taking of accurate notes with the need to focus on listening., showing interest by nodding, responding , by 'I see, Yes, that is helpful to know' etc.
- Clarifying meanings of responses and requesting details by: using proper probing techniques to encourage informants to include details in their responses, without leading their responses. This will be through- repeating part of the responses, paraphrasing the answer back to the respondent to confirm interpretation, asking neutral questions eg 'Could you please tell me more about that?', 'Can you give an example?', or 'Is there an example?', 'Anything else?'. The researcher try to use the phrases 'Who, What, Why, When and Where' when appropriate.
- The researcher will prepare for questions from respondents. Prior to interviews, the researcher will review information that has been provided for interviewees, consider answers to frequently asked questions including- 'How did you get my name? What is the purpose of this survey? How do I know that this is confidential?, Will you use my name? , How will you use my answers? , Will I be paid for my participation? , What will happen if I don't participate? Etc.
- In this process from the beginning, the researcher will be taking notes. This will be through recording responses as detailed as possible and also include extra comments provided. Immediately after the interview; the researcher will ensure that all handwritings are legible. Alternatively, the notes will be typed into electronic template. Tape recording will be optional
- Ethical issues involved in gathering data from human subjects will also be considered by the researcher including; respect for persons, beneficence and justice.

APPENDIX 9

AUTHORIZATION LETTER FROM THE DIRECTOR BOARD OF POST GRADUATE STUDIES



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

BOARD OF POSTGRADUATE STUDIES
Office of the Director

Tel. 057-2501804
Email: bps@jooust.ac.ke

P.O. BOX 210 - 40601
BONDO

Our Ref: P152/4343/2018

Date: 6th October 2021

TO WHOM IT MAY CONCERN

RE: PETERLIS OCHIENG' – P152/4343/2018

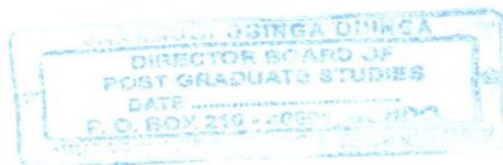
The above person is a bonafide postgraduate student of Jaramogi Oginga Odinga University of Science and Technology in the School of Spatial Planning and Natural Resource Management pursuing Master of Arts in Project Planning and Management. He has been authorized by the University to undertake research on the topic: *"How External Stakeholder Involvement and Risk Perception Influence Implementation of Affordable Housing Project in Anderson-Ofafa Estate, Kisumu Town, Kisumu County"*.

Any assistance accorded him shall be appreciated.




Thank you.

Prof. Dennis Ochuodho

DIRECTOR, BOARD OF POSTGRADUATE STUDIES



APPENDIX 10
AUTHORIZATION LETTER FROM THE COUNTY DIRECTOR OF HOUSING
(OFFICE OF THE GOVERNOR), KISUMU COUNTY

 REPUBLIC OF KENYA	 COUNTY GOVERNMENT OF KISUMU
Department of Lands; Housing; Physical Planning & Urban Development	
Our Ref: CGK/LHPP/ADM/VOL 2/23	Date: 30 th January, 2023
TO :WHOM MAY CONCERN	
<u>RE: PERMISSION TO COLLECT DATA FOR ACADEMIC RESERCH PROJECT</u> <u>WITHIN NORTHERN SUB- LOCATION, CENTRAL LOCATION , CENTRAL DIVISION</u> <u>KISUMU CENTRAL ON AFFODABLE HOUSING PROJECT FOR PETERLIS OCHIENG</u> <u>ID NO 10218168</u>	
The above subject refer,	
The above named person is a student at Jaramogi Odinga University reg no P152/4334/2018 .	
Kindly accord him the necessary support to enable him collect data for his post graduate research.	
Regards	
	
Arch, Steve Gome Director Housing & Urban Development <u>Kisumu County.</u>	

APPENDIX 11
NOTIFICATION OF GRANT OF RESEARCH LICENSE BY NACOSTI

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 234329	Date of Issue: 06/September/2022
RESEARCH LICENSE	
	
<p>This is to Certify that Mr.. PETERLIS OCHIENG of Jaramogi Oginga Odinga University of Science and Technology, has been licensed to conduct research in Kisumu on the topic: HOW EXTERNAL STAKEHOLDER INVOLVEMENT AND RISK PERCEPTION INFLUENCE IMPLEMENTATION OF AFFORDABLE HOUSING PROJECT IN ANDERSON-OFafa ESTATE, KISUMU TOWN, KISUMU COUNTY. for the period ending : 06/September/2023.</p>	
License No: NACOSTI/P/22/20176	
234329	
Applicant Identification Number	Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code
	
<p>NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.</p>	

APPENDIX 12

INSTITUTION RESEARCH PERMIT



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

DIVISION OF RESEARCH, INNOVATION AND OUTREACH JOOUST-ETHICS REVIEW OFFICE

Tel. 057-2501804

Email: erc@jooust.ac.keWebsite: www.jooust.ac.keP.O. BOX 210 - 40601
BONDO

OUR REF: JOOUST/DVC-RIO/ERC/E3
Peterlis Ochieng',
Adm. No. P152/4343/2018
SPNRM
JOOUST

29th July, 2022

Dear Mr Ochieng',

RE: APPROVAL TO CONDUCT RESEARCH TITLED "HOW EXTERNAL STAKEHOLDER INVOLVEMENT AND RISK PERCEPTION INFLUENCE IMPLEMENTATION OF AFFORDABLE HOUSING PROJECT IN ANDERSON-OFABA ESTATE, KISUMU TOWN, KISUMU COUNTY"

This is to inform you that JOOUST ERC has reviewed and approved your above research proposal. Your application approval number is 7/32/ERC/27/07/22-11. The approval period is from 29th July 2022- 28th July, 2023.

This approval is subject to compliance with the following requirements:

- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- ii. All changes including (amendments, deviations and violations) are submitted for review and approval by JOOUST IERC.
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to NACOSTI IERC within 72 hours of notification.
- iv. Any changes, anticipated or otherwise that may increase the risks of affected safety or welfare of study participants and others or affect the integrity of the research must be reported to NACOSTI IERC within 72 hours.
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to JOOUST IERC.

Prior to commencing your study, you will be expected to obtain a research permit from National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely,


For
Prof. Francis Anga'wa
Chairman, JOOUST ERC

Copy to: Deputy Vice-Chancellor, RIO

Director, BPS

Dean, SPNRM

APPENDIX 13:
AUTHORIZATION LETTER FROM THE COUNTY DIRECTOR OF EDUCATION KISUMU COUNTY



REPUBLIC OF KENYA

MINISTRY OF EDUCATION
State Department of Early Learning and Basic Education

Telegrams: "schooling", Kisumu
Telephone: Kisumu 057 - 2024599
Email:
countyeducation.kisumu@gmail.com

COUNTY DIRECTOR OF EDUCATION
KISUMU COUNTY
P.O. BOX 575 - 40100
KISUMU

When replying please quote

REF: CDE/KSM/GA/3/24/VOL.V/44

1st November, 2022

TO WHOM IT MAY CONCERN

**RE: RESEARCH AUTHORIZATION
PETERLIS OCHIENG – NACOSTI/P/22/20176**

The above named is from Jaramogi Oginga Odinga University of Science and Technology.

This is to confirm that he has been granted authority by NACOSTI to conduct research in Kisumu County on the topic *How External Stakeholder Involvement and Risk Perception Influence Implementation of Affordable Housing Project in Anderson-Ofafa Estate, Kisumu Town, Kisumu County* for the period ending 6th September, 2023.

Any assistance accorded to him to accomplish the assignment will be highly appreciated.

ENOCK OKWEMBA
For: COUNTY DIRECTOR OF EDUCATION
KISUMU COUNTY



**APPENDIX 14: AUTHORIZATION LETTER FROM THE COUNTY
COMMISSIONER KISUMU COUNTY**



OFFICE OF THE PRESIDENT

**MINISTRY OF INTERIOR AND NATIONAL ADMINISTRATION
STATE DEPARTMENT OF INTERNAL SECURITY AND NATIONAL ADMINISTRATION**

Telephone: Kisumu 2022219/Fax: 2022219
Email: ckisumucounty@gmail.com

**COUNTY COMMISSIONER
KISUMU COUNTY
P.O. BOX 1912-40100
KISUMU**

Ref: CC/KC/R.ES./1/3/VOL.IV/04

Date: 9th December, 2022

DEPUTY COUNTY COMMISSIONER
KISUMU CENTRAL

RE: RESEARCH AUTHORIZATION: MR. PETERLIS OCHIENG

Reference is made to a letter from the National Commission for Science, Technology and Innovation no. NACOSTI/P/22/20176 dated 6th September, 2022 on the above underlined subject matter.

The above named is from Jaramogi Oginga Odinga University of Science and Technology. He has been authorized to carry out a research on "**How External Stakeholder Involvement and Risk Perception Influence Implementation of Affordable Housing Project in Anderson – Ofafa Estate, Kisumu Town, Kisumu County.**" The research period ends on 6th September, 2023.

Kindly accord him necessary assistance.

**JOSEPHINE OUKO
COUNTY COMMISSIONER
KISUMU COUNTY**

Copy: Peterlis Ochieng
JOUST