AN INVESTIGATION ON THE INFLUENCE OF HOUSING MAINTENANCE-CULTURE IN THE MANAGEMENT OF PUBLIC HOUSING IN NAIROBI

BY

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DECLARATION

This research project report is my own original work and to the best of my knowledge has not been presented in any other university or learning Institution for award of a diploma or degree.

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DEDICATION

This work is dedicated to my family members who provided all the moral support that I required during the period of my studies. I also dedicate this work to the administration of Ministry of Housing who went out of their way to facilitate my studies.

ABSTRACT

Most urban areas in Kenya are experiencing rapid urbanization rates which exert pressure on the existing housing stock. Provision of adequate housing has remained a daunting challenge in the country particularly in urban areas following the high demand for housing. Most public residential units are characterized by a poor state of maintenance. In general, public buildings are under-maintained with a substantial part of the building stock being in danger of deteriorating beyond the point of economic repair. Currently, there is a large stock of public buildings in Kenya owned by Central Government, Local Authorities, and Parastatals that are in poor state and require continuous maintenance. Effective Maintenance to a large extent depends on attitude of building owners to their investment and also on the status and commitment accorded to the maintenance function. Since the last three decades, there's been a growing awareness of the importance of systematic and efficient building maintenance similar to any other corporate activity. In this regard, research on maintenance has been conducted both globally and locally and recommendations made. However, despite the numerous researches, and proposed effective maintenance strategies, implementation of the findings has not been forthcoming. Among the studies conducted, none has investigated the extent to which maintenance culture influenced maintenance of public housing in Nairobi. It is against this status of affairs that this study was conducted to investigate the influence of maintenance culture in the maintenance of public housing in Nairobi. The study used descriptive design with a target of 49 staff of the Government Estate Department of the Ministry of Housing. The study used stratified sampling technique and obtained a sample population of 50% of the target population. Data was collected using a structured questionnaire, which was administered to the respondents using drop and pick method. A pilot testing was conducted before data was collected to test the research instrument for reliability and validity. The data was analyzed using descriptive analysis and multiple regression. IBM Statistical Package for Social Sciences (SPSS) software version 20.0 was used to assist in analyzing the data. The study found out that maintenance of public houses was not accorded the priority it deserved; the ministry of housing was characterized by bureaucratic structures, systems and processes which contributed to underperformance; organizational structure, Governance culture, and employee culture highly influenced maintenance of public housing; and that lack of trained and qualified maintenance personnel would adversely affect proper housing maintenance. The study recommends the government should review its housing maintenance organizational policy to ensure that the bureaucratic elements are reduced; should review the housing maintenance legislative framework to ensure effective housing maintenance; and ensuring deployment of appropriate and adequate personnel within the maintenance docket. Further studies should be conducted to establish the organizational policies, Governance culture factors and Employee culture factors that would result in effective housing maintenance.

ACKNOWLEDGEMENT

ABBREVIATIONS AND ACCRONYMS

DG	Dutch Government
EC	Employee Culture
GED	Government Estate Department
GoK	Government of Kenya
GoN	Government of Nigeria
GS	Governance Culture
L.A.	Local Authorities
MMI	Maintenance Management Institution
MoH	Ministry of Housing
NCC	Nairobi City Council
NG	Netherlands Government
NYCHA	New York City Housing Authority
OS	Organizational Culture
SPSS	Statistical Packages for Social Sciences
UK	United Kingdom

DEFINITION OF KEY TERMS

Adequate Housing is shelter that encompasses social, economic, cultural, climatic, and ecological factors among others.

Central Government is system of administration that operates nationally and handles matters affecting the whole country

Employee culture involves employee attitudes, standards, motivation, work ethics, rites and rituals within the organization.

Facilities management is administrative process of managing buildings beginning with design, leasing, operations, maintenance and repair

Governance culture is the framework of rules and practices that ensure accountability, fairness, and transparency in managing of organizations affairs

Institutional Housing is residential premises provided by an organization to its employees

Local Authority is an administrative body for a small geographic area like a city,town, county or state.

Maintenance of public housing is making regular inspections with an aim of preventing or correcting defects in state owned houses.

Maintenance-Culture is the sustained practice of providing support or upkeep to property

Organizational culture is the values and behaviors that form the unique social and psychological environment of an organization and entails attitudes, beliefs, customs, and written and unwritten rules

Public Housing is housing owned and managed by Government and provided at nominal rent to the needy

Public servant is an employee of Government by either election or appointment

CHAPTER ONE: INTRODUCTION

1.1   Background of the study

Housing being a basic need is widely understood in the broader context of the shelter fabric together with the living environment. The significance of housing is manifested in its components of being both an economic and social good (Government of Kenya [GOK], 2004). Being an indicator of development and welfare in a country, it has an economic value which makes it an economic investment (Njathi, 2011). In fact housing contributes largely towards poverty reduction through employment generation, raising incomes, improvement of health and increasing productivity of the labour force (Chirchir, 2006).Housing being a relatively labour intensive venture retains the highest employment generation potential in any given developing country necessitating most countries to consider adequate housing as a priority national development Goal (Syagga and aligula, 1993)

Within the Social context, a decent and adequate house accords dignity, protection from adverse weather conditions, security of persons and their property, comfort and privacy to the individual, family and the community as a whole GoK (2004). Irungu (1992) in reference to lee's publication underscores the importance of condition and quality of buildings in portraying the pride, prosperity and uniqueness of a community as opposed to dilapidated buildings and decaying environments which contribute in depressing quality of life and enhancing anti-social behavior, thus justifying the importance of maintaining buildings and houses to any economy. It is the inspiration of every human being to reside in a decent house and living environment with the achievement of this dream being limited by various factors such as low income, against increasing housing costs especially in developing countries (Syagga and aligula 1995)

More precisely, housing plays a very central role in the quality of life and health of everyone thereby playing a very significant economic, social, cultural and personal role on that individual and nations as a whole. This is to say that the process of producing and exchanging housing greatly influences development goals and environmental sustainability. Additionally, the design of houses and the neighborhoods depict, reflect and protect important values and culture elements. (Erguden, 2001).

The main Objectives of building construction is to ensure strength and stability, weather tightness, internal comfort level, optimum use of buildings and a longer serviceable life of buildings. This is only possible through undertaking of periodic and planned maintenance, at regular intervals Gahlot (2006). Aluga (2001) defines maintenance as work undertaken in order to keep or restore a facility at an acceptable standard. He further recommends that management should view building maintenance as part of its operating strategy for property preservation contributing to the success, well-being and operations of its occupants. He also confirms that proper maintenance contributes in ensuring safety of occupants, users of buildings and the general public.

In essence, Most Governments in their quest to provide housing for their citizens have over concentrated in production of housing stock while maintaining the existing stock has not received much attention, resulting in dilapidated housing units and particularly those that are Government owned. The scenario in the housing sector has been evolving with time. In recent decades the world has been urbanizing rapidly leading to development of mega cities in the developing world. The cost of managing this phenomenon has exerted pressure on the housing and land markets while at the same time compromising the provision of housing, infrastructure and other amenities, resulting in housing shortage Malpezzi and Sa-Aadu (1996). Housing shortage displays itself in various forms in different parts of the world. For instance, in India the deficit is manifested in groups of homeless and street dwellers , while in Latin America it is in terms of proliferation of squatter settlements in marginal lands, lacking infrastructure.

Governments in the developed world have attempted to ensure adequate and quality housing for their citizens considering the socio-economic importance of housing. For instance, The United Kingdom (UK) Government undertakes an investigation referred to as the English House Condition Survey every 5 years since 1967 to document the housing stock and monitor its changing condition to provide a basis for Government policies on home improvement and area renewal. The survey entails physical examination of samples of housing stock, determination of history of repair and maintenance and their interests in home improvement as well as ability to finance necessary work, determination of institutional contribution by local authorities in

housing renewal and a survey of house values. It assisted in determining stock's need for repair, determine what parts need repair, determining man power required, determines resources required and proves whether maintenance policies adopted are adequate

Despite the significance of housing to economic development, the housing situation in Africa has greatly been influenced by implementation of structural adjustment programmes which recommended reduction of Government expenditures for housing. The change in housing policy had far reaching effects in provision of housing for low income earners in Africa. Subsequently, there has been minimal production of public housing for low income necessitating preservation of already existing housing stock. Syagga and Aligula (1995).In Kenya, the housing situation is such that demand far outstrips supply with the shortage manifested in proliferation of squatter and informal settlements characterized by overcrowding, particularly in urban areas, whose estimated demand is 150,000 units with an average supply of 30,000-50,000 units GoK (2004).The challenge of housing shortage and constraint as well as the deplorable state of existing stock necessitates management, restoration and modernization of existing housing stock for use by future urban migrants in addition to production of additional stock Karago(1989)

Most buildings in Kenya have suffered lack of maintenance which is manifested in public housing in all major urban centres in Kenya, confirming declining investments in the maintenance of housing estates (Syagga Aligula 1995). In recent years, not much has happened to transform this scenario requiring the relevant actors to conserve these assets for purposes of prosperity and posterity. According to Olima (2007) in his study on neighborhood management and maintenance, experiences and lessons from Kenya, he conforms that the country has had challenges of planning, development and management of its residential neighborhoods. This has resulted in deterioration of surrounding buildings and services due to lack of maintenance and unattended wear and tear caused by negligence by local authorities and Government agencies responsible for management of the built environment. A local initiative entailing formation of neighborhood associations to bridge the gap that both the state and market systems were unable to satisfy in terms of quality neighborhoods was established.Tuts R. (1990) observes that very little attention is paid to maintenance in Nairobi/Kenya and its cost implications. He attributes the high cost of housing maintenance to incorrect design decisions, poor workmanship,

engineering shortcomings, lowering of standards and neglect due to lack of clear indication of responsibility

1.2   Statement of the Problem

Most urban areas in Kenya are experiencing rapid urbanization rates which exert pressure on the existing housing stock, with an estimated growth rate of between 8% at independence to about 34% currently, and a projection of about 60% by 2030 GoK (2002). Provision of adequate housing thus remains a daunting challenge in the country particularly in urban areas considering the high demand for housing. Despite the challenge of housing shortage the sector is also faced with deteriorating quality housing particularly for the low income residents and Public residential units, characterized by a poor state of maintenance. Lee (1987) indicates that evidence suggests that in general, buildings are under-maintained and that a substantial part of the building stock is in danger of deteriorating below the point of economic repair. A study by Aluga (2001) confirms that local council buildings in Kenya are deficient of maintenance with the building fabrics being unattractive and of unacceptable standards to the users. GoK (2004) further confirms that institutional housing has not been spared either, and especially those developed for public servants. They have greatly deteriorated and in deplorable conditions.

Currently, there is a large stock of public buildings in Kenya owned by the Central Government, Local Authorities and parastatals that are in poor state and require continuous maintenance Syagga and Aligula (1995).Studies and journal literature have shown that maintenance of public housing is attributable to organizational culture (Guha, 2006; Charter and Swallow, 2007), g overnance culture (Adesoji, 2011), and employee culture (Waithanji, 1995) of the organization responsible for the maintenance of these houses. Although many studies have been conducted on various aspects of maintenance of public houses, there is very little information relating the maintenance of public housing in Nairobi to organizational culture, governance culture, and employee culture of the organization responsible for maintenance of housing.

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Among the studies conducted on factors influencing maintenance of public housing in Kenya, none of them examines the extent to which maintenance culture influences maintenance of public housing in Nairobi. It is against this background that the current study sought to establish maintenance culture of the organization responsible for maintenance, and the influence of this culture in the maintenance of public housing in Nairobi. This study aims at investigating influence of maintenance culture; organizational, governance culture, and employee culture, on the maintenance of public houses in Nairobi.

1.3   Study Hypothesis

The study is guided by the following hypothesis;

H_o: *Housing maintenance culture does not significantly influence maintenance of houses in Nairobi.*

H_1: *Housing maintenance culture significantly influences maintenance of public housing in Nairobi.*

1.4   Objectives of the Study

1.4.1   General Objective

The main objective of this study is to assess the extent to which maintenance culture in Nairobi influences the state of maintenance of public housing.

1.4.2   Specific Objectives

1. To establish the extent to which organizational culture influences maintenance of public housing in Nairobi.
2. To find out the extent to which governance culture influences maintenance of public housing in Nairobi
3. To find out the extent to which employee culture on maintenance influences maintenance of public housing in Nairobi.

1.5 Research Questions

1. What is the influence of organizational culture on maintenance of public housing in Nairobi?

2. How does governance culture influence maintenance of public housing in Nairobi?

3. What is the extent to which employee culture influences maintenance of public housing in Nairobi?

1.6 Significance of the Study

Lee(1987) in his discussion of economic and social significance confirms that maintenance is an activity of primary importance in that the total value of buildings and works accounts for two-thirds of the nation's capital stock, and it is a key factor in production of new wealth. Implementation of recommendations by the study will thus promote economic productivity. The findings of the study will provide information on effective housing maintenance strategies in Kenya, and addresses challenges faced by Government in maintaining public housing, as well as means of coping with these challenges. It will further recommend ways of ensuring effective housing maintenance in Kenya. The study will provide knowledge to the Kenyan housing Sector, and facilitate the filling up of existing gaps, while at the same time enhancing the knowledge base in this area.

The information provided by the study will be useful to policy makers in government as well as the general public. The study will provide empirical evidence on how to execute maintenance for institutional housing by first identifying the gaps and areas that require strengthening within existing frameworks. It will also contribute towards the efforts of ensuring effective maintenance of housing stock, ultimately resulting in the improvement of existing housing stock. It will also result in improving the living conditions of beneficiaries who reside in institutional housing. Thirdly, the study will be of use to academicians and researchers as it will open opportunities for further research in the area of housing maintenance.

1.7 Scope of the Study

The study was conducted within Nairobi County with interviews administered to technical officers within top management, middle and operational levels of the Ministry of Housing at the

Ministry Head office located in Nairobi, Kenya. The study targeted the Executive officers as they are involved in formulation, implementation and monitoring of Housing maintenance Policies.

1.8   Limitations of the Study

A major limitation in the research was the respondent's attitude towards the study. This would have been a major barrier to accuracy of information in that, the respondents were suspicious about the objectives of the study. Lack of trust for the researcher and the study could result in wrong information being obtained. To minimize this, the researcher sensitized the respondents on the objectives of the study in advance to get them acquainted. Another limitation may have been low response rate which would do more damage in rendering a survey's results questionable than a small sample. To deal with this challenge, the researcher persuaded the respondents who were hesitant and made several follow ups to ensure most of the questionnaires were filled.

Poor targeting may arise as a major limitation when not properly done. Errors in defining and selecting the sample during data collection would bias the results by making the sample less representative of the target population. This can be due to non-inclusion errors where people are supposed to be included in the sample are not included. To avoid these errors, the researcher ensured correct research and sampling designs were used to ensure correct selection of the appropriate target and sample populations for the study.

CHAPTER TWO: LITERATURE REVIEW

2.1   Introduction

This chapter presents a review of literature pertinent to the study as presented by various researchers, scholars and authors. It summarizes literature that has been reviewed for purposes of the study. The literature review covers theoretical framework and empirical studies. The empirical studies cover previous studies, findings and recommendation showing the research gap to be filled. Lastly, the chapter gives the conceptual framework of the study and summary.

2.1.1   Public Housing

Worldwide, families have been facing critical housing needs, which compel them to spend more than half of their income for housing or live in seriously substandard housing. It has been proved that housing needs significantly affect household budgets due to increased housing costs, edging out low income earners into the suburbs (Stegman, 2002). Families that are unable to keep up with the pace of prevalent rents find themselves within informal settlements with poor quality shelter fabric. However, for low income earners employed by Government, solace is found as they are able to access affordable housing within public housing programmes.

Though public housing programmes were neglected for a long time, significant changes have been taking place in the recent past. Such changes are increasing the importance of public housing with a renewed appreciation for public housing and an accelerated pace of reform in most countries. The objective of these initiatives is to broaden the understanding of the importance of public housing as a permanent low-rent housing resource. "Because it is the ultimate social safety net for so many families who cannot find decent shelter in the private market, public housing is too important to neglect and too critical to cities and towns across the country to be abandoned. The recognition of its essentiality has unleashed an unprecedented surge of energy, creativity, and entrepreneurial spirit within the public housing arena during the past decade …. Furthermore, high-performing large and medium-sized public housing authorities have evolved into sophisticated housing development and management agencies with diverse responsibilities and access to a variety of public and private financing tools. Today, public housing is more innovative and dynamic than at any other time in the history of the   program …

Notwithstanding the ongoing demolition campaign to remove the most severely distressed stock, public housing's value as an essential housing resource is likely to continue long into the future. That is because rents in the conventional market are rising faster than inflation, and pressures for above-average rent increases at the bottom end of the rental market are eroding the supply of rental units that are affordable without government subsidies" (Stegman, 2002).

2.1.2 Housing Maintenance

Chanter and Swallow (2007) in reference to British Institute of Facilities Management define facilities management as ''the integration of multi-disciplinary activities within the built environment and the management of their impact upon people and the work-place''.The institute underscores the importance of facilities management to the success of an organization by contributing to the delivery of its strategic and operational objectives. In another instance, Lee (2001) defines maintenance as '' a combination of any actions carried out to retain an item in, or restore it to, an acceptable condition''. The actions referred to entail initiation, organization, and implementation.

The importance of housing maintenance cannot be ignored. Harrison (1990) states that building maintenance is important in preserving and enhancing standards of appearance and hygiene, preventing deterioration of fabric and ensuring efficient operation of buildings. For efficient repair of existing buildings, on-site visual inspection and close examination of deterioration are essential. This permits understanding the process of deterioration and timely detection of defects and development of effective methods of building maintenance.

Building Maintenance aims at ensuring a systematic approach in the overall asset management while serving three major roles which include functional, aesthetic and financial roles Miles and Syagga, (1987). The functional role retains the property within reasonable standards of the user, while the aesthetic is about appearance in relation to surrounding environment. Financial role ensures that value of assets is enhanced.

The process of deterioration of buildings is complex and may set in due to a combination of factors such as human aspects, chemical factors, faulty designs, inappropriate cleaning, and misuse of building and faulty system of maintenance among others Gahlot (2006).According to Karago (1989), the need for facilities management/maintenance is necessitated by many factors that include climatic conditions, age of facility, damages by users, poor workmanship, faulty design, poor choice of materials, as well as socio-economic, political, legal and prestigious reasons.

As the saying goes, a stitch in time saves nine. Eilenberge (1990) notes that with increase in size of buildings and need for longer economic life, there's need that buildings be maintained in an optimum condition. This calls for early planning, caution in initial design of the building to permit ease of inspection of structure, selection of most appropriate materials and fabric and a regular maintenance programme to maximize the economic life of buildings. This strategy also makes housing maintenance cost effective.

To avoid substantial building failures, it is important to conduct structural surveys to confirm performance of buildings. According to Thomas (1990), a Structural Survey on the behavior and performance of different types of buildings in India conducted on existing buildings in India revealed that building failure is more often due to negligence in the diagnosis of the defect and faults than the structural failure. He also observed that proper diagnosis and repair of failure and defects can avoid substantial failures.

Housing maintenance is not the preserve of Governments alone; rather it requires the concerted efforts of all concerned parties.Waithanji (1995) states that the primary initiators of maintenance should be owners and or occupiers or users of the building facility. She however indicates that other parties such as inspectors, insurance companies, employees, or members of the public may influence how maintenance is undertaken. According to waithanji (1995), maintenance of buildings should be planned for and catered for in any tenancy agreements, while clearly outlining the party responsible for the maintenance, the areas as well as the scope of maintenance.

2.1.3   Public Housing Maintenance

According to Gahlot (2006), repair and maintenance of dwellings is one of the most challenging elements of the public housing service. Repair and maintenance usually accounts for the largest proportion of local authority housing management expenditure. In recent years, the local authority housing repairs and maintenance service has been subject of widespread criticism for high cost, inefficiency and slowness in carrying out repairs.

2.1.4   Role of Government in maintenance of public housing

It is mainly the responsibility of Governments to ensure that its citizens are adequately housed, in collaboration with other actors. Many Governments are grappling with maintenance of buildings, and particularly public housing. For instance, Gahlot (2006) makes reference to a report published in 1986 by the Audit Commission on Managing the Crisis in Council Houses in India, which estimated that 85 per cent of the 5 million council houses were in need of repair and improvement. This confirms that the Government of India is faced with the challenge of maintaining public housing.

Honstede (1990) states that the primary aim of the Netherlands Government (GoN) in the area of public housing is promotion of an optimal housing situation for its population. Initially, the Dutch Government (DG) concentrated on increasing the supply of housing stock and left the responsibility of maintenance to property owners and local authorities(LAs). However, in the 1970's, the Government reviewed its housing policy and gave priority to improvement of old residential housing as a result of the deteriorating state of old housing units. The Government in the 90's introduced development of multi-year plans for housing improvement with parliament considering programmes, budgets and subsidies for all important policy areas within public housing and urban renewal. The programmes are supported by information derived from research projects and studies regarding quality of the housing stock. The research provides insight into both quantitative and qualitative developments of housing stock and is conducted

both at the national and regional level to ensure fair distribution of subsidy funds. This has largely contributed to quality improvement of public housing stock.

Kennerley and Oxley (1990) state that in the UK property market maintenance problems are often ignored or misunderstood by owners and tenants and avoided by designers. Maintenance is normally conducted when necessary with little evaluation of effective management control. There is an inadequate maintenance level especially for public sector buildings. This is attributed to low levels of public expenditure and cost cutting. There is growing and significant literature on benefits of housing maintenance, but lack of appreciation of the value of a relevant economic evaluation of alternative maintenance strategies. This is due to lack of sufficient application of investment analysis and insufficient consideration of key factors which influence maintenance viability.

Determination of quality housing has become a matter of serious concern to developing countries which are faced with challenges of improvement of housing conditions. India's National Housing Policy emphasizes on sustained growth of its nation's housing stock together with its proper conservation, renovation and upgrading. He notes that housing deficiencies are a common phenomenon in most developing countries as a result of increased housing needs and dilapidation of existing stock among other factors.

Most developing countries' housing policies promote employer facilitated housing. For instance, According to Oladapo (2006), Nigerian Government (GoN) has a deliberate policy strategy of encouraging employers to provide housing for their workers. A research by Adesoji (2011) confirmed that public housing conditions in Nigeria are unsatisfactory .He attributed one of the major factors responsible for poor housing conditions and discontent among many public housing tenants to the low level of commitment by Housing Authority in ensuring housing improvement. The study recommends for serious government intervention in collaboration with other stakeholders to develop appropriate housing maintenance and improvement strategies. It also recommends the use of an appropriate approach that involves the users and considers their inputs to enable both tenants and planners jointly determine and judge the performance of existing development and improvement.

Oladapo (2006) establishes that tenants have a very high stake in the maintenance of their houses, and in determining the value and level of satisfaction they receive. In addition, the author notes that the primary initiators of maintenance action are the building owner and/or tenants, and together with other actors they influence the amount of maintenance work undertaken. In Kenya also, Gok (2004) urges employers to provide housing for their employees as a Government policy. The Kenya Government itself decided to lead by example by providing institutional houses for its employees and also through development and sale of houses to staff through a tenant purchase arrangement under the civil servants housing scheme.

In the Kenyan context, first national housing policy of 1966/67 was silent on the issue of housing maintenance. In 1987, the Gok initiated development of comprehensive national housing strategy with one of its principles underscoring the need to increase finances for maintenance.(Syagga & Aligula 1993).On the other hand, Nairobi's population has been increasing rapidly with a corresponding rise in housing demand which far outstrips supply resulting in mushrooming of informal settlements(GoK, 2004). Most of the structures in these settlements are of poor quality thus deteriorating rapidly calling for appropriate maintenance policy (Syagga & Aligula 1993). This necessitates conservation and maintenance of the existing housing stock as part of the strategies in meeting the demand for housing for present and future generations.

A Maintenance condition survey conducted in Nairobi City on local authority(LA) and Government rental, low-income purchase and middle-income purchase revealed that the built Government assets surveyed were in need of urgent maintenance with majority of defects being caused by factors related to occupier's or owner of units such as lack of maintenance and misuse. This was associated with lack of a maintenance-culture among policy makers, owners and users. The Study recommended establishment of emergency maintenance programmes to correct the situation, and education of users and maintenance personnel on the importance and benefits of proper maintenance, provision of finance for maintenance and strengthening of supervision of contractors.

Noppen in reference to the Nairobi City Council (NCC) housing project in Umoja Estate commends its innovative design that aimed at providing decent affordable housing. He however notes that lack of maintenance and quality control coupled with budgetary constrains resulted in the failure of the project which is characterized with a failed sewer system, dry traps, and poor waste disposal among others.

2.2 Theoretical framework

2.2.1 Public House Maintenance Theory

This theory, also known as Concept of duty of care in maintenance of urban housing stock, compares housing maintenance with care and treatment of a patient in hospital. The authors state that the treatment a patient receives depends on some predetermined criteria and a diagnosis of the patient's health condition based on predetermined criteria. The required care embraces three principles which include light care which requires treatment of minor injuries and administration of drugs at intervals; intermediate care which would require care associated with pre or post-operative situations of less serious nature; and intensive care which includes continuous and detailed monitoring and treatment of a patient's condition .Action taken by the medical personnel therefore would be dictated by the above principles depending on intended level of care as well as the existing circumstances within their area of responsibility, and would also determine resources required (Syagga & Aligula, 1995)

Likewise, the concept of duty of care means that those responsible for maintaining buildings have to determine in advance the level of maintenance that they would wish to achieve so that the buildings can continue to fulfill their role and subsequently allocate the required resources. It also entails a plan to deliberately deal with specific needs of a given property throughout its economic life while relating the level of care with the possible conditions or state of buildings through a programmed maintenance system. Objective criteria needs to be set by ensuring maintenance facilitators which include management, technical and economic are put in place. Concept of duty care with respect to management facilitators for maintenance, would lead to formulation of policies and setting up structures to channel adequate resources to meet the level of care intended. All these could be carried out through either planned preventive maintenance or

planned corrective maintenance as in the case of preventive and curative treatments of patients in the concept of duty care of a patient in hospital.

Maintenance of buildings just like duty care of patients are in three levels namely basic level care, secondary level care and intensive level care similar to light care, intermediate care and intensive care in duty care of patients respectively. Findings confirmed concept of duty care in maintenance of urban stock is lacking. This has been attributed to lack of housing maintenance policy resulting in adhoc nature of maintenance. Many housing estates in Kenya both public and privately owned are deteriorating fast due to under maintenance of building structures. This calls for the need to enhance maintenance-culture not only for housing stock, but for the built environment. The theory supports the view that the state of houses could be determined by the way the duties of management are undertaken, and this is in favour of the study implying that the state of housing could be determined by the maintenance-culture of the organization, and the practices of its employees. The fact pointed out by the theory was very helpful in considering the three factors; organizational culture, governance culture, and employee culture as the independent variable as the maintenance of house was taken as the dependent variable and hence construction of the conceptual framework.

The study by Syagga and Aligula (1990) therefore recommends an appropriate maintenance policy with an appropriate legal backup; establishment of information systems to collect and store information; creation of efficient finance mechanisms for building maintenance of both public and private home owners thru cross-subsidies between high and low income housing; supervision of contractors to maintain and improve standards of workmanship; education of tenants on their roles in maintenance of built assets; education of citizens on the environmental conscious of their living environment and inculcation of concept of duty of care in handling built assets.

2.3 Empirical Studies

The present study reviewed various studies on the factors influencing maintenance of houses. The studies were categorized as, Importance of Housing Maintenance, influence of organizational culture, influence of governance culture; and influence of employee culture on maintenance.

2.3.1 Importance of housing maintenance.

Lee (1987) state that factors influencing decisions to incur maintenance expenditure are complex and conflicting, and recommends that they should be elaborated through a planned maintenance policy covering a number of years. The department of Environment (2000) quotes *''the memorandum on preparation of a statement of policy on housing management''* which criticizes current maintenance practices and policies of over emphasizing on reducing maintenance expenditure rather than achieving better value for money; the neglect of the most critical maintenance work by the response maintenance service such as preventive maintenance and the ad hoc nature of repair operations that are inefficient in use of personnel and materials, with high unproductive time content and minimum scheduling of jobs.

A study by Department of Environment (2000) revealed that improving the quality of maintenance service has been a major challenge due to complexity occasioned by variety of administrative, professional and technical staff from several different sections within the local authorities as well as contracted private sector agencies. Inefficiency in managing buildings coupled by poor maintenance culture caused delays in undertaking of maintenance works. Gahlot (2006) indicated that delay in attending to maintenance jobs leads to severe maintenance problems. Poor state of buildings is also attributed to misuse of the buildings by occupants. Lack of security, awareness and blatant abuse of buildings, its fittings, furnishings and finishes are

sources of further deterioration of structures. This is worsened by lack of proper cleaning causing formation of injurious materials which may attack the building components.

According to Guha (2006), categorization of housing estates into various types and groups of housing units also contributes to poor maintenance of housing units. For instance, those categorized under rental basis and developed by Government and semi-government institutions are characterized by economical rents that remain static for several years resulting in shrinking of the maintenance budget, amidst increasing price levels of maintenance materials resulting in increased maintenance costs. As a result, the houses suffer from inadequate maintenance creating conditions for early decay and damage. This situation is further complicated by grouping of housing units into heterogeneous groups based on incomes of the occupants. These groupings are common with Government developed housing units, and contribute in making maintenance and servicing of these housing estate difficult due to varying tastes, standards of living, incomes and paying capacities.

On an economic view point, Rydell (1970) in his Study confirmed that the annual growth rate in maintenance and operations expenses was higher than the annual rate of increase in rent charged by the housing authority, and that the gap between revenues and expenses necessary to properly maintain housing presents a strong economic ground for public houses to be neglected and under maintained. To address its challenges, the New York City Housing Authority(NYCHA) adopted preventive maintenance policies aimed at minimizing housing deterioration. The policies entailed employment of permanent staff who conduct regular monitoring of housing conditions and undertake timely repairs in close collaboration with tenants.

2.3.2 Influence of Organizational culture on Housing Maintenance

A study was conducted by Department of Environment (2000) in reference to the first report of the housing management group. It identifies one of the main factors that impede good practice in public housing management to include organizational matters. For instance, Dispersal of housing management service across different sections of local authorities results in lack of coordination, conflicting priorities, and unsatisfactory standards. The report recommends effective

coordination of maintenance service with other aspects of housing management to ensure comprehensive service delivery.

Waithanji (1995) notes the absence of a single authority responsible for housing maintenance as one of the bottlenecks facing housing maintenance. He recommends a study be conducted to confirm possibility of creation of maintenance management institution (MMI) for maintenance of tenant purchase schemes in every town in Kenya, and its effect in housing maintenance in Kenya. In his study, he identified bureaucracy in the process of maintenance as a factor that slows down the housing maintenance due to hierarchical systems and processes.

On organizational culture, Irungu (1992) notes that there is often poor coordination between three key maintenance responsibilities which entail design and construction of capital assets; operation and use; and the maintenance of capital assets. She also indicates that multiplicity of institutions dealing with building maintenance, coupled by poor strategic coordination and collaboration of these institutions, as well as lack of clearly spelt out roles and responsibilities has contributed to neglect in maintenance of buildings.

2.3.3 Influence of Governance culture

Chanter and Swallow (2007) stated that it is important to understand organizational culture for effective facilities management. Organizational structure, bureaucracy, procedures and culture determines effectiveness in undertaking maintenance works. For instance Lee(1987) describes systems adopted by large local authorities and Government departments as being complex and hierarchical, consisting of formal routines, rules and procedures as well as detailed job descriptions, resulting in lack of flexibility and inability to deal with unforeseen and exceptional conditions not foreseen by the set rules and regulations.

While considering the human aspects, Gahlot (2006) blames lack of appropriate maintenance-culture on the part of the maintenance staff. In order to address this issue, he recommends identification of areas that require repairs, knowledge of how to conduct them and preparation of responsibilities for execution as well as the actual execution. Guha (2006) attributes poor maintenance of housing units to inadequate maintenance arrangements especially if it is

undertaken by two different entities, for the same building. This kind of arrangement may be attributed to the sale of apartments to different buyers whereby the interior areas are maintained by individual owners and the common areas are taken care of by the association or cooperative formed by the owners of the apartments. In most cases, the interiors are well done with the common spaces being neglected. This situation is worsened due to incompetence of elected administrative officers, vested personal interests of office bearers and lack of vision by owners on the long term value and benefits of well-maintained structures. Most of such estates suffer from inadequate maintenance and shabby and unhygienic environment. All this boils down to poor governance culture among house owners, managers and occupants.

Waithanji (1995) identifies main causes of defects to include improper activities of users, poor workmanship and vandalism with improper activities taking a bigger percentage, as well as lack of regular inspections to determine at what point repair work begins. Lee (1987) in reference to an extract from a conference paper identified the scarcity of information relating to maintenance as a challenge. The paper indicates that scientific collection, assessment and analysis of information and data relating to problems of maintenance and repair are rarely carried out. He also states that when it is undertaken, in most cases it is prejudiced and does not add value to maintenance works required. He recommends the storage, retrieval and processing of relevant information as a tool for decision making for successful maintenance works. This is influenced by the governance culture of organizations responsible for maintenance.

Rydell (1970) confirmed that lack of information, data and record keeping on various project components such as number of units, authority maintenance expenses and accounts was an impediment to housing maintenance. The study concluded that New York's Public Housing projects are significantly affected by time and scale factors. The bottom line for these factors is determined by the governance culture and priority accorded to housing maintenance function by Governments and other actors. In other instances, regular housing inspections are not undertaken to establish the need for maintenance. Syagga and Aligulla (1993) confirmed that little or no inspections are carried out to determine maintenance requirements in Kenya. This also reflects the poor governance culture by all stakeholders in Kenya.

In reference to a study by the Department of Environment (2000) on ''value for money on housing maintenance'' of 1999, the author identifies over concentration of resources on response maintenance rather than preventive maintenance as one of the major challenges facing the local authorities. It also pointed out the lack of coherent planned maintenance strategy as the most serious problem in current maintenance practice, a reflection of lack of systematic and consistent governance culture by Governments.

Ali et al in their research established that the most dominant factors that affected housing maintenance costs include expectations of tenants, building materials, building services, building age and failure to execute maintenance at the right time. The study recommended participation of tenants and residents in housing management works. This could be instrumental in sensitizing them to accept lower but acceptable standards. Sensitization of all stakeholders including occupants and tenants enhances an understanding and appreciation of the maintenance concept thus entrenching the appropriate maintenance culture upon all citizens who are agents of housing maintenance.

2.3.4   Influence of Employee Culture on Maintenance of Public Houses

Lee (1987) in reference to Woodbine Parish Report also noted lack of qualified personnel as a common phenomenon with large complex organizations. He attributes this to the fact that such organizations demand a level of management expertise with management skills on the entire construction industry, who in most cases are not readily available in the area of maintenance. On the other hand, he notes that those with the requisite skills and qualifications are attracted to new work other than maintenance. Waithanji (1995) also identifies lack of trained maintenance personnel as a factor that affects proper housing maintenance.

According to Lee (1987), lack of work study has often been attributed to absence of requisite absence of techniques and thus low level of productivity in building maintenance. He however notes that this claim requires further critical scrutiny as it could be misleading to suggest that introduction of work study alone would improve the situation as there is a high probability that schemes have failed through lack of attention to the wider aspects of planning and deploying the labour force to the best advantage.

A frequently expressed view is that expenditure on maintenance is often too high, which is not always the case. Gahlot (2006) identified failure to provide the necessary capital occasioned either by inappropriate budgeting or inadequate allocation of financial resources as an element that hampers maintenance thus leading to deterioration of buildings. Waithanji (1995) sighted insufficient funds as a major bottleneck hindering effective housing maintenance. He also identified failure to implement plans to have tenants organize and finance their own maintenance as a factor that affects housing maintenance.

While finance is key in maintenance of dwelling units, it has been proved that public agencies in Kenya don't keep separate accounts for building maintenance. Further, proceeds from buildings are pooled together with appropriations with no objective assessment of the financial needs for maintenance (Syagga & Aligula, 1993).On the other hand, some categories of housing such as pool housing/institutional housing for civil servants and low income housing for low income council workers don't generate sufficient incomes to finance their maintenance.

2.3.5 Other Factors influencing housing maintenance

Irungu (1992) identifies five major factors that affect housing maintenance as institutional constraints; maintenance management problems; design, construction and use generated problems, General personnel, staffing and equipment problems; and financial problems. Harrison J.D (1990) states that designing of a building is a strategic and instrumental approach in avoiding or reducing maintenance together with its resultant financial burden. This can be achieved through specification and selection of suitable materials, appropriate designs, recommendation of good standard of workmanship and anticipation of future maintenance needs by the architect during the design stage.

It is important to balance between design and maintenance. Briffet (1990) views design and maintenance as two core activities in the building process that directly contribute to the quality of construction and performance. Traditionally, these two activities are treated as separate entities, undertaken by different professionals and personnel and operated through conflicting criteria and objectives rendering them counterproductive and unable to achieve an acceptable

quality of building performance. He recommends the importance of balancing the requirements of design and maintenance in avoiding poor quality buildings, high maintenance costs and obtaining value for money. All the housing and built environment actors and processes need to be linked and coordinated from design, construction and short and long term management of the housing function as they impact on the maintenance function. This will inculcate a maintenance culture among actors and within the entire process and life span of houses and buildings.

Many Governments lack policies for housing maintenance.Irungu (1992) states that most maintenance units operate without policy or planning frameworks mainly due to low priority and limited authority accorded to them depriving them of powers to formulate policies. Findings of a study by Waithanji (1995) discovered that inadequate legislation contributed to poor state of housing conditions at Nyayo High Rise estate in Kenya.Syagga and Aligula (1993) proposed formulation of maintenance policy to deal with maintenance standards, maintenance plans, statutory or legal obligations, and owners' future requirements such as rehabilitation, refurbishment and upgrading of settlements.

Lee (1987) states that local authorities should ideally plan over a long period of time to ensure steady work flow for the construction industry. He however states that this kind of planning is hindered by uncertainty over the level of Government grants, and abrupt policy changes. Charter and Swallow (2007) identified formulation of a facilities management policy as a key component of facilities management as it incorporates both corporate and strategic processes. Both maintenance policy and effective legislative framework is necessary to sensitize policy makers, financiers, designers, constructors and end-user to the benefits of properly coordinated maintenance initiatives at different levels. The legislation should seek to deter negligence while at the same time provide for all strata of society (Syagga & Aligula, 1993)

Christudson (1990) emphasizes the importance of adequate building control at design and construction stage and regular and proper maintenance; Need for regular mandatory inspection of buildings to detect structural deterioration or defects for timely remedial action; and also points out the role of owners in preparing maintenance programmes and setting aside resources to maintain their buildings. In Kenya, maintenance policy is found in multiple statutory and

subordinate legislations. The regulations are diverse, scattered, obsolete and thus inadequate in ensuring maintenance of buildings. Some of these include building code 1968, registered land act (1963), Public health act (1972), local Government act (1963), and rent restriction act (1982), most of which have been revised and updated Syagga and Aligula (1993). However, duplication, contradiction and overlapping jurisdiction remains a challenge calling for consolidation of statutes on maintenance into one comprehensive legislation that covers standards,liabilities,penalties,remedies and areas of jurisdiction. Recently, a comprehensive National maintenance policy has been prepared to address the challenge of duplication and overlaps.

2.4 Critical Analysis of the Review

Guha's research published in (2006) that attributed poor maintenance of public housing to the static economical rents for public housing that resulted in shrinking of the maintenance budget, amidst increasing price levels of maintenance materials and costs may be true to some extent. In support of this argument, Rydell (1970) in his Study, and from an economic view point confirmed that the annual growth rate in maintenance and operations expenses was higher than the annual rate of increase in rent charged by housing authorities, and that the gap between revenues and expenses necessary to properly maintain housing presented a strong economic ground for public houses to be neglected and under maintained. However, the above argument may not be valid considering that it is the responsibility of the institution responsible for management of public housing to determine and review appropriate rents. If it also developed a culture of sustainably maintaining the units to acceptable standards, tenants would be easily convinced to pay reasonable rents based on the principle of value for money. This argument can be challenged considering that the NYCA adopted preventive maintenance measures aimed at minimizing housing deterioration by employing permanent staff who conducted regular and timely monitoring of housing conditions and repairs in close collaboration with tenant.

Research by Lee (1987) identified lack of qualified personnel as well as large complex organizations as factors that attributed to poor maintenance of public housing. His argument that such organizations demand a level of management expertise with management skills on the entire construction industry, who in most cases are not readily available in the area of

maintenance, and that those with the requisite skills and qualifications are attracted to new work other than maintenance may be true to some extent. Waithanji (1995) also identifies lack of trained maintenance personnel as a factor that affects proper housing maintenance. The same study however notes and cautions that this claim requires further critical scrutiny as it could be misleading to suggest that introduction of work study and qualified personnel alone would improve the situation as there is a high probability that schemes have failed through lack of attention to the wider aspects of planning and deploying the labor force to the best advantage and inculcating the right maintenance ethics to the staff.

2.5 Summary and Research Gaps

From the literature reviewed, it is evident that studies have been conducted on various factors that influence maintenance such as inadequate finance, negligence, institutional constraints, design, and construction and use generated problems, General personnel, staffing and equipment problems. However, though some studies allude to the fact that inculcation of a positive maintenance culture may contribute to improved public housing maintenance, no study has investigated the influence maintenance culture has in the maintenance of public housing.

2.6   Conceptual Framework

The study guided by the theory of concept of duty care in maintenance of urban housing stock proposes that the state of maintenance of public housing is influenced by factors such organizational culture, governance culture and employee culture as is captured in figure 2.1. The theory was very helpful in establishing the factors that determined the maintenance of houses and thereby helped the study to develop the conceptual framework.

Figure 2.1 Conceptual Framework

Independent Variables   **Dependent variable**

```
┌────────────────────────────┐
│                            │
│  Organizational culture    │─────────┐
│                            │         │
└────────────────────────────┘         ▼
                                       ┌────────────────────────────────────┐
┌────────────────────────────┐         │                                    │
│                            │         │  Maintenance of public housing stock│
│  Governance culture        │────────▶│                                    │
│                            │    ▲    │                                    │
└────────────────────────────┘    ┊    └────────────────────────────────────┘
                                   ┊
┌────────────────────────────┐    ┊
│                            │    ┊
│  Employee culture          │    ┊
│                            │    ┊
└────────────────────────────┘┌───────────────────────────┐
              │               │  i.    Legal framework     │
              │               │  ii.   Economic factors    │
              └──────────────▶│  iii.  Political Influence  │
                              └───────────────────────────┘
```

Intervening Variables
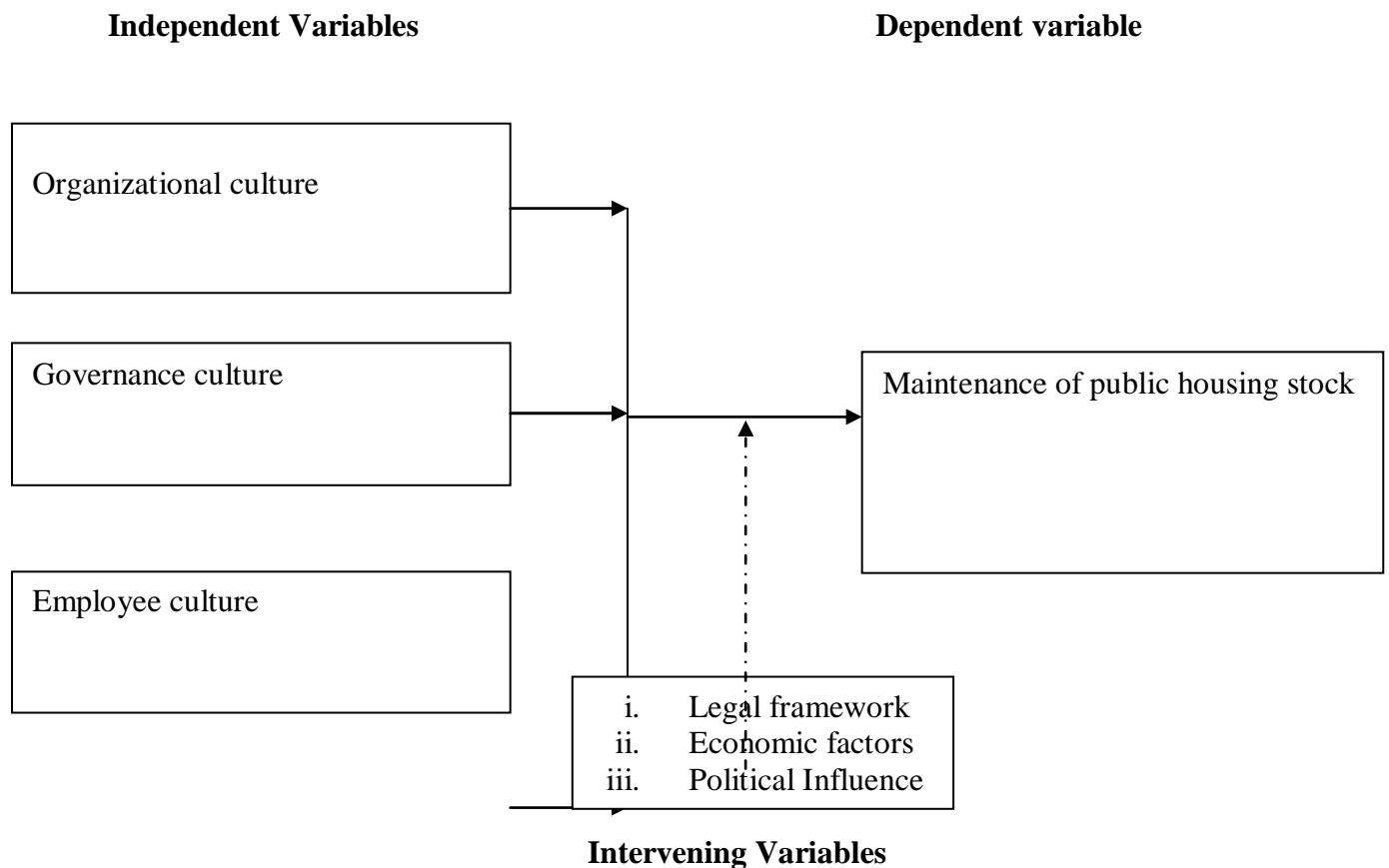
Source: Adopted from Concept of duty of care in maintenance of urban housing stock (Syagga & Aligula, 1995)

There are however other factors which may influence the state of maintenance of public housing and these may include political will, economic factors and the legal framework. The study regards these as intervening variables which will be controlled by the study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1   Introduction

This part of the research consists of the study design used in the study. It also outlines the target and sample population used in arriving at the results, data collection techniques, instruments and procedures used during the study as well as data analysis method.

3.2   Research Design

This study has used a descriptive survey in soliciting information on the current organizational and governance structures and practices, as well as employee engagements. This information gave an indication of the maintenance culture employed in maintenance of public housing by the Organization responsible for housing maintenance and its influence on the maintenance of the housing stock. According to Mugenda and Mugenda (2003), descriptive survey describes the characteristics of existing phenomenon, and provides insights into the research problem by describing the variables of interest. The study used the descriptive survey to define and examine associative relationships. This method provides useful and accurate information that answers questions regarding who, what, when and how (Kombo & Tromp, 2005).For purposes of this study, it was used to describe who is undertakes maintenance, how it is conducted and how the maintenance culture influences housing maintenance.

3.3   Targeted Population

The target population for the study was 49 respondents who are technical officers from the Government Estate Department (GED) of the Ministry of Housing that is mandated to undertake housing maintenance. This is the department mandated to undertake and oversee management and maintenance of public housing. The targeted population was drawn from three categories of staff namely estate management officers who were in the top management, estate management assistants who were middle level managers and Artisans who were at the operational level. The target population details are captured in table 3.1

Table 3.1 Target Population

Institution	Strata	Population size
Government Estates Department	Estate management Officers	32
	Estate Assistants	6
	Artisans	11
Total		**49**

Source: Ministry of Housing (2013)

3.4 Sampling Design

The study obtained a sample population of 50% of the target population which translated to 25 respondents. Mugenda and Mugenda (1999) recommends a sample of population of at least 30% of the target population as being appropriate in order to arrive at accurate and reliable results. The study used stratified sampling technique to ensure that each stratum was represented appropriately. The sample size from each stratum was obtained proportionately, i.e. 50% as demonstrated in table 3.2. The respondents from each stratum were listed, and selected using simple random sampling. In this technique, a sample frame was drawn for each stratum and a number allocated to every subject or member. The numbers were placed in a container and the required number picked at random.

Table 3.2 Sample Population

Institution	Strata	Population Size	Sample Population
Government Estate Department	Estate Management Officers	32	16
	Estate Assistant Officers	6	3
	Artisans	11	6
Total		**49**	**25**

Source: Field Survey, 2013

3.5 Data collection

3.5.1 Data Collection Technique

Data was collected from primary source using structured questionnaires which had closed ended questions. The structured questions were standardized to allow the respondents to reply to the same questions in a defined manner and giving respondents freedom of response. Drop and pick approach was used to administer the questionnaire. The questionnaire was pretested in the field before actual data collection whereby subjects gave comments and suggestions on instructions, clarity and relevance of questions for improvement. This helped confirm appropriateness of proposed methods of data analysis. Data was also obtained by way of observation in confirming existing defects and evidence of regular maintenance.

3.5.2 Data collection Procedures

A pilot test was conducted before the actual data collection. The respondents who participated in the pilot survey were excluded from the actual data collection exercise. During data collection, the researcher first sought an appointment with the senior manager of each unit participating in the study and requested them to allow for the administration of the questionnaire. Arrangements were then made on when and how to conduct the data collection.

3.6 Validity Testing

Validity testing which is accuracy and meaningfulness of data obtained in respect to the variables of the study was measured using content validity test. In this case, the assessment of content validity was done by professional experts from the ministry of housing and the supervisor of the project. The experts evaluated the tool and made recommendations accordingly. They both concurred that the research instruments (Questionnaire) would measure the desired objective and could be used in the industry. They however, suggested changes to be incorporated in the questionnaire, which were effectively done. The questionnaire was reviewed through restructuring and reduction of the questions.

3.6.1 Reliability Testing

The data was tested to confirm the extent the questionnaire yielded consistent results after repeated trials and to check for the degree of random error. The test also determined the level of

accuracy and deviation from the true measure arising from issues such as data sources, methods of data collection, inaccurate coding ambiguity and presence of any biasness. The test for reliability established the extent to which results would be consistent over time. The test assisted in minimizing random error and increasing reliability of the data collected.

3.7 Data Analysis and Presentation

Data was collected from the field after which it was checked for errors of omission and commission. The data was then classified and coded before data entry. The data was then entered and analyzed using quantitative analysis. The quantitative information was analyzed to determine trends and relationships between the dependent and independent variables as well as in depth information used to draw conclusions and recommendations. The quantitative method was used with respect to independent variables using descriptive analysis and inferential statistics conducted using multiple regression analysis based on the model:-

$$SHM = \beta_0 + \beta_1 OS + \beta_2 GS + \beta_3 EC + \varepsilon$$

Where

β_0 - is a constant, which is the value of dependent variable when all the independent variables are 0

β_1 - β_3 Regression coefficients of independent Variables or change induced by OS, GS, and EC

ε - Error of prediction

SHM- is State of Housing maintenance

OS is Organizational Culture

GS is Governance Culture

EC is Employee Culture

This model assisted in establishing whether the independent variables influenced the dependent variable which is the state of maintenance of public housing. Data collected was analyzed using statistical package for social sciences (SPSS). This assisted in ascertaining the researcher's claim that organizational culture, governance culture and employee culture influenced the state of

maintenance for public housing. It was used to analyze the dependent variable against the independent variables.

3.8   Ethical Considerations

The researcher obtained authority to collect data from the appropriate authorities. This included acquisition of a letter by the University of Nairobi authorizing the researcher to carry out the research. Authority was also sought from the Ministry of Housing to collect data from staff members. An introduction letter of request to participate in the study was addressed to the respondents for courtesy purposes. The study ensured confidentiality and security of data collected from the respondents. In this regard, all the data collected was kept in safe custody. The respondents were not required to write their names on the questionnaire to avoid exposing their identity.

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1   Introduction

This chapter presents an analysis, presentation and interpretation of the research findings obtained from the analysis of the study data. The study response included 24 technical officers from the Government Estate Department from the Ministry of Housing, Nairobi. The 24 were part of the sample population of 25 respondents, who were selected using stratified random sampling. The data collected from the respondents was analyzed using the IBM Statistical Package for Social Science (SPSS) version 20.0 for Windows. Results of the study have been organized based on the objectives of the study. The chapter contains the pilot testing results on the research instrument. This data was analyzed using descriptive analysis of quantitative data and inferential analysis to establish whether the independent variables actually measured the dependent variables.

4.2   Analysis on Study Response

Figure 4.1 Analyses by Response Rate
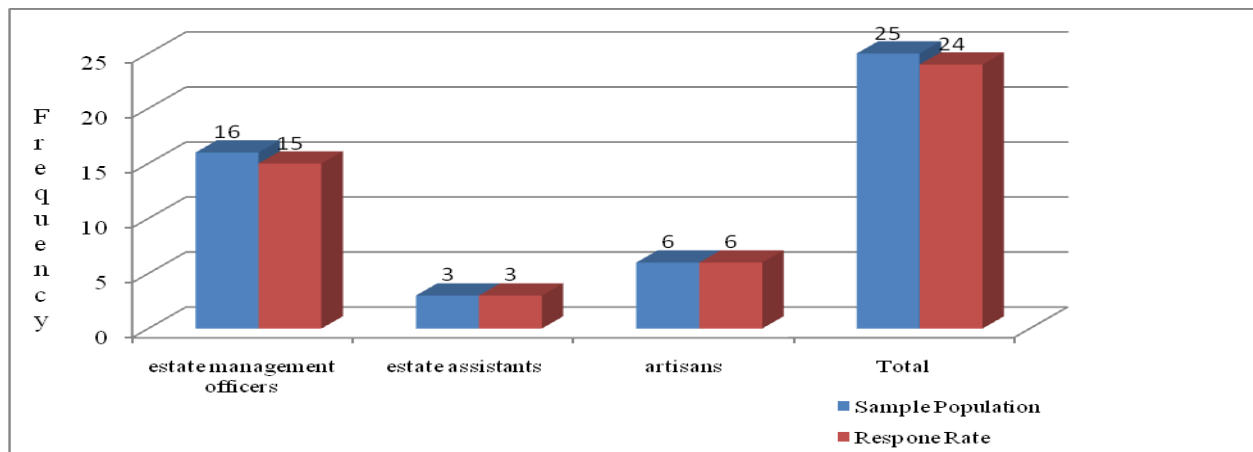
Source: Field Survey, 2013

The results on figure 4.1 show a total response of 24 out of the sample population of 25 subjects. This response rate translated to 96% of the total sample size. Such response was very good according to Mugenda and Mugenda (2003), who showed that a response rate above 69% was

very good and would lead to obtaining favorable results in the study. The study response was therefore very high and impressive.

Table 4.1 Respondents Gender

Gender	Frequency	Percent
Female	8	33.33
Male	16	66.67
Total	**24**	**100**

Source: Field Survey, 2013

The respondents were requested to indicate their gender and the results obtained recorded in Table 4.1. From these results, 66.67% of the responses were male as 33.33% were female. This showed some disparity in gender in the ministry of housing. Although the female were at least 1/3 of the total population, the male were more than the female with a bigger margin.

Table 4.2 Age Bracket

Age Bracket	Frequency	Percent
25-34yrs	1`	4.17
35-44yrs	11	45.83
45-54yrs	7	29.17
55yrs and above	5	20.83
Total	**24**	**100**

Source: Field Survey, 2013

The results in table 4.2 about the respondents' age show that most of the respondents, who formed 45.83% of the total response were of the age group 35 to 44 years. They were followed by those of the age group 45 to 54 years, who formed 29.17% and those who were above 54 years made up 20.83%. of the total response. Only four point one seven percent (4.17%) were between 25 and 34 years. This implies that the housing maintenance officers are spread out in all

age groups with majority being in middle age bracket, and few in the youthful and over 55age bracket. This is a good indicator as it blends new and innovative ideas with experienced minds.

Table 4.3 Experience in Housing Management Function

Period worked with MoH	Frequency	Percent
less than 5 years	3	12.5
5 - 8years	3	12.5
9 - 12years	3	12.5
over 12 years	15	62.5
Total	**24**	**100**

Source: Field Survey, 2013

From table 4.3, most of the respondents had worked with the ministry of housing for over 12 years. These respondents were the majority and formed 62.50% of the total response. Those who had worked for between nine and twelve years were same percentage as those who had worked for between five and eight years and those who had worked for less than five years. Each of these categories formed 12.50% of the total response. This implies that the majority respondents who are also Housing Maintenance officers have performed the task for a long period of time and understand the sector well. They are thus in a good position to evaluate the influence of maintenance culture to the maintenance of public housing.

4.3   Descriptive Statistics

The study analyzed the dependent and independent variable data based on the research objectives. First, the study analysed the results on the dependent variables to establish the status of the housing maintenance function in the Ministry of Housing in Nairobi. The results were measured on a 5 point Likert Scale (0-4) and are captured in Table 4.4.

Table 4.4 Analysis of Housing Maintenance

Indicator	Frequency	Percent
The public houses in Nairobi are frequently maintained and remain in good order		
Strongly Disagree	1	4.35
Disagree	13	56.52
Agree	9	39.13
Total	**23**	**100**
The maintenance department is always informed of any issues in public houses		
Strongly Disagree	1	4.35
Disagree	7	30.43
Agree	12	52.17
Strongly Agree	3	13.05
Total	**23**	**100**
There is prompt response to maintain any public house unit that needs maintenance		
Strongly Disagree	2	8.33
Disagree	18	75
Agree	4	16.67
Total	**24**	**100**
There is always sufficient supply of equipment needed for public house maintenance		
Strongly Disagree	5	22.73
Disagree	16	72.73
Agree	1	4.54
Total	**22**	**100**
There are sufficient financial resources to undertake public housing maintenance		
Strongly Disagree	6	26.09
Disagree	17	73.91
Total	**23**	**100**

Source: Field Survey, 2013

The results obtained showed a majority of 56.52% indicated that public houses in Nairobi were not frequently maintained and did not remain in good order. However, 39.13% of the respondents indicated that the public houses in Nairobi are frequently maintained and remain in good order. The least, consisting of four point three five (4.35)% of the total respondents strongly indicated that the public houses in Nairobi were never maintained at all and were not in good order. Based on these views, one can conclude that public houses in Nairobi are not frequently maintained and are not always in good order.

Further, the results revealed that most of the respondents, who formed 52.17% of the total responses, are of the view that maintenance department was always informed of any issues in public houses. On the other hand, 30.43% disagreed with this position, meaning that the maintenance department was not always informed on issues of public houses. 13.04% were strongly convinced that the maintenance department was always informed of any issues in public houses. However, 4.35% strongly disagreed with this statement, meaning that the maintenance department was not informed of any issues in public houses. These results imply that information on the condition of public housing is not the major challenge as most respondents 65.21% indicated that the department is usually aware of defects.

The results in Table 4.4 reveal that a majority consisting of 75.00% of the total respondents disagreed with the statement that there was prompt response in maintenance of public housing units while another 8.33% strongly disagreed with the statement. At the same time, 16.67% agreed with the statement. This is a strong indication that in most cases, there is no prompt response in the maintenance of public housing in Nairobi.

With regard to sufficient supply of maintenance equipment, 72.73% of the total respondents indicated that there was insufficient supply of equipment required for public housing maintenance. 22.73% were strongly convinced that there was no sufficient supply of materials required for public housing maintenance. However, only 4.55% indicated that there was sufficient supply of equipment needed for maintenance of public housing. This therefore means that there is insufficient supply of maintenance equipment required for public housing.

With regard to financial resources, the results by most respondents consisting of 73.91% disagreed with the statement that there were insufficient financial resources to undertake public housing maintenance, while 26.09% strongly disagreed. This is a strong indication that financial resources to undertake public housing maintenance are insufficient.

The study further analyzed the influence of organizational culture on the maintenance of the housing and the results are captured in table 4.5.

Table 4.5 Analysis on Organizational Culture Effects

Indicator	Frequency	Percent
Definition of roles/responsibilities		
Low	2	9.09
Moderate	7	31.82
High	10	45.45
very high	3	13.64
Total	**22**	**100**
Coordination of duties		
Moderate	5	22.73
High	15	68.18
very high	2	9.09
Total	**22**	**100**
Prioritization of activities based on urgency		
Low	1	4.55
Moderate	2	9.09
High	12	54.55
very high	7	31.81
Total	**22**	**100**
Bureaucracy		
Moderate	7	30.43
High	11	47.83
very high	5	21.74
Total	**23**	**100**
House Maintenance Procedures		
Low	2	8.33
Moderate	10	41.67
High	8	33.33
very high	4	16.67
Total	**24**	**100**

Source: Field Survey, 2013

From table 4.5, 45.45% of the total response indicated that clear definition of roles highly influenced maintenance, 31.83% indicated that it influenced very highly and 13.64 said it influenced moderately. Only 9% indicated that the influence was low. This reveals that majority of respondents were of the view that this parameter influences maintenance of public houses.

With regard to coordination of duties 68.18% indicated that it highly influenced maintenance of public houses, 22.73% indicated that the influence was moderate, while 9.09% indicated that the influence was very high. This implies that this parameter on coordination of duties highly influences maintenance of public housing.

On prioritization of activities based on urgency 54.55% indicated that it highly influenced maintenance of public houses, 31.83% indicated that it influenced very highly and 9.09% indicated moderate influence. Only 4.55% indicated that the influence was low. This is a strong indication that the parameter on prioritization of activities based on urgency greatly influences maintenance of public housing.

On the parameter of bureaucracy, the results in table 4.5 showed that 47.83% of the total respondents indicated that it influenced maintenance of public houses highly, 30.43% indicated moderately, while 21.74% stated that it had a very high influence on maintenance of public houses. This therefore implies that bureaucracy greatly influences maintenance of public housing.

In regard to maintenance procedures, the study results showed that 41.67% respondents indicated that procedures influence maintenance of public housing moderately, 33.33% indicated that the influence was high, while 16.67% stated that it was very high. Only 8.33% of the total respondents stated that the influence was low. This study results therefore reveal that majority of respondents confirmed that housing maintenance procedures influence housing maintenance in Nairobi.

Table 4.6 Analysis on Organizational Culture Status in the Ministry of Housing

Indicator	Frequency	Percent
Elaborate work plan		
Yes	4	18.18
No	2	9.09
to some extent	13	59.09
to a great extent	3	13.64
Total	22	100
Effective coordination between top management and operational level		
Yes	9	37.5
No	1	4.17
to some extent	12	50
to a great extent	2	8.33
Total	24	100
Activities prioritized based on urgency		
Yes	10	41.67
No	2	8.33
to some extent	8	33.33
to a great extent	4	16.67
Total	24	100
Housing management Bureaucratic		
Yes	6	25
No	3	12.5
to some extent	12	50
to a great extent	3	12.5
Total	24	100
Maintenance procedures Documented		
Yes	21	87.5
No	3	12.5
Total	24	100

Source: Field Survey, 2013

The study analyzed various indicators of the organizational culture, and the results are captured in table 4.6 above. They indicate that a majority who consist of 59.09% of the total respondents

were of the view that elaborate work plans for preventive and corrective estate management were done to some extent and only 18.18% strongly felt that these plans were in place. On the other hand, 13.64% indicated that the plans were in place to a great extent, while Nine point zero nine (9.09%) were of the view that there were no plans at all. This implies that elaborate work plans are in place but not to the required standard given that majority are of the view that they are there only to some extent.

On coordination of the maintenance function, most respondents who formed 50.00% indicated that the maintenance function was coordinated from top management to operational staff to some extent. 37.50% of respondents were convinced that indeed the maintenance function was coordinated from top management to operational staff, while 8.33% indicated that the maintenance function was largely coordinated from top management to operational staff. However, 4.17% indicated that the maintenance function was not coordinated from top management to operational staff. The findings reveal that coordination of the function has been wanting given that only 37.50% of respondents were convinced or indicated that yes there was proper coordination. Majority who were half of the respondents felt that the function was well coordinated only to some extent.

On prioritization of maintenance work based on urgency, the results in Table 4.6 indicate that 41.67% of maintenance activities were prioritized while 33.33% indicated that the maintenance activities were prioritized to some extent. 16.67% indicated that maintenance activities were prioritized to a great extent, while 8.33% revealed that maintenance activities were never prioritized based on urgency. This information reveals that although maintenance works are prioritized based on urgency, it is not done to the expected standards since the respondents who agreed that it is done are less than 50%.

With regard to bureaucracy of the Housing management function, 50.00% of the total response showed that the housing management was bureaucratic to some extent, 25.00% indicated that it was actually bureaucratic and 12.50% showed that it was bureaucratic to a great extent. However, another 12.50% showed that it was not bureaucratic. Based on these responses, it is

evident that the system is bureaucratic as over 75% of respondents stated that the system was bureaucratic.

From table 4.6, most of the respondents consisting of 87.50% indicated that the maintenance procedures were documented despite 12.50% stating that maintenance procedures were not documented. This is a good indicator that confirms that indeed maintenance procedures in the Ministry of Housing Nairobi are well documented.

Table 4.7 Analysis on Governance Culture Influence

Indicator	Frequency	Percent
competence of the leaders		
Moderate	3	13.64
High	14	63.64
very high	5	22.72
Total	**22**	**100**
Commitment by Leaders		
Moderate	1	4.35
High	15	65.22
very high	7	30.43
Total	**23**	**100**
Leadership style		
Low	1	4.55
Moderate	5	22.72
High	14	63.64
very high	2	9.09
Total	**22**	**100**
Integrity of the leaders		
Low	1	4.55
Moderate	4	18.18
High	7	31.82
very high	10	45.45
Total	**22**	**100**

Source: Field Survey, 2013

Table 4.7 reveals that most of the respondents who formed 63.64% indicated that competence of the leaders highly influences maintenance of public houses. 22.73% showed that competence of the leaders had a very high influence on maintenance of public houses, while 13.64% stated that competence of the leaders moderately influenced maintenance of public houses. These results confirm that competence of leaders greatly influences maintenance of public housing.

Results with regard to commitment by leaders had 65.22% of the total respondents indicating that commitment by leaders highly influenced maintenance of public houses. 30.43% stated that

the influence was very highly. However, 4.35% showed their commitment influenced maintenance of public houses moderately. The results imply that commitment by the leadership greatly influences housing maintenance.

With regard to leadership style, the results showed that a majority of 63.64% indicated that the leadership style highly influenced maintenance of public houses as 22.73% indicated that it influenced maintenance of public houses moderately. 9.09% stated that the influence was very high, while 4.55% stated that the influence was low.

Lastly, the results on integrity of leadership showed that most of the respondents who formed 45.45% indicated that integrity of the leaders had a very high influence on maintenance of public houses. 31.82% indicated that integrity of the leaders highly influenced maintenance of public houses as 18.18% stated that it had a moderate influence. 4.55% of the respondents stated that integrity had a low influence on maintenance of public houses, with the above results revealing that integrity of leaders indeed had a great influence on maintenance of public housing.
 The study evaluated the status of governance structure in the ministry of Housing and recorded the results obtained in table 4.8 below.

Table 4.8 Analysis on Governance Culture Status in the Ministry of Housing

Indicator	Frequency	Percent
Organization have Competent Leaders		
Yes	11	45.83
No	4	16.67
to some extent	6	25
to a great extent	3	12.5
Total	**24**	**100**
Leadership is committed		
Yes	13	54.17
No	1	4.17
to some extent	7	29.17
to a great extent	3	12.5
Total	**24**	**100**
Leadership style promotes Maintenance		
Yes	8	33.33
No	1	4.17
to some extent	12	50
to a great extent	3	12.5
Total	**24**	**100**
Integrity of leadership and staff's effect on Housing Maintenance		
Yes	8	33.33
No	4	16.67
to some extent	7	29.17
to a great extent	5	20.83
Total	**24**	**100**

Source: Field Survey, 2013

The results from table 4.8 show that most of the respondents who formed 45.82% indicated that the organization had competent leaders as 25.00% stated the leaders were competent to some extent.12.50% stated that the leadership was competent to a great extent, while only 16.67% stated that the organization did not have competent leaders. From the results it is evident that the leadership is competent.

Further, the results show that a majority of 54.17% of respondents indicated that the leadership was committed to ensuring that housing management function was effective. 29.17% indicated that the leadership was committed to some extent while 12.50% stated that the leadership was commitment was to a great extent. However, only 4.17% indicated that they were not committed to housing management function. The results by majority respondents reveal that the leadership is committed to the housing management function.

A majority of 50.00% of the total respondents indicated that the leadership style promoted housing maintenance to some extent. 33.33% were confident that actually the leadership style promoted housing maintenance .2.50% indicated that the leadership style promoted housing maintenance to a great extent, while the least who formed only 4.17% indicated that leadership style did not promote housing maintenance. This is a clear indication that the leadership style promoted housing maintenance to a great extent.

Most of the respondents, who formed 33.33% of the total response, indicated that integrity of leadership and staff interfered with effective housing maintenance. At the same time, 29.17% indicated that integrity of leadership and staff interfered with effective housing maintenance to some extent. As 20.83% showed that integrity of leadership affected housing maintenance to a great extent, 16.67% indicated that integrity of leadership did not interfere with effective housing maintenance to a great extent. The results imply that there is an issue of integrity among staff that interferes with effective housing management.

Table 4.9 Analysis on Employee Culture Impact

Indicator	Frequency	Percent
Competence of housing officers		
Moderate	7	31.82
High	11	50
very high	4	18.18
Total	**22**	**100**
Motivation		
Not at all	1	4.55
Low	2	9.09
Moderate	5	22.73
High	8	36.36
very high	6	27.27
Total	**22**	**100**
Attitude		
Moderate	6	27.27
High	12	54.55
very high	4	18.18
Total	**22**	**100**
Job Satisfaction		
Moderate	9	40.91
High	8	36.36
very high	5	22.73
Total	**22**	**100**

Source: Field Survey, 2013

The results of influence of employee culture on maintenance of houses (Table 4.9) showed that a majority consisting of 50.00% of the total respondents indicated that competence of housing officers had high influence on maintenance of public houses. 31.82% of respondents indicated that the competence of housing officers had moderate influence on maintenance of public houses, while 18.18% indicated it had a very high influence on maintenance of public houses.

From these results, 36.36% of the total respondents who were the majority showed that motivation of maintenance officers had a high influence on maintenance of public houses as 27.27% of the total respondents indicated that motivation had a very high influence on maintenance of public houses. In these results, 9.09% showed that motivation had a low influence on maintenance of public houses while only 4.55% showed that it did not have any influence at all.

Table 4.9 also shows that most of the respondents, who made up 54.55% of the respondents, indicated that the employee attitude had high influence on maintenance of public houses as 18.18% indicated that its influence on maintenance of public housing was very high.27.27% stated that it had a moderate influence.

Finally, the results in Table 4.9 show that most of the respondents who formed 40.91% stated that job Satisfaction moderately influenced maintenance of public houses. 36.36% stated that it had a high influence while 22.73% indicated that it had a very high influence.

Table 4.10 Analysis on Employee Culture Status

Indicator	Frequency	Percent
Public housing officers are competent		
Yes	15	62.5
to some extent	3	12.5
to a great extent	6	25
Total	**24**	**100**
Staff are adequately motivated		
Yes	1	4.17
No	7	29.17
to some extent	14	58.33
to a great extent	2	8.33
Total	**24**	**100**
Staff have positive attitude		
Yes	7	29.17
No	2	8.33
to some extent	10	41.67
to a great extent	5	20.83
Total	**24**	**100**
Staff have job satisfaction		
Yes	6	25
No	2	8.33
to some extent	15	62.5
to a great extent	1	4.17
Total	**24**	**100**

Source: Field Survey, 2013

As regards employee culture, the results obtained from (Table 4.10) reveal that most of the respondents consisting of 62.50% were convinced that the housing management officers were indeed competent. The results also indicated that 25.00% felt that the officers were competent to a great extent. 12.50% respondents felt that they were competent to some extent. This means that housing management officers in the Ministry of housing are highly qualified and competent .

Majority of respondents consisting of 58.33% of the total respondents indicated that staff were motivated to some extent. 8.33% stated that the staff were motivated to a great extent and 4.17% were convinced that staff were adequately motivated. On the other hand, 29.17% stated that the staff were not motivated at all.

From the results, 41.67% of the total respondents who were the majority indicated that the staff had positive attitude towards maintenance to some extent. They were followed by 20.82%, who stated that staff had positive attitude towards maintenance to a great extent. 29.17% of the total respondents were convinced that staff indeed had a positive attitude towards maintenance. 8.33% indicated that staff did not have a positive attitude.

The results in Table 4.10 revealed that most of the respondents who formed 62.50% enjoyed job satisfaction to some extent. 25.00% were convinced that indeed staff enjoyed job satisfaction. 4.17% indicated that staff enjoyed job satisfaction to a great extent. 8.33% indicated that the staff did not enjoy job satisfaction

4.4   Inferential Analysis

The tested the independent variables to establish whether they were determinants of dependent variable using multiple regression. The regression test was carried out on the independent variables (Organizational Culture, Governance Culture, and Employee Culture against) the dependent variable (State of Housing maintenance) and thereby estimated the model;

$$SHM = \beta_0 + \beta_1 OS + \beta_2 GS + \beta_3 EC + \varepsilon$$

Where

β_0 - is a constant, which is the value of dependent variable when all the independent variables are 0

β_1 - β_3 Regression coefficients of independent Variables or change induced by OS, GS, and EC

ε - Error of prediction

SHM is State of Housing maintenance

OS is Organizational Culture

GS is Governance Culture

EC is Employee Culture

After analysis, the study obtained result shown in Table 4.11

Table 4.11 Regression Results

Predictor Variable	B	Sig.
(Constant)	1.903	0.006
Organizational Culture	0.175	0.048
Governance Culture	0.363	0.017
Employee Culture	0.124	0.038
N= 24 R^2= 0.686 Adjusted R^2 = .611		

Source: Field Survey (2013)

From the results in Table 4.11, the coefficient for Organizational Culture is .175, Governance Culture is.363, and Employee Culture is .124. the p-value for Organizational Culture is .048, Governance Culture is .017, and Employee Culture is .038. Since the p value for each predictor variable was less 0.05, then there was an indication that there was a significant relationship between each independent variable and the dependent variable. This is to say that all the predictor variable; Organizational Culture, Governance Culture, and Employee Culture could be used to measure (estimate) the dependent variable; State of Housing maintenance.

Further, the adjusted R^2 was 0.611, which means that 61.10% of change in State of Housing maintenance was explained by the independent variables; Organizational Culture, Governance Culture, and Employee Culture. The model was therefore fitted as;

$$SHM = 1.903 + .175OS + .363GS + .124EC$$

It should also be noted that all predictor variable; Organizational Culture, Governance Culture, and Employee Culture β-values were positive. This was an indication that Organizational Culture, Governance Culture, and Employee Culture were directly proportional to State of Housing maintenance, in which case an increase in Organizational Culture or Governance Culture or Employee Culture caused an increase in State of Housing maintenance.

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CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1   Introduction

This chapter contains the summary of research findings, discussions on the findings, conclusions and recommendations based on the data collected from the respondents and observations made. The study was guided by the following objectives; to establish the extent to which organizational culture influences maintenance of public housing in Nairobi, to find out the extent to which governance culture influences maintenance of public housing in Nairobi, and to find out the extent to which employee culture on maintenance influences maintenance of public housing in Nairobi.

5.2   Summary

The study found out that there was a very high response (96.00%), which was very good according to Mugenda and Mugenda (2003) who said that a response rate of over 69% was very good and would lead to obtaining favorable results in the study. The high response, which was therefore very high and impressive, can be attributed to the fact the researcher visited the respondents at their work stations and assisted them in filling the questionnaire. Most of the respondents were male (66.67%) and the rest were female (33.33%), complying with the constitution of Kenya (Gok, 2010), which recommends that at least 1/3 of the population be from the opposite gender. Majority of the respondents (45.83%) were of the age group 35 to 44 years and most of them had worked with the ministry of housing for over 12 years (62.50%). The indication from these results was that the respondents had adequate knowledge of the operations in the ministry of housing and were informed on the housing maintenance activities in the ministry.

When evaluating the dependent variable, the study found out that public houses in Nairobi were not frequently maintained and therefore did not remain in good order (56.52%). Although the maintenance department was always informed of any issues in public houses (52.17%), it was also found that that there was no prompt response to maintenance of public housing units that required maintenance (75.00%). The study discovered that there was insufficient supply of equipment required for maintenance of public housing (72.73%). There were also insufficient financial resources to undertake public housing maintenance (73.91%).

In analysis of objective number one of the study and in an effort to find out how organizational culture influenced the maintenance function, the study found out that clear definition of roles/responsibilities highly influenced maintenance of public houses (45.45%).(68.18%) of respondents indicated that coordination of duties also highly influenced maintenance of public houses Another factor that highly influenced maintenance of public houses was prioritization of activities based on urgency(54.55%). It was also realized that bureaucracy had high influence on maintenance of public houses (47.83%). In a bid to evaluate the objective with regard to the practice within the Ministry of Housing and its influence on maintenance of public housing in Nairobi, the results revealed that there was an elaborate work plan for preventive and corrective estate management (59.09%), though not to the expected standard owing to the low percentage of below 60%. It also revealed that the maintenance function was coordinated from top management to operational staff to some extent (50.00%), also not to the expected requirements considering that only half of respondents thought so. Further, the housing maintenance activities were prioritized (41.67%), also low percentage. Documentation of maintenance procedures scored highly (87.50%), meaning that the Ministry did very well in the area of documenting maintenance procedures.. However, the housing management was found to be bureaucratic to some extent by 50.00% respondents.

With regard to objective number two on the influence of governance culture, the study found out that the competence of the leaders highly influenced maintenance of public houses (63.64%). It was also found out that the commitment by leaders on the housing maintenance function highly influenced maintenance of public houses (65.22%) and that the leadership style highly influenced maintenance of public houses (63.64%). The integrity of the leaders also had a high

influence on maintenance of public houses (45.45%). In an evaluation on the Governance culture as practiced within the Ministry of Housing, the results revealed that the organization had competent leaders (45.82%) and that the leadership was committed to ensuring that housing management function was effective (54.17%).The study found out that the leadership style promoted housing maintenance (50.00%) to some extent and that the integrity of the leadership and staff interfered with housing maintenance (33.33%).Owing to the relatively low percentages for these indicators, it implies that although most of the above requirements are met, it may not be to the anticipated standards.

As regards objective number three on employee culture and its influence on housing maintenance, the study found out that competence of housing officers had high influence on maintenance of public houses (50.00%). Motivation was also found to have a high influence on maintenance of public houses (36.36%). Employee attitude was also found to have high influence on maintenance of public houses (54.55%). However, job Satisfaction was found to influenced maintenance of public houses moderately (40.91%).In evaluation of the indicators with the practice at the Ministry of Housing, it was realized that the public housing officers were competent (62.50%) to do what they were designated to do. A majority of 58.33% of the total respondents stated that staff were motivated. (41.67%) indicated that staff had positive attitude towards maintenance, while (62.50%) indicated that the staff enjoyed job satisfaction.

5.3   Findings and conclusions

The results obtained showed that the public houses maintenance lacked frequent maintenance operations, which led to the dilapidated states of these houses and made the houses to remain in bad shape. Although the maintenance department was always informed of any issues in public houses, there were delays in attending to these housing maintenance alerts. The study confirmed that there was no prompt response to maintain any public house unit that needed maintenance. Eilenberge (1990) argues that with increase in size of buildings and need for longer economic life, there is need for regular housing maintenance. However, Thomas (1990) notes that building failure is more often due to negligence in the diagnosis of the defect and faults than the structural

failure, a factor, which seemed evident in the case of the current study and emphasized by Kennerley and Oxley (1990) and Adesoji (2011). The findings confirmed the study by Thomas (1990) and Eilenberge (1990) which indicate that delay and negligence in attending to maintenance jobs leads to severe maintenance problem and deteriorating of public houses.

This study thus deduced from the above findings and concluded that the housing maintenance function was not accorded the priority and seriousness it deserved. The Ministry was not maintaining public houses to the required standards and in fact they were not frequently maintained, largely contributing to their being in poor state. This is to say that the maintenance-culture within the Ministry was poor and heavily influenced and contributed largely to the poor state of public houses in Nairobi.

The study discovered that although there were proper systems in place and elaborate work plans for preventive and corrective estate management; the organization had rigid structures, bureaucracies and red tape with lengthy processes and procedures that contributed in delay of maintenance works, which is a component of organizational culture and affected the maintenance function negatively. Chanter. and Swallow (2007) stated that it was important to understand organizational culture for effective housing maintenance, since organizational structure, bureaucracy, procedures and culture determines effectiveness in undertaking maintenance works. The study thus concluded that The Ministry of housing was characterized by a bureaucratic system within its organizational structure resulting in underperformance of the maintenance function. Despite very good elaborate work plans for preventive and corrective estate management, documentation of maintenance procedures, and coordination of the function from top management to operational staff, the maintenance function failed the test of time owing to bureaucracy thus confirming that organizational culture highly influenced maintenance of public housing in Nairobi

The study confirmed that governance culture with regard to competence of the leaders their commitment and leadership style had considerable influence on the maintenance of public houses in general. It also discovered that he MoH had competent leadership, who were

overseeing the housing management function was and embraced a leadership style that promoted housing maintenance. However, it was evident that integrity and commitment of leadership and staff was not at the required standard, affecting the housing maintenance function. It also confirmed that there was laxity in the way things were done, which is attributed to the governance system and style that prevailed at the Ministry of Housing. The study thus concluded that governance culture highly influenced maintenance of public housing in Nairobi.

Lastly, the study also confirmed that employee culture played a significant role in maintenance of public houses. The results on competence of housing officers at the Ministry of Housing was not very high, but was just high. Results on motivation reveal that officers are not adequately motivated to deliver their assignment as most of respondents stated that motivation was just high and not very high. The employee attitude was also not very high, but just high. Job Satisfaction was found not to be very high, rather it was found to be more of high and moderate. These findings are firmly supported by findings in the study by Waithanji (1995) that stated that lack of trained and adequate maintenance personnel was a factor that affected proper housing maintenance. Although the study found out that the public housing officers were highly competent and highly motivated, job satisfaction was found to be moderate. The study also revealed that the personnel responsible for housing maintenance were few in number within Nairobi County, an indication that capacity to undertake the job is limited.

Though the employees were said to be competent and motivated to a great extent, job satisfaction was wanting as most respondents indicated that it was moderate. The parameters under consideration were not to the satisfaction of the employees. This is implied by the recorded percentages of respondents which were less than 60%, meaning the levels were not satisfactory enough. This is particularly so for motivation which scored (58.33) to some extent and positive attitude of employees (41.67) to some extent. The study thus concluded that the employee culture had considerable influence on housing maintenance in Nairobi and the public sector as a whole.

The study proved that all the independent variables; Organizational Culture, Governance Culture, and Employee Culture, were found to be estimators (predictors) of the dependent variable; State of Housing maintenance. This is to say they were suitable factors to explain the State of Housing maintenance in Nairobi.

5.5   Recommendations

The study suggests policy recommendation and recommendation for further study.

5.5.1   Policy Recommendations

The study recommends that first; the government should review its housing management and maintenance organizational policy to ensure that the bureaucratic elements are minimized from the maintenance function. The current housing maintenance organizational policy must be in tandem with the current market trends and demands to ensure efficiency and effectiveness of its performance. The government should ensure that the ministry establishes an effective organizational culture for effective maintenance of public housing. The organizational culture should be reviewed occasionally to ensure that bureaucracies and red tape are reduced and that work plans are effected as scheduled. On frequent times, the organizational culture and structures policy must be evaluated by an independent body.

Secondly, the government of Kenya should review its housing maintenance governance culture with a view of promoting regular inspection and frequent maintenance of Government owned houses based on predefined periods of time, and in line with legal requirements and current trends and requirements. The ministry should ensure that it has in place a good governance culture which is proactive and embraces integrity and commitment and in housing maintenance processes for effeciency. There must be culture of ensuring effectiveness and efficiency in house maintenance.

Thirdly, the ministry should ensure that its professional personnel in the maintenance section are highly competent and motivated .The personnel should be thoroughly trained periodically in

maintenance of houses and exposed to modern innovations in maintenance of houses. Such staff should be made to understand their roles and provided with adequate supply of financial resources and equipment for effective maintenance exercise. Corrective and preventive maintenance should be encouraged and undertaken based on a clear work plan and budget. The Ministry should also put in place staff motivation measures so as to retain competent staff and employ sufficient personnel to undertake the assignment.

Lastly, a transparent system that promotes accountability and integrity should be put in place, with regard to the housing management and maintenance function. This should further be reinforced with a legislative framework that compels the government to maintain public houses, against which penalties would be attracted.

5.5.2   Recommendations for Further Study

Considering that this study and others have identified maintenance culture; organizational culture, governance culture, and employee culture as a major bottleneck in efficient public housing management, the study recommends that further research should be conducted to establish the; appropriate organizational culture and policies which positively influence the maintenance of public houses. Further studies should also be conducted to establish governance indicators that would facilitate effective maintenance of public houses, and also best way to influence employee culture positively to ensure they perform the function of maintenance of public houses more effectively.

Another study ought to be conducted to establish new and innovative governance systems and trends that can be applied in managing the housing management function that would minimize the bureaucratic systems currently being utilized.

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APPENDICES

APPENDIX I   INTRODUCTION LETTER

Letter to Respondents

Nora Nthule Matindi

P.O.Box 75323

Nairobi

Tel. No. 0721313278

10th June 2013

Email; nnmatindi@yahoo.co.uk

Dear Respondent

I am a student at Nairobi University undertaking a post graduate diploma in Housing Administration. I am currently doing my research project on the topic "Examining the influence maintenance culture has in maintenance of public housing in Nairobi' 'I have targeted the Ministry of Housing staff who are mandated with development and management of Government housing to participate in this study. I wish to assure you that your responses will only be used for purposes of the study .I also wish to inform you that all information received from respondents will be held confidentially.

This letter is therefore a self-introduction letter. In this regard, I request you kindly respond to the issues in the questionnaire objectively. Please read the questions carefully and answer the questions by ticking the correct choice. Also write brief answers in the spaces provided where required.

I wish to thank you in advance for your cooperation and participation.

Yours FaithfullyNora .N. Matindi

B42/82134/2012

School of built Environment

University of Nairobi.

APPENDIX II: QUESTIONNAIRE

AN INVESTIGATION ON THE INFLUENCE OF HOUSING MAINTENANCE CULTURE IN THE MAINTENANCE OF PUBLIC HOUSING IN NAIROBI

I am a student of the Department of Real Estate, University of Nairobi conducting a project research in partial fulfillment of Postgraduate Diploma in Housing Administration. This questionnaire is therefore a tool to collect information for purposes of the study.

This Questionnaire is meant to collect data from the staff of Ministry of Housing. Any information provided in this Questionnaire will be used for purpose of research only and will not be divulged or availed to unauthorized persons

Please tick the correct answer in the boxes provided against the questions where provided.

Write brief answers where explanation is required.

You need not write your name on the questionnaire.

Please answer the questions as accurately as possible.

SECTION A: GENERAL INFORMATION

1. Please indicate your gender?

    Female   ( )

    Male   ( )

2. Age Bracket   *Below 24yrs*

                      25-34 yrs…………………

                      35-44yrs…………………

                      45-54yrs…………………

.   *55 years and above………*

3. Please indicate your position in your place of work by ticking (√) in the appropriate box

Estate management Officers	
Estate Assistants	
Artisans	

4. For how long have you been working with the Ministry of Housing?

Less than 4 Years	
5 - 8 Years	
9 - 12 Years	
Over 12 Years	

SECTION B: MAINTENANCE OF PUBLIC HOUSING STOCK

5. In your opinion, please indicate the level of agreement or disagreement with each of the following statements on maintenance of public housing in Nairobi. Tick (√) the correct answer in the space corresponding to the answer.

Scale: Strongly Disagree =0; Disagree = 1; Neither =2; Agree = 3; Strongly Agree = 4

	Statement	Strongly Disagree	Disagree	Agree	Strongly Agree
(a)	The public houses in Nairobi are frequently maintained and remain in good order				
(b)	The maintenance department is always informed of any issues in public houses				
(c)	There is prompt response to maintain any public house unit that needs maintenance				

(d)	There is always sufficient supply of equipment needed for public house maintenance				
(e)	There are sufficient financial resources to undertake public housing maintenance.				

SECTION C: ORGANIZATIONAL CULTURE

6. In your opinion indicate, by ticking (√) on the space corresponding to the correct answer in each question, the extent to which the following Organizational culture factors would influence maintenance of public houses.

Scale: Not at all =0; Low = 1; Moderate =2; High = 3; Very High = 5

	Organizational culture Factor	Not at All	Low	Moderate	High	Very High
(a)	Definition of roles/responsibilities					
(b)	Coordination of duties					
(c)	Prioritization of activities					
(d)	Bureaucracy					
(e)	House Maintenance Procedures					

Please tick the appropriate response.

7. Is there an elaborate work plan for preventive and corrective estate management for all staff members within your organization?

Yes [ ]   No [ ]   To some extent [ ]   To a great extent [ ]

8. In your opinion, is the maintenance function effectively coordinated from top management to operational staff?

Yes [ ]   No [ ]   To some extent [ ]   To a great extent [ ]

8. Are maintenance activities prioritized according to Urgency?

Yes [ ]   No [ ]   To some extent [ ]   To a great extent [ ]

9. Is the housing management function bureaucratic?

Yes [ ]   No [ ]   To some extent [ ]   To a great extent [ ]

10. Are the housing maintenance procedures documented?

Yes [ ]   No [ ]

(i) If yes, do you strictly adhere to these procedures in your day to day operations?

SECTION D: GOVERNANCE CULTURE

11. In your opinion indicate, by putting a tick (v) on the space corresponding to the correct answer in each question, the extent to which the following Governance culture factors would influence maintenance of public houses in Nairobi.

Scale: Not at all =0; Low = 1; Moderate =2; High = 3; Very High = 5

	Governance culture Factor	Not at All	Low	Moderate	High	Very High
(a)	Competence of the leadership and staff					
(b)	Commitment by Leadership					
(c)	Leadership style					
(d)	Integrity of the leadership					

12. Does the organization have sufficient and competent leaders and staff to effectively handle public housing management?

Yes [ ]　　　No [ ]　　　to some extent [ ]　　To a great extent [ ]

13. Is the top leadership committed to the housing management function?

Yes [ ]　　　No [ ]　　　To some extent [ ]　　To a great extent [ ]

14. Does their leadership style promote effective maintenance?

Yes [ ]　　　No [ ]　　　To some extent [ ]　　To a great extent [ ]

14. Does the integrity of the leadership and staff interfere with effective housing management?

Yes [ ]　　　No [ ]　　　To some extent [ ]　　To a great extent [ ]

SECTION E: EMPLOYEE CULTURE

15. To what extent do you think the following factors of Employee culture influence maintenance of public houses in Nairobi? Please Tick (v) the correct answer in the corresponding space.

Scale: Not at all =0; Low = 1; Moderate =2; High = 3; Very High = 5

	Indicator	Not at All	Low	Moderate	High	Very High
(a)	Competence of housing management officers					
(b)	motivation					
(c)	Attitude					
(d)	Job Satisfaction					

16. Are the officers involved in public housing management qualified and competent?

Yes [ ]   No [ ]   To some extent [ ]   To a great extent [ ]

17. Are they adequately motivated to undertake the job effectively?

Yes [ ]   No [ ]   To some extent [ ]   To a great extent [ ]

18. Do they have a positive attitude in delivering the housing management function?

Yes [ ]   No [ ]   To some extent [ ]   To a great extent [ ]

19. Do the officers enjoy job satisfaction?

Yes [ ]   No [ ]   To some extent [ ]   To a great extent [ ]

Thank you for your valuable contributions and for participating in this study.

APPENDIX III: WORK PLAN

ACTIVITY	Dec. 2012	Jan. 2013	February 2013	March 2013	April 2013	May 2013	June/July 2013	July/Aug. 2013
Presentation of concept paper	▓							
Prepare & submit project proposal		█						
Receive comments by supervisor			█					
Incorporation of comments				█				
Resubmission of proposal & clearance by supervisor					█			
Data collection, Processing, Analysis & Report writing						█		
Feedback & Clearance							█	
Graduation								█

APPENDIX IV: ACTIVITY BUDGET

Activity	Amount in Kshs
Development of research proposal	5,000
Development of tools and data collection	25,000
Data entry and analysis	15,000
Report writing, editing and project finalization	10,000
Printing copies of report and spiral binding	8,000
Total Estimated cost	**63,000**