WORKMANSHIP IN CONSTRUCTION OF SMALL AND MEDIUM HOSPITALITY ENTERPRISES IN NAIROBI CENTRAL BUSINESS DISTRICT

CAROLINE BURER

B63/9063/2004

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF ARCHITECTURE, SCHOOL OF THE BUILT ENVIRONMENT, UNIVERSITY OF NAIROBI

2016

DECLARATION

I declare that this project is my original work and has not been presented to any university for award of any other degree.

Signature: ------------------------   Date--------------------------------

Caroline Burer

B63/9063/2004

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

Signature………………………..   Date …………………………..

Prof. R. Rukwaro

Department of Architecture

School of the Built Environment

University of Nairobi

Signature………………………..   Date …………………………..

Dr. E. Oyaro

Department of Architecture

School of the Built Environment

University of Nairobi

ACKNOWLEDGEMENT

DEDICATION

I dedicate this work to my family who gave me the reason and motivation to pursue further education.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

CBD   Central Business District

KRA   Kenya Revenue Authority

SME   Small and Medium Size Enterprises

ABSTRACT

Building construction is a complex activity and requires trained manpower at the design stage, approval process, supervision and construction stage. The design of a building commences with a site survey which shows beacons and dimensions of the plot. Poor quality of workmanship makes it difficult for workers to perceive and apply the concepts of quality control and limits of tolerance for building production. This results in poor construction, which may finally lead to building collapse (Ogunsemi, 2002). The objectives of the study was to identify the challenges facing the construction and finishing, to establish causes of poor workmanship in construction and finishing, and to determine strategies of improving construction and finishing of hotels and restaurants in Nairobi. The study considered the total quality management, and competence theories. The population of the study was the registered Small and Medium hotels and restaurants in Nairobi CBD. Primary data was collected using interviews. The data collected related to the challenges facing the construction and finishing of hotels and restaurants in Nairobi, causes and strategies that can be applied to improve construction of hotels and restaurants. Data was analyzed using qualitative analysis. The study concluded that the challenges facing the hotels are mainly internal staining, mold growth and fungal, cracks on building walls, decayed and break-up mortar joints, loose tiles in the restaurants, leaking in the restaurant, and peeling paint, dampness, and finally roof deterioration. The study also concluded that the causes of poor workmanship include poor weather condition, unsuitable construction equipment, poor project management and unclear role of subcontractor. The study recommended that the following strategies can be used to improve construction and finishing workmanship; having regular checks on the structures, use of quality construction materials, having competent construction supervisors, renovation on regular basis, and adequate initial capital for set up, qualified workmanship, engaging honest and experienced contractors, using correct materials, and monitoring the implementing policies by government.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter looks at the background of the study, research problem, objectives of the study, and research questions, significance of the study and the scope of the study, definition of terms and structure of the study.

1.1 Background of the Study

Building construction is a complex activity and requires trained manpower at the design, approval process and supervision at the construction stage. The design of a building commences with a site survey which shows beacons and dimensions of the plot. In order to develop the plot, the developer needs to engage the services of professionals in the industry. Ideally, the professional building team should comprise an architect, engineers, and a quantity surveyor, among others. This team designs buildings and the surrounding environment and submits plans to the local authority for approval (Well, 2007).

The quality, cost and timely delivery of products in the construction industry depends on workmanship (The Hindu, 2006). The skill, experience and personal ability of the workmen go a long way in determining the quality of the workmanship, which is a measure of their effectiveness and efficiency. Structural failure in buildings comes in various forms and degrees of severity, the worst of which is a collapse. Poor quality of workmanship makes it difficult for workers to perceive and apply the concepts of quality

control and limits of tolerance for building production. This results in poor construction, which may finally lead to building collapse (Ogunsemi, 2002).

Figure 1.1 Collapsed Building in Nairobi

Source: Author, 2016

The construction industry is an important part of the economy in many countries and is often seen as a driver of economic growth especially in developing countries. Recently, Kenya's construction industry has experienced considerable growth in construction activities especially the hospitality sector. The high rate of urbanization has heightened demand by residential and commercial building space which has increased the number of construction activities. Owing to its relatively labour intensive nature, construction works provide opportunities for employment for a wide range of people; skilled, semi-skilled and unskilled (Well & Hawkins, 2007).

1.1.1 Quality of Workmanship

Workmanship is the skill in an occupation or trade of different workmen based on their training or profession (Adetayo, 1995). Workmen according to Ogunmakin (2005) is the most important factor of production since it is the only factor that creates value and sets the general level of productivity. The competence and qualifications of contractors influence the construction of substandard buildings in Kenya (Nyaanga, 2014). The most important aspect of a quality project is the workmanship. Poor workmanship is one of the serious issues facing local contractors in most developing countries and can destroy projects already put in place (Moavenzadeh & Rossow, 2005). A portion of the payments due to the contractors is always withheld as a guarantee against poor workmanship, hidden defects, and similar faults which might be observed only after project completion.

A fundamental element of the workforce productivity performance is governed by its skills domain meaning that a workforce with lower skill levels represents a constraint for realizing maximum performance potential. Ali and Wen (2011) studied the factors contributing to poor workmanship and possible measures to minimize the problem in Malaysia. They found lack of experience and competency of labourors, language barrier to communication and lack of communication, unsuitable construction equipment, poor weather conditions, limited time and limited cost as the causes of poor workmanship.

1.1.2 Construction Economic Importance

The construction industry in Kenya has grown in view of the significant economic activity in all sectors of the economy. The sector plays a very major role in the country's

economic development through its contribution to gross domestic product (GDP), gross domestic capital formation (GDCF), creation of employment and production of capital facilities and assets required for production in other sectors, as well as creating demand for their products (UNCHS, 2006). This contribution by the construction industry is primate in cities and towns, as urban areas are known to have prospered or declined depending on their economic activities, social prosperity, and natural resources around them (Olima, 2001).

Figure 1.2: Growth of Construction in Nairobi 1950s-2000

Source: Nairobi Jubilee History 1900 - 1950

Successful project execution involves getting a quality project done on time and on budget and more often, taking a lifecycle approach to make sure that the built asset is maintained over the long term. According to Zunguzane (2013) poor workmanship construction, and poor management and control of building contractors have contributed to poor constructions.

1.1.3 Small and Medium Hospitality Projects in Nairobi

The hospitality industry is a broad category of fields within the service industry that includes lodging, restaurants, event planning, theme parks, transportation, cruise lines, and other fields within the tourism industry. The hospitality industry is a multibillion Kenya Shilling industry that mostly depends on the availability of leisure time and disposable income (Mulandi, 2013). Nairobi is the capital city of Kenya and it forms the largest urban centre in the country, occupying approximately 696 square kilometers. Compared to other urban centres in the country, Nairobi central business district (CBD) has the highest concentration of buildings most of them having a hospitality establishment within them, including restaurants. Thus it forms the best representation of other urban centers in the country.
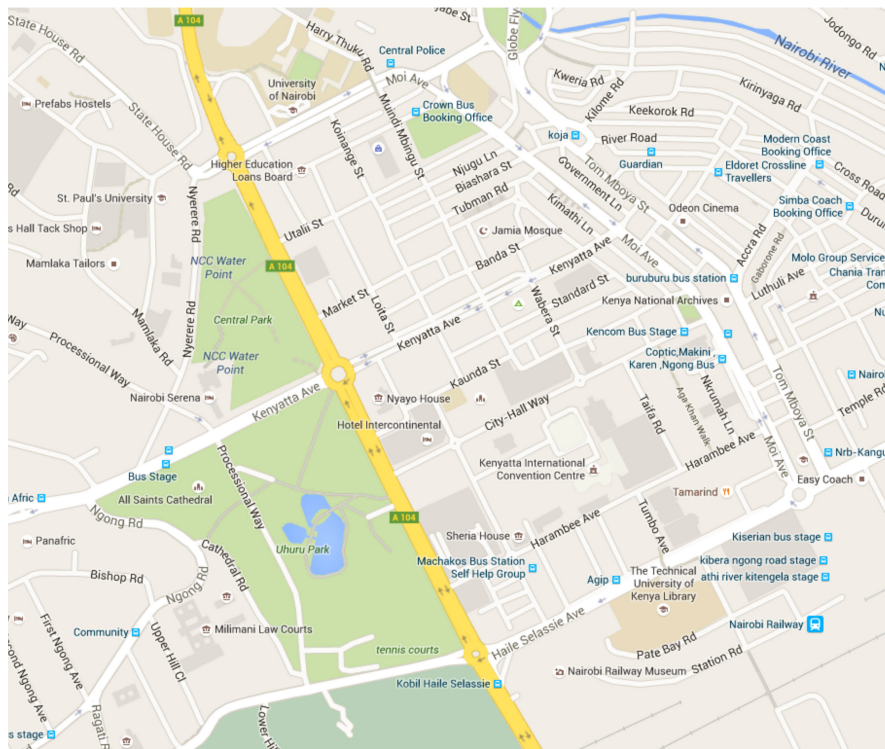
Figure 1.3: Nairobi Central Business District

Source: Google Maps, 2016

Kenya's official policy framework of SMEs is contained in the Sessional Paper No 2 of 2005: Development of Micro and Small Enterprises for Wealth and Employment Creation for Poverty Reduction. It defines a SME as an enterprise with between 1 to 50 employees. Small and Medium Enterprises (SMEs) are important to economic growth and significantly essential to the generation of profit and increase of sales. They provide return on investment to the owners. The World Bank defines an SME as one that fits within the following criteria: (1) A formally registered business (2) with an annual turnover of between Kenya Shillings 8 to 100 million (3) an asset base of at least Kenya Shillings 4 million and (5) employing between 5 to 150 employees. Restaurants form a considerable number of SMEs in the Nairobi CBD selling products ranging from fresh juices, smoothies, coffee and various foods. They employ between 10 and 99 employees. The researcher purposively picked restaurants located in Nairobi based on the objectives of the study.

1.2 Research Problem

The construction industry globally is faced with numerous problems and it has become imperative to identify the major causes at regional levels for solutions to ensure economic growth. Hospitality being the friendly and generous reception and entertainment of guests, visitors, or strangers presupposes that buildings for this purpose are built with high specifications and quality. However most of the hotels and restaurants built lately are poorly built and finished. A comparison done between hotels and restaurants built

over 30 years ago and those built within the last 15 years show a big difference in the quality of workmanship (Mulandi, 2013).

Previous researches have attempted to identify and account for the range of factors that affect construction productivity performance. For example, Horner (1982) found that there are ten factors which affect construction productivity: quality; number and balance of labour force; motivation of labour force; degree of mechanization; continuity of work; complexity of work; required quality of finished work; method of construction; type of contract; quality and number of managers and weather. Olomolaiye et al. (2008) also identified external and internal factors pertaining to construction productivity performance. External factors included: design, weather, changes made by client, level of economic development and political stability. Internal factors included: management practice, technology and labour skills and training. Despite the wide spectrum of factors affecting construction productivity, it is notable that workforce skills development and training featured as a commonly cited factor in many productivity studies and industry reports.

1.3 Research Objectives

1. To identify the challenges facing the construction and finishing of small and medium size hotels and restaurants in Nairobi.

2. To establish causes of poor workmanship in construction and finishing of small and medium size hotels and restaurants in Nairobi.

3. To determine strategies of improving construction and finishing of small and medium size hotels and restaurants in Nairobi.

1.4 Research Questions

1. What are the challenges facing the construction and finishing of small and medium size hotels and restaurants in Nairobi?

2. What are the causes of poor workmanship in construction and finishing of small and medium size hotels and restaurants in Nairobi?

3. What strategies can be implemented to improve construction and finishing of small and medium size hotels and restaurants in Nairobi?

1.5 Justification

Many buildings are not built to the required standards due to unqualified professionals hired to supervise and monitor a construction project. In general the problem in the building industry is summarized as being due to inadequate skills and knowledge on the hired human capital and inefficiency of some professionals in the industry. However, this conclusions have been based on developed countries. None of the above studies have been done in developing countries, specifically in SMEs in the hospitality industry in

Kenya. Thus, this study sought to identify challenges facing the construction and finishing of small and medium size hotels and restaurants in Nairobi, causes of poor workmanship in construction and finishing of hotels and therefore establish strategies which may be implemented to improve construction and finishing of hotels and restaurants in Nairobi.

1.6 Significance of the Study

This study will be of interest to government officials and its development agencies involved in small and medium size hotels and restaurants support policies and programs. The government has a mandate to ensure that business thrives well as part of their goal of growing the country's economy. In practice the study will be useful to the restaurant owners and managers in improving the construction and finishing of restaurants and hotels. Restaurant and hotel owners are keen on improving the performance of their businesses and will be interested in understanding the steps to take to ensure the restaurant and hotel construction and finishing is of good quality. In academics, the study will shed more light on the relationship between workmanship and quality construction which adds to the body of knowledge in the academic world. The study will also open more opportunities for further research in the area of workmanship and construction in the hospitality industry.

1.7 Scope of the Study

The study considered selected small and medium hospitality projects in Nairobi. The study took place over a period of 4 months between November and February 2016. The

study considered the total quality management and competency theories which are related to workmanship and construction performance. The study adopted descriptive design This approach was appropriate for this study since the researcher intends to collect detailed information through descriptions and observations making it useful to identify variables under the study.

1.8 Limitation of the Study

The main limitation of the study was unwillingness of the respondents to participate in the study. This was dealt with by explaining to the respondents the importance of the study to the restaurants and hotels.

1.9 Definition of Terms

Small and Medium Size Enterprises: SME is an enterprise with between 1 to 50 employees. Small and Medium Enterprises (SMEs) are important to economic growth and significantly essential to the generation of profit and increase of sales (Mulandi (2003)

Workmanship: Workmanship is the skill in an occupation or trade of different workmen based on their training or profession. It is the most important factor of production since it is the only factor that creates value and sets the general level of productivity (Ogunmakin, 2005).

1.10 Organization of the Study

Chapter One provided the introduction and background to the study, the problem statement, objectives, research questions, justification significance of the study, the scope of the study, limitations, the definition of terms, and the summary of the chapter.

Chapter Two reviews previous studies done in workmanship in the construction industry. It addresses the theoretical review, empirical review and gives a summary of the literature review.

Chapter Three elaborates the various steps that facilitated execution of the study and outlines the research methods which were used in the study. It includes research design, target population, description of the sample and sampling procedures, data collection and data analysis procedures.

Chapter Four presents the analysis of the data collected from the respondents and discusses the research findings on workmanship in construction of small and medium size hotels and restaurants in Nairobi Central Business District.

Chapter Five summarizes the major findings of the study. This study sought to find challenges of workmanship in construction of Small and Medium hotels and restaurants in Nairobi Central Business District. In addition, this chapter provides a direction for further studies and gives some recommendations for policy making by the relevant authorities

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviewed previous studies done in workmanship in the construction industry and construction performance. It addressed the theoretical review, empirical review and a summary of the literature review.

2.1 Theoretical Review

Theories related to workmanship and construction performances were reviewed. The study considered the total quality management theory, and theory of competence.

2.1.1 Total Quality Management Theory

Total Quality Management theory has been recognized and used during the last few decades by organizations all over the world to develop a quality focus and improve organizational performance (Goldratt & Cox, 1984). Total Quality management theory can be applicable to the study to the extent that hiring the right human capital with the right competencies is a way of managing quality of output. Many articles have addressed the adoption of Total Quality Management (TQM) principles in construction (Ahmad, 2004). Basically, there are two distinct purposes for applying TQM on construction projects (Jaafari, 1996). These are: satisfying the customer's requirements through a quality assurance (QA) system; and achieving continuous improvement (CI). Jaafari (1996) also stresses that the application of TQM in construction will not only reduce failure (rejects or reworks) costs, but also make efficiencies in the respective construction

and management processes. The International Organization for Standardization (ISO) developed the ISO 9000 series in the 1980's. ISO 9000 standards are now accepted internationally as an approach to quality systems. In general, the standards describe a number of issues on which an external party (a certification institute) can assess the quality system of an organization. If the quality system conforms to these standards, then a certificate can be issued and formal registration take place, indicating that the implemented quality system meets the requirement of the ISO 9000 series.

2.1.2 Theory of Competence

Theory of competence suggests that individuals are initially unaware of how little they know, or unconscious of their incompetence. As they recognize their incompetence, they consciously acquire a skill and then consciously use it. Eventually, the skill can be utilized without it being consciously thought through, the individual is said to have then acquired unconscious competence. According to Flower (1999) and Process Coaching Centre (2001) the four stages include; unconscious incompetence where the individual does not understand or know how to do something and does not necessarily recognize the deficit. They may deny the usefulness of the skill. The individual must recognize their own incompetence, and the value of the new skill, before moving on to the next stage. The length of time an individual spends in this stage depends on the strength of the stimulus to learn. Conscious incompetence is where even though the individual does not understand or know how to do something, he or she does recognize the deficit, as well as the value of a new skill in addressing the deficit. The making of mistakes can be integral to the learning process at this stage. Conscious competence is where the individual

understands or knows how to do something. This theory is relevant to the study as it describes the various competence types and its applicability in construction situations.

2.2 Types of Building Defects

A housing or construction defect is a building flaw or design mistake that reduces the value of the house or causes a dangerous condition. Some defects are obvious (such as water seepages) but many are less obvious and do not become apparent until years after a building is constructed and occupied. A construction defect can arise from a variety of factors, such as poor workmanship or the use of unsuitable or low quality materials (Abbas, 2006). Among the most common defects that can be found on building elements of housing is cracking. In construction, cracks on building elements such as walls usually occur because of overloading or because of settlement or heaving of the structure. Vertical and angled cracks are usually caused by settlement or heaving. Horizontal cracks are more likely to be caused by lateral pressure. Cracks commonly occur in areas such as interior walls, exterior walls, and at the corners of doors, windows and ceilings (Koskela, 1994).

Figure 2.1: Cracks caused by faulty foundation

Source: The New Indian Express, 2014

Settlement in a structure refers to the distortion or disruption of parts of a building due to either unequal compression of its foundation, shrinkage such as that which occurs in timber framed buildings as the frame adjusts its moisture content, or by undue loads being applied to the building after its initial construction. The other defect is deterioration of roofing systems. The roofing system in a building contains many components, such as framing, plywood decking, felt underlayment, sheet metal flashing, tiles and other exterior roofing materials. Construction defects in roofing systems can cause damage to personal property in a home or building, and also to the interior framing members, ceilings, drywalls, and paint by allowing water into the building. Common roofing system construction defects are broken roof tiles, damaged framing, exposed or damaged felt, improper flashing, and loose tiles. A

faulty installation increases the likelihood of problems and reduces a roof system's life expectancy (Le-Hoai et al., 2008).
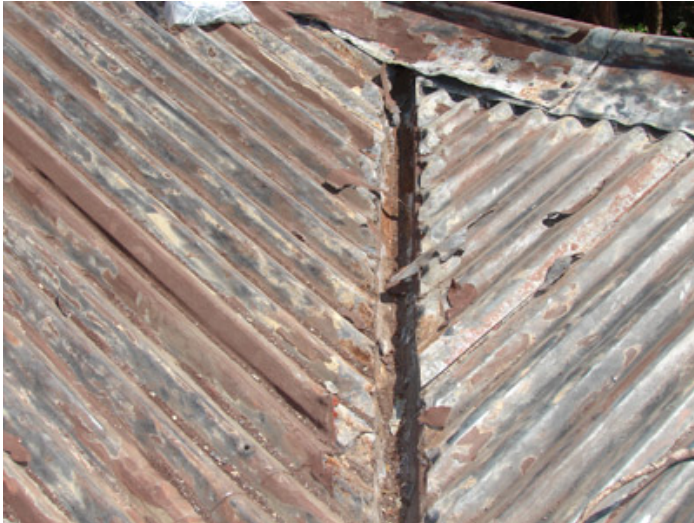
Figure 2.2: Corrosion of roofing iron sheets causing leaks

Source: Author, 2016

Internal staining, mold growth and fungal on external wall defects occur if there is a water intrusion. The presence of mold on a wall of a building can affect occupants' health. Once discovered, mold infestation should be remedied immediately in an effort made to minimize the possibility of health issues. Dampness can also occur. Damp is defined as unwanted water or moisture and its existence in buildings is one of the most damaging failures that can occur. It can cause damage in brickwork or masonry by saturating it, decay and break-up of mortar joints, rotting of timber structures, corrosion of iron and steel and damage to building equipment (Betts, 1999).

Figure 2.3: Black mold in wall

Source: Author, 2016

Peeling paint usually occurs on building facades, mainly on plastered walls, columns and other areas that are exposed to excessive rain and dampness. The amount of constant wind, rain and sun received can easily turn the surfaces of the paint to become chalky and wrinkled or blistered. This problem can become worse if the paint used during construction is of low quality and mixed with excessive amount of water. Leaking is another defect. Leaking is water that seeps out from behind walls, under concrete slabs and asphalts, basements, landscaping, water intrusion in roofs, irrigation systems, and radiant heat system. Leaking mostly happens due to improper installation of piping systems that can cause dampness and mold growth (Zunguzane et al., 2012).

Figure 2.4: Peeling paint due to water leakage

Source: Author, 2016

2.3 Factors Affecting Construction Productivity

Previous research studies have tried to identify and account for the range of factors that affect construction productivity performance. Horner (1992) established that there are ten factors which affect construction productivity: quality; number and balance of labour force; motivation of labour force; degree of mechanization; continuity of work; complexity of work; required quality of finished work; method of construction; type of contract; quality and number of managers and weather. Olomolaiye et al. (2008) also noted external and internal factors pertaining to construction productivity performance. External factors include: design, weather, changes made by client, level of economic

development and political stability. Internal factors include: management practice, technology and labour skills and training.

Despite the wide range of factors affecting construction productivity, it is notable that workforce skills development and training featured as a commonly cited factor in many productivity studies and industry reports. There is enough research evidence, which has suggested that skills are a significant factor influencing productivity performance in the construction industry. For example, Rojas and Aramvareekul (2010) found that management skills and manpower concerns are the two areas with the greatest potential for affecting productivity performance. Clarke and Wall (2006) compared the process of house building in the UK in relation to Germany and The Netherlands, where they found that the process in the UK depends on a lower level of skill than in Germany, which could explain the variation in productivity performance.

According to Arditi and Mochtar (2011), poor quality in projects results in rework which causes drop in productivity levels. They explained that poor quality originated from the scarcity of a properly trained workforce, which was caused by inadequate levels of training in addition to the poor quality of training provision that resulted in such skills shortages. The case of workforce skills development and training as an important factor for improving construction productivity performance is recognized in most of the literature. Arditi and Mochtar (2011) argue that existing literature does not go beyond demonstrating that skills development and training are generally important for the

industry, it is not clear whether or not this view is reflected or captured by officially published statistics.

2.4 Causes of Poor Quality of Workmanship in Construction

According to Rahman et al. (2000), workmanship is classified as one of the most frequent in non-conformance to standards in a construction site and therefore through literature, variables that are related to the causes of poor quality of workmanship in construction projects have been identified. Incompetence management is generally recognized as a major factor of poor construction productivity. Poor supervision on site contributes to poor workmanship during construction. The ability of management especially on a construction site is important as it is the primary cause which affects the employee's daily productivity. Therefore, poor project management is one of the factors that contribute to poor workmanship (Rahman et al. 2000).

According to Kasun and Janaka (2006) the role of subcontractor is one of the factors contributing to construction deficiency. The role of subcontractor is important in construction work. This is because most of the site work is completed by subcontractors. A large percentage of the site work is done by variety of subcontractors whereas the main contractor focuses on management and coordination. Due to the involvement of various types of subcontractors in the same construction project, the main contractor finds it difficult to inspect, supervise and control the works that have been done by the subcontractors. The role of subcontractor, which majorly places the task of

supervision and responsibility on the main contractor in construction projects can contribute to poor workmanship (Kasun & Janaka, 2006).

Industry stakeholders agree that insufficiency of skilled manpower is the most important matter of concern in construction. Some construction companies prefer to employ short-term unskilled workers and consequently cause the fault in the process of attaining the stability of quality associated issues. Hence, lack of experiences and competency of employees must be taken into account as a factor contributing to poor workmanship as productivity cannot be achieved by speed and harder work without adopting better work practices (Kasun & Janaka, 2006).

According to Abbas (2006) different languages between the foreign labourors and local supervisors causes communication failure on a site. This is because many foreign workers are not able to speak in local languages fluently. This consequently causes misunderstanding by the labourors in their work scope and then lead to poor workmanship. Suitability of construction equipment can influence the workmanship quality in construction. In addition, extreme climate conditions is one of the factors that affect construction labour productivity and workmanship. Atkinson (2009) mentioned that insufficient time causes construction projects execution to be rushed. Insufficient cost or budget would cause inadequate allocation of costs in construction projects. Labour cost is included in construction cost. The labour element is considered as the most difficult component to price within a reasonable level of accuracy. In addition, contractors who do not prepare sufficient budgets for projects will first reduce the labour

cost to save money for materials in order to meet their targets. As a result, the labour supplied is not sufficient to complete a project and construction defects may occur.

Most constructions use building materials which are available locally. Such building materials include timber, stone, brick and plaster. In the materials management of buildings, understanding the nature of the building materials and accurate diagnosis of defects is most important. Therefore, lack of understanding about the proper technique of preservation of the materials and structures and familiarity with the common building materials used by the consultant and contractors can contribute to building defects. On the other hand, contractors responsible for the construction of buildings use lower grade materials and methods, for example lower grade concrete that is against the consultants' specifications without the awareness or permission of the consultants and client (Danso & Antwi, 2012).

Danso and Antwi (2012) performed a study on time overrun in a telecommunication tower construction in Ghana and poor workmanship leading to rework was ranked first by contractor related factors that were associated with in the study. A study by Kaming et al. (1997) identified lack of equipment, supervision delays among others as factors influencing productivity in the Indonesian construction industry. Another study by Danso and Manu (2013) recommended that future researchers should consider investigating the major causes of other problems such as poor workmanship, lack of equipment among others in the construction industry especially in the context of developing countries.

According to Abbas (2006), late completion of works as compared to the planned schedule or contract schedule is what is known as delay. Delay occurs when the progress of a contract falls behind its scheduled program. It may be caused by any party to the contract and may be a direct result of one or more circumstances. A contract delay has adverse effects on both the owner and contractor either in the form of lost revenues or extra expenses, and it often raises the contentious issue of delay responsibility, which may result in conflicts that frequently reach the courts. A cost overrun occurs when the final cost of the project exceeds the original estimates (Azhar & Farouqi, 2008). Researchers have argued that it is necessary to create awareness of causes of project schedule delays, their frequency, and the extent to which they adversely affect project delivery (Al-Khalil & Al-Gafly, 1999).

Kaliba et al. (2009) concluded from their study that the major causes of delay in road construction projects in Zambia were delayed payments, financial deficiencies on the part of the client or contractor, contract modification, economic problems, material procurement, changes in design drawings, staffing problems, equipment unavailability, poor supervision, construction mistakes, poor coordination on site, changes in specifications, labour disputes, and strikes. Agaba (2009) attributes delays in construction projects to poor designs and specifications, and problems associated with management and supervision. In their study, El-Razek et al. (2008) found that delayed payments, coordination difficulty, and poor communication were important causes of delay in Egypt.

Sambasivan and Soon (2007) established that poor planning, poor site management, inadequate supervisory skills of the contractor, delayed payments, material shortage, labor supply, equipment availability and failure, poor communication and rework, were the most important causes of delays in the Malaysian Construction Industry. Kouskili and Kartan (2004) identified the main factors affecting cost and time overrun as inadequate/inefficient equipment, tools and plant, unreliable sources of materials on the local market, and site accidents. Le-Hoai et al. (2008) ranked the three top causes of cost overruns in Vietnam as material cost increase due to inflation, inaccurate quantity take - off, and labour cost increase due to environment restrictions.

Kaliba, et al. (2009), conclude that cost escalation of construction projects in Zambia are caused by factors such as poor weather, scope changes, environment protection and mitigation costs, schedule delays, strikes, technical challenges and inflation. Bubshait and Al-Juwait (2002) list the following as factors that cause cost overrun on construction projects in Saudi Arabia: effects of weather, number of projects going on at the same time, social and cultural impacts, project location, lack of productivity standards in Saudi Arabia, level of competition, supplier manipulation, economic stability, inadequate production of raw materials by the country, absence of construction cost data. It can therefore be deduced that the most important factors vary from one region to another.

2.5 Rework in Construction

Rework is defined as an activity that is deemed to be complete, but not to the satisfaction of the customer (Love et al., 1997). As a result, the activity is required to be altered in accordance with the customers' requirements. Rework includes defects and variations that can occur at any time in any process of construction. It contributes to project overruns in time, cost and naturally client dissatisfaction (Love et al., 1997). Koskela (1994) stated that construction process is a combination of value-adding activities and non-value-adding activities. Construction process improvement, through identifying and eliminating rework, has a significant impact on productivity.

Construction projects are labour intensive. However, most of the workforce is made up of unqualified and unskilled labourors. The success in completing site activities, right from the start, relies heavily on the quality of supervision. As a result, extra coordination and supervision needs to be given as the quality of supervision is dependent upon the supervisor's skill. A supervisor is usually given authority and responsibility for planning and controlling the work of a group by close contact (Betts, 1999). Eckles et al. (2005) state that supervisors are managers whose major activities focus on leading, coordinating and directing the work of others in order to achieve group goals. In addition, they argue that a successful supervisor has to deal with several skills such as management skills, human relation skills and skills in leadership, motivation, and communication.

The inability of many supervisors to plan work, communicate with workers, and direct activities adequately is fundamentally linked to increasing amount and cost of rework.

These abilities can be improved by formal training (The Business Roundtable, 2002). Most project managers argue that formal training can improve the supervisor's skills. However, the majority of supervisors learn their job the hard way; that is, making mistakes and then correcting them. Although this system of trial and error is considered to be an essential part of training, practical experience must be supplemented by formal training to form a sound working basis (Betts, 1999). Performance improvement opportunities could be easily identified if the waste concept is well understood by contractors.

The standards for restaurants internationally involves buildings, their fixtures, furnishings, fittings and exterior and interior décor maintained in a sound, clean condition and fit for the purpose intended, All electrical and gas equipment need to be in good working order and regularly serviced to ensure guests' safety. In addition, monitoring procedure should be in place for reporting of broken/damaged items in guests' bedrooms. Proprietor and / or staff should be on site and on call to resident guests 24 hours a day. Printed instructions, should be provided in the bedrooms, for summoning assistance during an emergency at night. A high degree of general safety and security, including information on evacuation procedures in the event of an emergency, to be advertised in every bedroom. Multilingual emergency procedure notices or use of symbols / diagrams need to be clearly displayed in every bedroom. Adequate measures for the security of guests and their property. Acceptable quality and condition in the standard of furniture, furnishings, flooring, fittings and décor (Kasun & Janaka, 2006).

In Kenya, the National Industrial Training authority (NITA) is a newly established state corporation (former Directorate of Industrial Training). It was established under the Industrial Training (Amendment) Act of 2011. Its mandate is to promote the highest standards in the quality and efficiency of Industrial Training in Kenya and ensure adequate supply of properly trained manpower at all levels in industry, including construction. It offers a number of industry oriented courses targeting workers in the formal and informal sectors.

2.7 Literature Summary

From the review of relevant literature, it is evident that research in the area of workforce in construction has been done but not in a comprehensive approach especially in Kenya. For example, Kaliba, et al (2009) conclude that cost escalation of construction projects in Zambia are caused by factors such as poor weather, scope changes, environment protection and mitigation costs, schedule delays, strikes, technical challenges and inflation. Bubshait and Al-Juwait (2002) list the following as factors that cause cost overrun on construction projects in Saudi Arabia: effects of weather, number of projects going on at the same time, social and cultural impacts, project location, lack of productivity standards in Saudi Arabia, level of competition, supplier manipulation, economic stability, inadequate production of raw materials by the country, absence of construction cost data. It can therefore be deduced that the most important factors vary from one region to another. From the studies, the literature review indicated that poor workmanship results in defects in construction.

2.8 Research Gap

Most of the literature reviewed indicates that previous researchers only concentrated on general causes of defects in construction. Moreover, the studies done look at workforce in developed countries. Kenya is a developing country and promotes construction in many sectors of its economy. There was need to carry out a study to identify the effect of workforce in construction productivity. This study covered specifically the workforce, which was omitted by previous studies. The study specifically looked at the effect of the workforce, challenges faced in construction and types of defects in Small and Medium hospitality enterprises to make the study more relevant.

CHAPTER THREE

RESEARCH METHODS

3.1 Introduction

This chapter is concerned with the various steps that facilitated execution of the study while satisfying the study objective. The chapter outlines the research methods which were used in the study. It includes research design, target population, description of the sample and sampling procedures, data collection and data analysis procedures.

3.2 Research Design

Research design is the plan and structure of investigation to obtain answers to research questions. A descriptive study is concerned with determining the frequency with which something occurs or the relationship between variables (Cooper and Schindler, 2003). For the purpose of this study, descriptive research design was used. According to Cozby (2005), descriptive design is used to obtain information concerning the status of the phenomena to describe what exists with respect to variables in a situation, by asking individuals about their perceptions, attitudes, behavior or values. This approach was appropriate for this study since the researcher intends to collect detailed information through descriptions and observations making it useful to identify variables under the study.

3.3 Target Population

The target population in this study comprised small and medium hospitality businesses and projects in Nairobi Central Business District. The characteristics of SMEs in Nairobi

CBD have been described as those of self-employment with high proportion of family workers and apprentices, small capital, reduced barriers of entry and exit, and small-scale nature of activities and have little access to organized market (Kendi, 2012). Hotels and restaurants form a considerable number of SMEs selling products ranging from Fresh juices, smoothies, coffee, tea and various foods and employing between 10 and 99 employees.
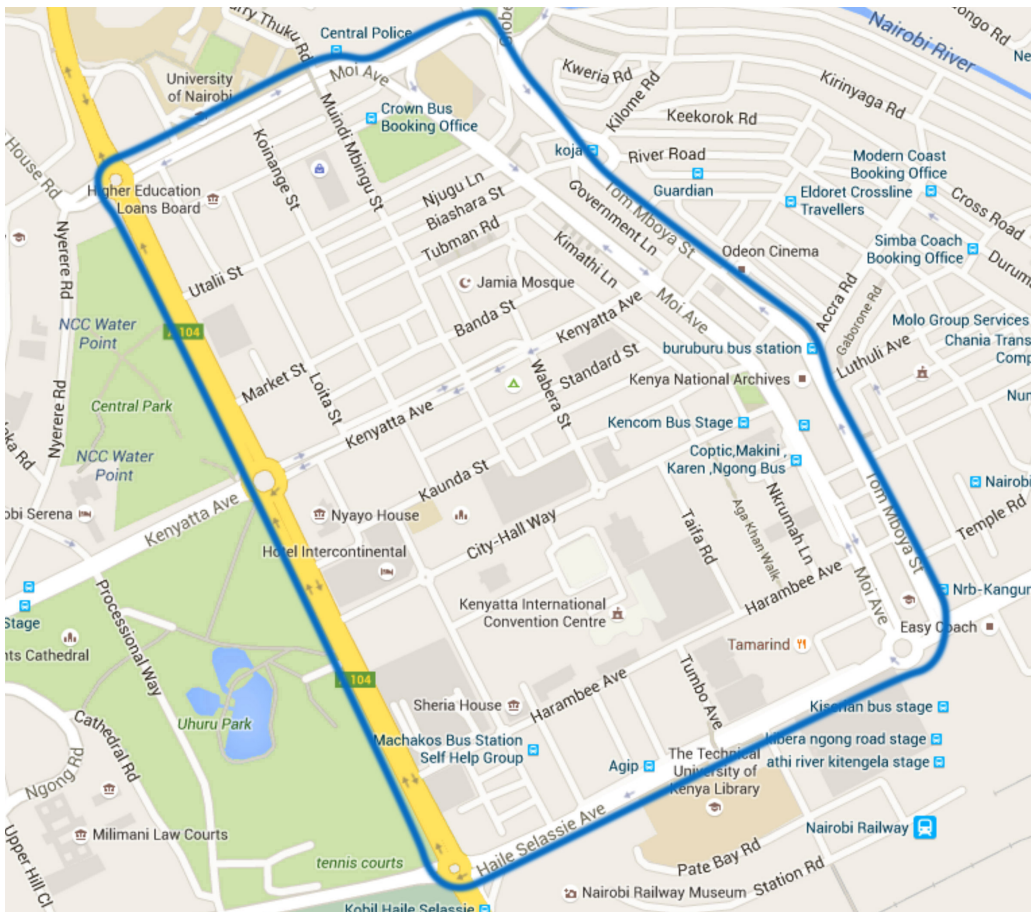
Figure 3.1: Study Area

Source: Google maps, 2016

The research narrows down to restaurants located between Uhuru Highway, University Way, Haille Sellasie Avenue and Tom Mboya Street. The estimated target population is 490 restaurants and hotels; they include coffee and tea cafés, fast food restaurants, and sit-in eateries. Uhuru Highway forms the western boundary of Nairobi's Central Business District (CBD) from Haile-Selassie Roundabout to the University Way Roundabout. University Way, Tom Mboya and Haile-Selassie Avenue form the other boundaries.

3.4 Sample

Sample size is a given number of members or cases from the accessible population, which is carefully selected to be a representative of the whole population with the relevant characteristics. The researched used stratified sampling and purposive sampling. Stratified sampling is a probability sampling technique wherein the researcher divides the entire population into different subgroups or strata, then randomly selects the final subjects proportionally from the different strata. Stratified sampling was used, where the population was separated into different strata according to the size of the restaurants. Restaurants whose sitting capacity of 20 or less was classified as 'small', restaurants whose sitting capacity was 20 to 50 was classified as 'medium', and restaurants with 51 or more was classified as 'large'. The study adopted non-probability purposive sampling method to arrive at the participating restaurants. This was based on restaurants occupying spaces that were originally designed for restaurant setting. Purposive sampling technique is used when the research design calls for a sample of population that exhibits particular attributes or characteristics such as the size and target market. The study targeted a sample size of 25 restaurants. A sample was selected from the different strata.

Table 3.1 Table of Sample Hotels and Restaurants

	Population	Sample
Small	68	3
Medium	218	12
Large	204	10
Total	490	25

Source: Survey (2016)

3.5 Data Collection Methods

The collection instrument used in the study was interview and observation. The researcher developed an interview guide for both restaurant owners and developers. The interview guide is attached in appendix 1 and appendix II. The interview guide for restaurant owners was divided into two sections. Section A contained questions on the respondent's characteristics, section B focused on the challenges facing construction and finishing of hotels. The interview guide for developers was divided into two, Section A contained questions on the respondent's characteristics and section B contained questions on causes of poor workmanship in construction and finishing of hotels and restaurants in Nairobi, while section C focused on the strategies that can be implemented to improve construction and finishing of hotels and restaurants in Nairobi. The researcher made appointments for the interview with the restaurant managers/owners and contractors. Observations were made in the restaurants during the time of interviews.

3.6 Data Analysis and Presentation

Data was analyzed using qualitative analysis. Qualitative analysis is where the researcher uses subjective judgment based on unquantifiable information, such as management expertise, industry cycles, strength of research and development, and labor relations. Data was analyzed using both descriptive and qualitative analysis. Frequency and mean were used for descriptive statistics. In this study, the researcher used Statistical Package for Social Sciences (SPSS) Version 21.0 to analyze data. The results were presented in form of tables, figures, charts and graphs.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the analysis of the data collected from the respondent and discusses the research findings on workmanship in construction of Small and Medium hotels and restaurants in Nairobi Central Business District. The collection instrument used was interview. All the data collected was edited for accuracy, uniformity, consistency, and completeness. A 100% response rate was achieved from the total target respondent of 25 Small and Medium hospitality Enterprises in Nairobi Central Business District. The data findings and their possible interpretations have been presented in this chapter.

4.2 Demographic Information of Restaurant Owners/Managers

4.2.1 Age of Respondents

Respondents were asked to indicate their age. They indicated as shown in Table 4.1 below;

Table 4.1: Age of Respondents

Age	Frequency	Percentage (%)
Below 25	1	4.0
26-35	7	28.0
36-45	7	28.0
46-55	8	32.0
Above 56	2	8.0
Total	25	100.0

Source: Survey (2016)

From the finding in Table 4.1, majority of the restaurant managers and owners (32%) were between 46-55 years, 28% were between 26-35 years and 36-45 years, while 4% were below 25 years. This indicates that the respondents were spread across all ages and the study will not be influenced by any age group.

4.2.2 Level of Education

Respondents were asked their level of education. They indicated as shown in Table 4.2;

Table 4.2 Level of Education

Level of Education	Frequency	Percentage (%)
Masters	2	8.0
Bachelors	8	32.0
Diploma	11	44.0
Certificate	4	16.0
Total	25	100.0

Source: Survey (2016)

As evident in Table 4.2 above, majority of the restaurant owners and managers were diploma holders (44%), 32% had Bachelor's degrees, 16% had Certificate, while 8% had Masters. This indicates that majority of the respondents were knowledgeable enough to participate in the interviews.

4.2.3 Current Designation

Respondents were asked their current designation in the hotel/restaurant. From the findings, most of the respondents in the study were brand ambassadors, food and

beverage controllers, waiters, managers, owners, ground handlers, supervisors, and head waiters. This indicates that the respondents were from various designations and could therefore inform the researcher if they have observed defects such as cracks in the restaurant.

4.2.4 Years of Experience

The respondents were asked their years of experience. They indicated as shown in Table 4.3;

Table 4.3: Years of Experience

Years of Experience	Frequency	Percentage (%)
Below 1 year	2	8.0
Between 1 – 5	6	24.0
Between 5 – 10	10	40.0
Above 10 years	7	28.0
Total	25	100.0

Source: Survey (2016)

Majority of the restaurant managers/owners (40%) had between 5-10, 28% had above 10 years, 24% had between 1-5 years while 8% had below 1 year of experience. The respondents' working duration at the restaurants/hotels confirms that the respondents were knowledgeable in the hospitality industry and as such would give responses that were relevant to the study.

4.3 Challenges Facing the Construction and Finishing of Hotels and Restaurants

The study sought to identify the challenges facing construction and finishing of Hotels and Restaurants in Small and Medium Enterprise Hotels and restaurants in Nairobi CBD. The majority of the restaurant managers and owners indicated that the challenges facing the hotels were mainly internal staining, mold and fungal growth. The other challenges indicated were cracks on building walls; decayed and breaking-up of mortar joints; and loose tiles in the restaurants. The other challenges that the respondents mentioned were leaks in the restaurant, peeling paint, dampness and finally roof deterioration. The findings are shown in Table 4.4;

Table 4.4 Challenges Facing the Construction and Finishing of Hotels and Restaurants in Nairobi CBD

Challenges	Mean
Internal staining, mold and fungal growth	4.87
Cracks on building walls	4.86
Decay and break-up of mortar joints.	4.79
Loose tiles	4.69
Leaking	4.46
Peeling paint	4.43
Dampness	4.41
Deterioration of Roofs	4.33

Source: Survey (2016)

The images below show some of the defects noted.

Figure 4.1: Uneven spacing between tiles

Source: Survey (2016)

Figure 4.2: Loose Tiles

Source: Survey (2016)

The tiles are not in line and have unequal spacing between them. In some cases, the tiles were fixed with wrong adhesives resulting in falling of wall tiles or loosening of floor tiles. In many of the areas studied, the tiles were hollow underneath indicating that not enough adhesive was used.

Figure 4.3: Cracks on tiles

Source: Survey (2016)

Cracked tiles on both floors and walls indicated structural defects that may have resulted due to settlement of the buildings or poor concrete or mortar mixes.

Figure 4.4: Leaks on ceilings and walls

Source: Survey (2016)

Leaks from poor plumbing works or rainwater stain many interiors. In many cases the sources of the leaks were not easily traceable and the stains would take very long before they were repaired.

Figure 4.5: Exposed reinforcement bars

Source: Survey (2016)

Exposed reinforcement bars on staircases and other structural members in buildings.

Figure 4.6: Leaking gutters & downpipes

Source: Survey (2016)

Figure 4.7: Gutters placed within shop space

Source: Survey (2016)

Poorly built and constructed gutters and downpipes cause leaks and molding in many restaurants and hotels.

Figure 4.8: Wall Cracks

Source: Survey (2016)

Cracks in some parts of the buildings looked dangerous. In some cases, unsuccessful repairs were attempted.

Figure 4.9: Leaking through walls

Source: Survey (2016)

Figure 4.10: Poorly constructed and maintained roofs

Source: Survey (2016)

Poorly maintained roofs were common. These led to leaks within the buildings.

Figure 4.11: Poorly constructed roofs

Source: Survey (2016)

Waterproofing membrane fitted too tightly tears easily, causing leaks from rain water.
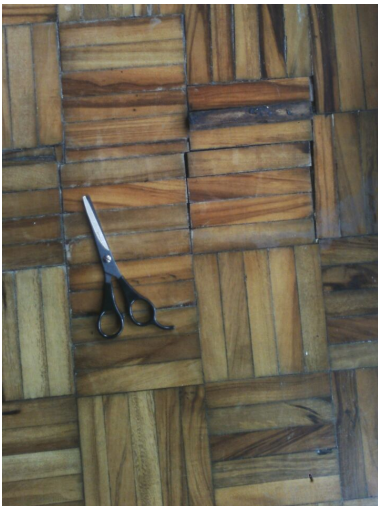
Figure 4.12: Parquet flooring damaged by leaks.

Source: Survey (2016)

Figure 4.13: Loose floor screed and finish.

Source: Survey (2016)

Majority of the restaurant managers/owners strongly agreed that Internal staining, mold and fungal growth are the main challenges in finishing of hotels and restaurants with a mean of 4.87. The respondents (restaurant managers/owners) also strongly agreed that the following challenges face hotels and restaurants; cracks on building walls (mean of 4.86), decay and break-up mortar joints (mean of 4.79), and loose tiles (mean of 4.69). The respondents agreed that the other challenges are leaking (mean of 4.46), peeling paint (mean of 4.43), dampness (mean of 4.41), and deterioration of roofing materials (mean of 4.33).

4.4: Causes of Poor Workmanship in Construction and Finishing of Hotels and Restaurants

The study sought to establish the causes of poor workmanship in construction and finishing of Small and Medium Enterprise hotels and restaurants in Nairobi Central Business District by interviewing contractors who developed the restaurants. Out of the

25 restaurants sampled, 15 were developed by contractors, while 9 restaurants/hotel were developed by the owners. Hence, the study interviewed 15 contractors.

4.4.1 Poor project management

The study sought to identify if poor project management causes poor project management. Out of the 15 contractors interviewed, 14 agreed that poor project management causes poor workmanship. The contractors said that many restaurants and hotels were constructed by developers/client themselves to save costs. The developers/clients further indicated that they get artisans for the different tasks and manage them themselves. This shows that there is no proper management system in place to ensure that workmen work efficiently and to the desired quality of finish. Experienced and registered construction companies that have proper project management systems in place, according to the 15 constructors, charge a premium because of their operational overheads.

The 15 constructors mentioned that quality management, which is the coordination of time, cost and quality enhances the building of restaurants. The efficient management of these resources ensures successful project completion. The contractors further stated that the level of workmanship determines the quality of the building, therefore proper management of craftsmen ensures that their efforts are guided to achieve the desired goal. Small construction projects in Nairobi, such as interior outfitting and small to medium sized buildings and renovations are usually done with low budgets which mean that

unskilled personnel are used to run the project. In many cases the developer himself manages the project even when he has little or no experience in construction.

4.4.2 Subcontractors

From the findings, the 15 contractors preferred that the main contractor be given the full scope of work on a construction site. The contractors reported that the current state involves the main contractor being given the work, then enter into domestic contracts with the subcontractors that are needed on site. The current and prevalent system is to have subcontractors nominated by the developer. The contractors said that nominated subcontractors did not answer directly to them, making it difficult for the main contractor to control fully, the quality of work produced. The main contractor is, according to the standard building contract, supposed to deliver the total project including works done by subcontractors. If they have limited control over subcontractor's works, they are not able to guarantee delivery on time or quality. It also creates opportunity for disagreements on site.

4.4.3 Lack of Experience and Level of Competency of Labour

From the findings, the 15 contractors who were interviewed indicated that many construction workers in Nairobi are not trained formally. They said that many learn on the job where they start as casual workers who do manual work on sites. They may do manual work for different artisans and over time develop an interest in a particular area and then specialize in it. They indicated that without formal training, the workman are able to do simple jobs, but not complex projects in their area of interest. In many sites,

developers or contractors do not check if the workers have certificates and it is common to find workers doing work that is far more complicated than their level of experience. The contractors indicated that some workman get basic training in a field then join the job market. The result is that workmanship can only be as good as the experience or training of the workmen and it is often low.

4.4.4 Language Barriers or Lack of Communication

According to the 15 contractors interviewed, the language used on many construction sites is Swahili because almost all of the workers, supervisors and managers understand Swahili. However, the contractors indicated that a few though are not proficient in it and this may cause miscommunication on site. Supervisors and managers from foreign countries for example end up having to learn Swahili in order to communicate with the workers. Another challenge caused by language, as indicated by the contractors, occurs where workers are not able to read instructions and drawings because most of these instructions are in English.

4.4.5 Construction Equipment and Equipment Operators

The 15 contractors interviewed said that getting equipment was not a challenge for adequately funded projects. Many projects though were on very tight budgets that did not allow mechanization of some tasks, thus creating room for errors and inconsistencies. An example they gave is furniture and fittings that are hand made with simple tools, especially where straight lines and neat edges are desired, may not be as good as those made with precision tools, machines and systems.

The contractors further indicated that many developers in an effort to save money or due to ignorance, end up with contractors who are not properly established or experienced. This results in the use of unsuitable equipment. The contractors indicated that many hands in construction projects are done by casual workers who are not specialized and thus do not have the right tools and equipment for the task they are hired to do. Little pay for labour intensive jobs such as construction also means that workers are not able to invest in tools for their trade.

4.4.6 Poor Weather Conditions

The 15 contractors stated that rainy weather was the main weather challenge especially during excavation of foundations since contributed to the slowing down of projects because workers are not able to work outside. The respondents indicated that damp conditions also affect some finishes such as polishing of timber surfaces. In Nairobi, the weather is generally good, however if it rains heavily during the construction of buildings, especially of foundations, it interferes with construction. The water has to be pumped out and the work hurriedly finished. The rainwater especially in black cotton soils, which is found in most parts of Nairobi, may result in the foundations not being properly constructed.

4.4.7 Inadequate Time to Complete Projects

Almost all the 15 interviewed contractors and developers reported that they never finished projects on time. The challenges sited were: variations to the scope of work; and

inadequate and inconsistent funding. Having many subcontractors also complicated the coordination of projects leading to delays. Limited time due to poor planning in construction results in rushed work. Some processes of construction require given lengths of time for example curing of concrete to attain full strength, rushing the process results in defective work.

4.4.8 Poor funding

Funding was cited by the 15 contractors as a big contributor to poor workmanship. With inadequate funding, the contractors were not able to get enough or the best craftsmen; they were not able to hire or purchase the appropriate equipment; they were not able to hire enough or good supervisors. All these contributed to poor levels of workmanship. Many projects are awarded through a bidding process with the lowest priced bid often getting the project. If the pricing is too low, the contractors usually compromise on labour to save money for materials. This then affects the quality of workmanship.

4.4.9 Level of Operational and Managerial Skills amongst Contractors and Subcontractors

From the findings, inadequate funding resulted in inadequate staffing. When a project is on a very tight budget, the developer or contractor cuts out supervisory and managerial functions to save on cost. This results in poor work going unnoticed. Many of the contractors and subcontractors end up in construction usually because they can make money by starting such a business. Few had training related to the services they provided. So unless the contractor was big enough to afford trained workmen, many made do with

the little experience in management that they had. The 15 contractors stated that many construction outfits in Nairobi are made of the principle who has usually had basic training in say plumbing. He then hires one or two assistants and does the job himself with their help. If the job is too large for him, the quality of work suffers as he is stretched out too thin. He may hire another plumber to help, but whose work may not be as good.

4.5 Strategies of Improving Construction and Finishing of Hotels and Restaurants

The study sought to identify strategies of improving construction and finishing of hotels and restaurants in Small and Medium Enterprise hotels and restaurants in Nairobi Central Business District by interviewing 15 contractors. The respondents indicated that the following strategies can be used to improve construction and finishing; having regular checks on the structures, use of quality construction materials, having competent construction supervisors, renovation on regular basis, adequate initial capital for set up, qualified workmanship, engaging honest and experienced contractors, and using correct materials. The findings are indicated below;

4.5.1   Training of Employees

The findings from the 15 contractors interviewed show that less than half the craftsmen were trained in their respective fields. Many workmen on sites learn on the job. The contractors stated that training on the job is not structured meaning that what is learned may not be comprehensive. Furthermore, the craftsmen who guide the new workers may themselves not have sufficient experience or training. It was found that working on a

construction site is considered to be less prestigious than working in an office. Many young people thus didn't choose to study the building trades. Those that did, did so for lack of 'better' office jobs. The contractors further noted that what happens in the end is that many who trained formally in these trades end up in other professions. Jobs that pay well in Nairobi are white collar jobs, leaving the blue collar jobs for those with no alternatives.

4.5.2 Adequate Communication and Coordination between Parties Involved in Construction Projects

The 15 contractors indicated that communication between parties in construction projects in Nairobi is usually adequate. However, the contractors stated that there were a few cases where the inability to use the computers slowed work down, but it did not hinder work. The use of the mobile phone and internet make communication faster and work more efficient. It was found that being able to send images on mobile phones benefited builders a great deal. Coordination however between parties at construction projects was found to be inadequate. Lack of coordination often led to wrong sequence of work being followed. Wrong sequence of work results in damage of finished areas of a project and may lead to rework.

4.5.3 Company Registered With National Construction Authority (NCA)

Out of the interviewed contractors, only 4 were registered with NCA. The reasons given were that the regulations required to be met before registration were too high for most contractors. Some contractors were not aware of the regulations. In many cases

contractors got registered because they had got into trouble for not being registered or the lack of registration would lock them out of some bids. Only one of the interviewed contractors was registered under the highest category. From the findings, it was noted that most small hotels and hospitality projects in Nairobi were done by low category and unregistered contractors.

4.5 4 Supervisors in Charge Of Workmen on Sites

The findings showed that many of the contractors (15) had supervisors for their workers on sites. Few however had managers in charge of the supervisors.

4.5.5 Clear and Attainable Designs

Out of the 15 contractors interviewed, 7 of them said that they had difficulties reading or interpreting drawings and instructions from consultants (architects, engineers). The drawings were in many cases used as a general guide and the details worked out by the contractor. The end product was in many cases therefore, not what had been designed.

4.5.6 Established Contractors Work With Smaller Contractors in a Partnering Approach to Deliver Construction Projects

It was found that, in Nairobi, many contactors partner to work on large projects. An established contractor would in many occasions get smaller contractors to handle different sections of projects. Small project however tended to be done by one contractor usually with a lower level of expertise.

4.6 Interpretation of Findings and Discussions

From the findings of the study, majority of the hotels and restaurants are facing challenges in the construction and finishing of the business. The study identified that the challenges facing the hotels are mainly internal staining, mold growth and fungal. The other challenge indicated were cracks on building walls, decayed and break-up of mortar joints, loose tiles in the restaurants, leaking in the restaurant, peeling paint, dampness and finally roof deterioration. The main causes of poor workmanship include unsuitable construction equipment's, poor project management and unclear role of subcontractor. Lack of experienced and competent labour, limited time and resources also cause poor workmanship in hotels and restaurants. The following strategies can be used to improve construction and finishing; having regular checks on the structures, use of quality construction materials, having competent construction supervisors, renovation on regular basis, and adequate initial capital for set up, qualified workmanship, engaging honest and experienced contractors, using correct materials.

Many related studies have been conducted and it seems evident that there are challenges in the construction and finishing of buildings. This agrees with the findings of for example Horner (1992) who established that there are ten factors which affect construction productivity: quality; number and balance of labour force; motivation of labour force; degree of mechanization; continuity of work; complexity of work; required quality of finished work; method of construction; type of contract; quality and number of managers and weather. Olomolaiye et al. (2008) also noted external and internal factors pertaining to construction productivity performance. External factors include: design,

weather, changes made by client, level of economic development and political stability. Internal factors include: management practice, technology and labour skills and training.

Ali and Wen (2011) studied the factors contributing to poor workmanship and possible measures to minimize the problem in Malaysia. They found lack of experience and competency of labourors, language barrier to communication and lack of communication, unsuitable construction equipment, poor weather conditions, limited time and limited cost as the causes of poor workmanship.

According to Zunguzane (2013) poor workmanship construction, and poor management and control of building contractors have contributed to poor constructions. Workmen according to Ogunmakin (2005) is the most important factor of production since it is the only factor that creates value and sets the general level of productivity. The competence and qualifications of contractors influence the construction of substandard buildings in Kenya (Nyaanga, 2014). Poor workmanship is one of the serious issues facing local contractors in most developing countries and can destroy projects already put in place (Moavenzadeh & Rossow, 2005).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the major findings of the study. This study sought to find challenges of workmanship in construction of Small and Medium hotels and restaurants in Nairobi Central Business District. In addition, this chapter provides a direction for further studies and gives some recommendations for policy making by the relevant authorities. Interviews were used to gather primary data. The interviews were strictly conducted by the researcher. Both primary and secondary information was used to determine the findings of the study.

5.2 Summary of Findings

The study inquired into the challenges of workmanship in construction of Small and Medium sized hotels and restaurants in Nairobi Central Business District. The respondents cited that the challenges in the construction and finishing of the businesses include internal staining, mold and fungal growth. The other challenges indicated were cracks on building walls, decayed and break-up of mortar joints, loose tiles in the restaurants, leaking in the restaurant, peeling paint, dampness and roof deterioration.

The respondents indicated that the main causes of poor workmanship include unsuitable construction equipment, poor project management, poor weather conditions, and unclear role of subcontractors. Lack of experienced and competent labour, limited time and resources also cause poor workmanship in hotels and restaurants. The respondents

indicated that the strategies that can be used to improve construction and finishing were; having regular checks on the structures, use of quality construction materials, having competent construction supervisors, renovation on regular basis, and adequate initial capital for set up, qualified workmanship, engaging honest and experienced contractors and using correct materials.

From the findings, many of the restaurants and hotels were constructed by developers or clients themselves in order to save costs. This meant that there were no proper management systems in place to ensure that work was done efficiently and to the desired quality of finish. Experienced and registered construction companies who have a proper project management system in place, charge a premium because of their operational overheads.

5.3 Conclusion

5.3.1 Challenges of Poor Workmanship

The study concluded that Small and Medium hotels and restaurants face challenges of poor workmanship in the construction and finishing of hotels and restaurants. As evident from this study, the challenges facing the hotels are mainly internal staining, mold growth and fungal, cracks on building walls, decayed and break-up of mortar joints, loose tiles in the restaurants, leaking in the buildings, peeling paint, dampness and finally roof deterioration.

5.3.2 Causes of Poor Workmanship

The study also concluded that the causes of poor workmanship include unsuitable construction equipment, poor project management, poor weather conditions and unclear roles of subcontractors. Lack of experienced and competent labour, limited time and resources also cause poor workmanship in hotels and restaurants. The Construction defects can be the result of design error by the architect, the contractors' flaws, defective materials, improper use or installation of materials or lack of adherence to the blueprints by the contractors.

The study also concluded that many construction workers in Nairobi are not trained formally. Many learn on the job. They start as casual workers who do manual work on sites. They may do manual work for different artisans and over time develop an interest in a particular area and then specialize in it. Many projects though were on very tight budgets that did not allow mechanization of some tasks, thus creating room for poor workmanship such as in furniture and fittings. In projects where straight lines and neat edges are desired lack of precision tools lead to crooked lines and rough edges.

5.3.3 Strategies to Improve Poor Workmanship

The study concluded that the following strategies can be used to improve construction and finishing: having regular checks on the structures; use of quality construction materials; having competent construction supervisors; renovation on regular basis; adequate initial capital for set up; qualified workmanship; engaging honest and experienced contractors; and using correct materials. This is in agreement with the findings of Al-Hammadet et al. (1997) who concluded that, provision of adequate

structural design, hiring of qualified architects and building systems design professionals, and provision of sufficient details in construction drawings are some of the measures that could be employed to improve building maintenance.

In general, there are challenges facing construction and finishing of hotels and restaurants. This is in agreement with the argument of several studies such as Aramvareekul (2010) who found that management skills and manpower concerns are the two areas with the greatest potential for affecting productivity performance. Clarke and Wall (2006) compared the process of house building in the UK in relation to Germany and The Netherlands, where they found that the process in the UK depend on a lower level of skill than in Germany, which could explain the variation in productivity performance.

According to Kasun and Janaka (2006) the role of subcontractors is one of the factors contributing to construction deficiency. The role of subcontractor is important because most of the site work is completed by subcontractors. Kaliba et al. (2009) concluded from their study that the major causes of delay in road construction projects in Zambia were delayed payments, financial deficiencies on the part of the client or contractor, contract modification, economic problems, material procurement, changes in design drawings, staffing problems, equipment unavailability, poor supervision, construction mistakes, poor coordination on site, changes in specifications, labour disputes, and strikes. Agaba (2009) attributes delays in construction projects to poor designs and specifications, and problems associated with management and supervision.

5.4 Recommendations

5.4.1 Challenges of Poor Workmanship

The study recommended that local authorities enforce the regulations that require buildings to be checked and occupied after issuance of a certificate of occupation from the local authorities. The study also recommended that contractors be registered with a regulation body such as the NCA (National Construction Authority). Regulations that ensure that consultants are involved from the design stage to handover would also eliminate the construction of buildings without consultants.

5.4.2 Causes of Poor Workmanship

The study recommended that training of workmen be done to equip them with the necessary skills for construction. This can be done by increasing the number of quality tertiary institutions. Increasing the pay of trained craftsmen will also ensure that construction trades are profitable career choices for many. The study also recommended that the design-and-build model of construction be adopted because it would hold the consultants and contractors totally responsible for a project. Project management and planning should involve professionals to ensure that the objectives, time schedules and budgets are realistic.

5.4.3 Strategies in Construction of Restaurants

From the findings, the study recommends that specialized consortiums, that include consultants and contractors, in construction and finishing of hotels and restaurants be formed to provide the specialized construction requirements of hospitality projects. The study also recommends that local governments enforce regulations that ensure monitoring of construction projects at all stages.

5.5 Limitations of the Study

The respondents were regularly very busy and therefore did not have a lot of time for the interviews. The challenge was overcome by giving the respondents the interview question guides early.

Getting accurate information from the respondents was one of the major challenges since some of the respondents feared that they may be in trouble with the local authorities. The challenge was minimized by informing the respondents the importance of the study to the hotels and restaurant construction. This helped to win their confidence to respond and offer accurate information.

The population of small and medium hospitality enterprises in Nairobi County is large and varied in terms of cuisine, size and class, making it difficult to select a representative sample.

The study considered small and medium hotel and restaurant enterprises in Nairobi county only, hence may not be accurately representative of all the counties in the country.

5.6 Suggestions for Further Research

The researcher suggests that this study could be a useful starting point for further academic research. Poor workmanship in construction and finishing in construction is a potential area for further research studies in developing countries of the world.

The study also suggests that further study should be done considering all counties. This study only focused on small and medium size hospitality enterprises in Nairobi Country hence the need for further studies in other Counties.

Due to the limited time that the study had, the study used a small sample compared to the total number of hotels and restaurants in Nairobi County. The study hence suggest that further study be conducted using a larger sample size.

The study also suggests that further study be conducted to identify the challenges of poor workmanship in construction and finishing of building projects since the study only focused on hotels and restaurant SMEs in Nairobi County.

REFERENCES

Abbas, M. I. (2006). Causes and effects of delays in Aceh construction industry. *Master's Thesis: Universiti Teknology Malaysia*.

Adebayo, K. (2005). The role of Professionals in Averting Collapse of Buildings. In *Proceeding of a seminar on averting collapse of buildings in Lagos State. The Nigerian Institute of Building, Lagos State*.

Agaba, E. (2009). Poor Planning Delaying Government Project (Business News Pullout). *The New Vision*, 24(6).

Ahmad, A. G. (2004). Understanding Common Building Defects: The Dilapidation Survey Report. *Majalah Akitek*, *16*(1), 19-21.

Al-Khalil, M. I., & Al-Ghafly, M. A. (1999). Important Causes of Delay in Public Utility Projects in Saudi Arabia. *Construction Management & Economics*, *17*(5), 647- 655.

Arditi, D., & Mochtar, K. (2000). Trends in Productivity Improvement in The US Construction Industry. *Construction Management & Economics*, *18*(1), 15-27.

Atkinson, A. R. (2009). The Role of Human Error in Construction Defects. *Structural Survey,* 17(4), 231-236.

Azhar, N., Farooqui, R. U., & Ahmed, S. M. (2008). Cost Overrun Factors in Construction Industry of Pakistan. In *First International Conference on Construction In Developing Countries (ICCIDC–I), Advancing and Integrating Construction Education, Research & Practice* Karachi, Pakistan.

Betts, P.W. (1989) Supervisory Studies. Pitman Publishing, London.

Bubshait, A. A., & Al-Juwairah, Y. A. (2002). Factors contributing to construction costs in

    Saudi Arabia. *Cost Engineering*, *44*(5), 30-34.

Cooper D. R., Schindler P.S., & Sun, J. (2003). Business Research Methods, 8th Edition,

    Tata McGraw – Hill.

Danso, H., & Antwi, J. K. (2012). Evaluation of The Factors Influencing Time and Cost

    Overruns in Telecom Tower Construction in Ghana. *Civil and Environmental*

    Research, *2*(6), 15-25.

El-Razek, M. E., Bassioni, H. A., & Mobarak, A. M. (2008). Causes of Delay in Building

    Construction Projects in Egypt. *Journal of Construction Engineering and*

    Management, *134*(11), 831- 841.

Flower J. (1999). *In the Mush. Physician Executive*, 25 (1), 64-6.

Goldratt, E. M., & Cox, J. (1984). *The goal: an ongoing improvement process.* Gower,

    Aldershot publishing. England.

Horner, M., & Duff, R. (2001). *More for less: A Contractor's Guide to Improving*

    Productivity in Construction. London: CIRIA.

Jaafari, A. (1996). Human factors in the Australian construction industry: Towards Total

    Quality Management. *Australian Journal of Management*, *21*(2), 159-185.

Kaliba, C., Muya, M., & Mumba, K. (2009). Cost Escalation and Schedule Delays in Road

    Construction Projects in Zambia. *International Journal of Project*

    Management, *27*(5), 522-531.

Kaming, P. F., Olomolaiye, P. O., Holt, G. D., & Harris, F. C. (1997). Factors Influencing

    Construction Time and Cost Overruns on High-Rise Projects in

    Indonesia. *Construction Management & Economics*, *15*(1), 83-94.

Kasun, N. H., and Janaka, Y. R. (2006). Carpentry Workers Issues and Efficiencies
Related to Construction Productivity in Commercial Construction Projects in
Alberta. *Canadian Journal of Civil Engineering*, 33, 1075-1089.

Koskela, Lauri (1994). Lean Construction. National Construction and Management
Conference, Sydney.

Koushki, P. A., & Kartam, N. (2004). Impact of Construction Materials on Project Time
And Cost in Kuwait. *Engineering, Construction and Architectural
Management*, *11*(2), 126-132.

Le-Hoai, L., Dai Lee, Y., & Lee, J. Y. (2008). Delay and Cost Overruns in Vietnam Large
Construction Projects: A comparison with other selected countries. *KSCE Journal of
Civil Engineering*, *12*(6), 367-377.

Love, P. E., & Edwards, D. J. (2004). Determinants of Rework in Building Construction
Projects. *Engineering, Construction and Architectural Management*, *11*(4),
259 - 274.

Mugenda, O. and Mugenda, A. (2003). Research Methods, Quantitative and Qualitative
Approaches. Nairobi: ACTS.

Mulandi, M. L. (2013). *Structure and Strategy in Small and Medium Size Restaurants: A
Study of Central Business District in Nairobi County, Kenya*. Unpublished Research
Thesis, The University of Nairobi.

Njuguna, H. B. (2002). The Construction Industry in Kenya and Tanzania:
Understanding the mechanisms that promote growth. The construction industry
value chain, 32-41

Nyaanga, J. K. (2014). The effect of competence of contractors on the. Prime Journal of Social Science (PJSS).

Olomolaiye, P., Jayawardane, A., & Harris, F. (1998). *Construction Productivity Management*. Longman.

Ogunsemi, D. R. (2002). *Building Collapse: Causes, prevention and remedies*. Nigerian Institute of Building, Ondo State Chapter.

Process Coaching Center (2001). *The Four Stages of Learning*. Ukiah, CA

Sambasivan, M., & Soon, Y. W. (2007). Causes and effects of delays in Malaysian Construction Industry. *International Journal of Project Management*, *25*(5), 517 526.

The Business Roundtable (2002). Modern Management Systems. A Report of Construction Industry Cost Effectiveness Project, Report A-6, New York, June

UNCHS (2006) 'Analysis of data and global urban indicators database'. UNCHS Urban Indicators Programme, Nairobi.

Wells, J. (2007). Construction and capital formation in less developed economies: Unravelling the informal sector in an African city. *Construction Management & Economics*, *19*(3), 267-274.

Zunguzane, N., Smallwood, J. & Emuze, F. (2012). Perceptions of the Quality of Low Income Houses in South Africa: Defects and Their Causes. Acta Structilia, 19(1), 19-38.

APPENDICES

Appendix I - Interview Guide for Management and Users of Hotels and Restaurants

Dear respondent,

This study is intended to collect data relating to challenges facing the construction and finishing of hotels and restaurants in Nairobi, causes of poor workmanship in construction and finishing of hotels and establish strategies which may be implemented to improve construction and finishing of hotels and restaurants in Nairobi. Kindly respond to all questions to aid the process. Information collected from this interview will be handled with high confidentiality and will strictly be used for academic purposes only by the researcher.

SECTION A: Demographic Information

1. How old are you?

2. What is your highest level of education?

3. What is your current designation?

4. How many years of experience do you have?

SECTION B: Challenges related to Construction and Finishing of Hotels and Restaurants in Nairobi

a) Are there cracks on the walls of the building?

b) Are there any leaks within the building from the roof or other areas?

c) Do the tiles in your restaurant come loose after some time?

d) Is there internal staining, mold growth or fungal growth?

e) Do you experience dampness in your restaurant?

f) Do you have decay and break-up of mortar joints?

g) Do you have peeling paint?

Appendix II- Interview Guide for Contractors and Developers

Dear respondent,

This study is intended to collect data relating to challenges facing the construction and finishing of hotels and restaurants in Nairobi, causes of poor workmanship in construction and finishing of hotels and establish strategies which may be implemented to improve construction and finishing of hotels and restaurants in Nairobi. Kindly respond to all questions to aid the process. Information collected from this interview will be handled with high confidentiality and will strictly be used for academic purposes only by the researcher.

SECTION A: Demographic Information

1. How old are you?

2. What is your highest level of education?

3. What is your current designation?

4. How many years of experience do you have?

SECTION B: Causes of Poor Workmanship in Construction and Finishing of Hotels and Restaurants in Nairobi Central Business District

a) Does project management affect workmanship?

b) Does having subcontractors in a project affect workmanship? Should the main contractor handle the whole project?

c) Does lack of experience and level of competency of labour affect workmanship?

d) Do you experience language barriers or lack of communication? If so, does it affect workmanship?

e) Do you have any challenges getting suitable construction equipment and equipment operators?

f) Does poor weather conditions affect workmanship on a construction project?

g) Do you always get adequate time to complete projects?

h) Are the projects you are involved in, adequately funded?

i) What is your view on the level of operational and managerial skills amongst contractors and subcontractors?

SECTION C: Strategies of Improving Construction and Finishing Of Hotels and Restaurants in Nairobi

a) Are your employees trained in their fields? Masons, carpenters, welders etc.

b) Is the communication and coordination between parties involved in construction projects adequate? Does workmanship suffer as a result of little or poor communication?

c) Is your construction company registered with National Construction Authority (NCA)? Under which category is your construction company registered? Are the construction companies you have worked with registered with NCA and under which category?

d) Do you have supervisors in charge of workmen on sites? Do you have managers in charge of the supervisors?

e) Are the designs provided by consultants usually clear and attainable?

f) Do established contractors work with smaller contractors in a partnering approach
    to deliver construction projects?

Appendix III: Observation Check List

The researcher will check for the following defects in the restaurants

1. Cracks on the walls of the building.

2. Leaks within the building from the roof or other areas.

3. Loose tiles

4. Internal staining, mold growth or fungal growth

5. Dampness

6. Decay and break-up of mortar joints

7. Peeling paint

Appendix IV: List of Restaurants Selected

1. Saape Lounge   Koinange Street
2. Jamia Central Hotel   Kigali Road
3. Nairobi Java House   Koinange Lane
4. Hot Spot Restaurant   Koinange Lane
5. Empire Grill   Koinange Street
6. Savanna Coffee Lounge   Loita Street
7. Jazz Restaurant   Moi Avenue
8. Heritage Grill   Moi Avenue
9. Galitos   Muindi Mbingu Street
10. Café Pronto Restaurant   Standard Street
11. Apple Green   Utalii Lane
12. Trattoria Restaurant   Wabera Street
13. Sevens Lounge   Moi Avenue
14. Hot Dishes   Kimathi street
15. Green view restaurant   Tabman Road
16. Subway   Kenyatta Avenue
17. Highlands   Kimathi street
18. Petma restaurant   Koinange street
19. Watenes   Monrovia Street
20. Garlix   Monrovia Street
21. I Club   Kimathi Street
22. Capital Coffee   Standard Street
23. Nairobi Safari club Annex   Koinange street
24. Rumors   Moi Avenue
25. Caprice   Moi Avenue