

**ESTABLISHING EMPLOYEES PERCEPTION ON
OCCUPATIONAL HEALTH AND SAFETY CONCERNS
AT EAST AFRICAN PORTLAND CEMENT**

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Establishing employees perception on occupational health and safety concerns at East African Portland cement

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DECLARATION

This thesis is my original work and has not been presented for a degree into any other university.

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DEDICATION

To my beloved husband Joshua and Daughter Sharon Mwikali whose love and support during this time was beyond reach and to the Almighty for the strength, energy and smooth health.

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LIST OF ACRONYMS ANDS ABBREVIATIONS

EAPCC	East African Portland Cement Company
EU	European Union
GDP	Gross Domestic Product
GNP	Gross National Product
GoK	Government of Kenya
ILO	International Labour Organization
OHS	Occupational Health Safety
OHSAS	Occupational Health And Safety Assessment Series
OSHA	Occupational Safety and Health Administration
OSHA	Occupational Safety and Health Administration
SHRM	Society for Human Resource Management
SPSS	Statistical Package for Social Sciences
US\$	United States Dollar
USA	United States of America
WHO	World Health Organization

DEFINITION OF TERMS

- ACCIDENT:** Unforeseen or unpaid occurrence in a sequence of event which result death
- COMPENSATION:** Indemnity paid to an employee for disability sustained In An occupational accident.
- EMPLOYEE:** An individual who works generally in a factory, and who uses it as a base, under a contract of employment or apprenticeship and includes trainees under the training for employment scheme.
- EMPLOYER:** Any physical or legal person who employs one or more workers in the factory.
- EQUIPMENT:** Gears, outfit and materials given to workers for specific work performances in the factory.
- HAZARD:** Dangerous object, event, behavior or condition, which can interrupt or interfere with the expected orderly progress of an activity, or can adversely affect the travel path of a vehicle.
- HEALTH:** State of wellbeing free from illness, mental or physical condition.
- PLANT:** Building e.g. factory where machines and other facilities are used for production.
- RISK:** Probability during a period of activity that a hazard will result in an accident with definable consequences.

SAFETY STANDARDS: Specifications, codes of practice or rules of conduct developed and adopted by a recognized standard setting organization e.g. Kenya Bureau of Standards to safeguard workers.

WORK ENVIRONMENT: Physical location, equipment, materials process or used, and the kinds of operations performed in the course of an employee's work.

WORK PLACE: A building or part of a building in which one or more employee work.

ABSTRACT

Occupational health and safety is a cross-cutting disciplinary area concerned with protecting the safety, health and welfare of people engaged in work or employment. Though many companies have come up with policies to address the occupational and health issues; the increased and rapid industrialization have continued to cause occupational accidents and occupational diseases. The objective of this study was to establish employees perception on occupational health and safety at Eapcc, further determine the extent to which workers had complied with the OSHA 2007 stipulations of expected health issues and the benefits accrued thereof. The study adopted a descriptive survey design. The target population was 800 EAPPC employees where stratified sampling technique was used to select a sample of 10% from each stratum to get a sample of 80 respondents. The study used a questionnaire with both structured and unstructured questions to collect primary data. Before the actual data collection, a pilot study was carried out to ensure that the data was reliable and valid. The data was analyzed through both descriptive and inferential statistics through aid of the SPSS software. The analyzed data was reported using frequency tables and graphs. The study showed that workers were aware occupational health and safety concerns which included: exposure to dust, high temperatures, noisy environment and exposure to allergic industrial substance. The regression results show that there was significant relationship between occupation health concerns and employees performance ($r = -0.925$, $p=0.001$) and a negative but significant relationship between occupational safety concerns and performance of employees ($r= -0.777$, $P=0.002$). The study concludes that those perceptions in turn appear to influence employee's decision that relate to at-risk behaviors and decision on the job. The study recommends that management of EAPCC should focus on how to best leverage theses key factors to more positively impact injury rates.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Occupational health and safety hazards are common in many economic sectors and affect large numbers of workers. Approximately 30-50% of workers report hazardous physical, chemical or biological exposures or overload of unreasonably heavy physical work or ergonomic factors that may be hazardous to health and to working capacity; an equal number of working people report psychological overload at work resulting in stress symptoms. Many individuals spend one-third of their adult life in such hazardous work environments (Kortum, Leka & Cox, 2010). About 120 million occupational accidents with 200,000 fatalities are estimated to occur annually worldwide and some 68-157 million new cases of occupational disease are caused by various exposures at work. In addition to unnecessary human suffering, the costs involved in these health hazards have been estimated to amount to high percentages of some countries' GNP - Gross National Product (WHO, 2005).

The occupational health needs of the newly industrialized and rapidly industrializing countries relate to hazards such as occupational accidents, occupational diseases caused by mineral and organic dusts, chemicals, toxic metals and solvents, physical factors such as noise and vibration, and biological factors such as viruses and bacterial infections. Heavy physical workload and ergonomic problems also cause high numbers of strain injuries, musculoskeletal disorders and accidents (Sikpa, 2011). According to the principles of the United Nations, WHO and ILO, every citizen of the world has a right to healthy and safe work and to a work environment that enables him or her to live a socially and economically productive life (Harsh, 2002).

Countries around the world have recognized the universality, inalienability, interdependency and indivisibility of the human right to safe and healthy working conditions. Health at work and healthy work environments are among the most valuable assets of individuals, communities and countries (Macleod, 2008). Occupational health is an important strategy not only to ensure the health of workers, but also to contribute positively to productivity, quality of products, work motivation, job satisfaction and thereby to the overall quality of life of individuals and society (Brandt-Rauf, 2007).

There are a number of health and safety concerns inherent to the cement production process. Some examples for health are; exposure to dust and high temperatures, contact with allergic substances; and noise exposure (Mehraj et al., 2013). Ensuring healthy and safe working conditions for employees and contractors is one of the most important issues for the cement industry. The cement manufacturing industry is labor intensive and uses large scale and potentially hazardous manufacturing processes. The industry experiences accident rates that are high compared with some other manufacturing industries (Marlowe & Mansfield, 2002). In Jordan for instance, Al Smadi et al. (2009) established that cement plants emitted high concentrations of air pollutants including dust, SO₂, NO_x and CO.

In Kenya, occupational health and safety is guided by two bodies; one is occupational health and safety assessment series (OHSAS 18001:2007) which is a voluntary mechanism and the Occupational Safety and Health Act No.15 of 2007 which is an enforced mechanism (GoK, 2007). According to Kariuki (2007) lack of proper enforcement mechanisms, capacity challenges, emerging production techniques creating new risks are some of the main obstacles to the effective implementation of the law on occupational safety and health in Kenya.

The East African Portland Cement Company started as a trading company importing cement mainly from England for early construction work in East Africa. It was formed by Blue Circle Industries United Kingdom. The name Portland was given due to the

resemblance in colour of set cement to the Portland stone that was mined on the Isle of Portland in Dorset, England. It was not until February 1933 that the Company was incorporated in Kenya with the first factory in Nairobi's Industrial Area. The Company had one cement mill (Mill No. 2) and used to import clinker from India. The production capacity was about 60,000 tonnes of cement (EAPCC Report, 2012).

In December 1956, construction of the Athi River facility started. The factory was commissioned in 1958 and consisted of a Rotary Kiln (Wet), a big cement mill (Cement Mill 1 & 3) which significantly increased production capacity to 120,000 tons per annum. Since then the EAPCC has greatly expanded its production capacity with the introduction of Mill No. 5 and at present produces over 1.3 million tons of cement per annum (EAPCC Report, 2014).

Most hazardous conditions are in principle preventable and the primary prevention approach is the most cost effective strategy for the control and elimination (ILO, 2001). It is the duty of occupational health and safety personnel to identify hazards and institute specific control strategies. Many approaches are available which require an expert's application of medical and environmental engineering knowledge in order to prevent occupational hazard, (Rukunga, 2001).

Numerous obstacles with informational, institutional, financial and political aspects have blocked the effective prevention and amelioration of occupational health problems, (Okubo, 2002). Fayad (2003) in his article on cost of work related injuries in work place in Lebanon indicated that the economic burden of work related injuries is a useful tool to convince workers and employers of the cost benefit of work safety and the effectiveness of preventive interventions. The quality of the employee's workplace environment impacts on the level of employee's motivation and subsequent performance. How well they engage with the organization, especially with their immediate environment, influences to a great extent their error rate, level of innovation and collaboration with other employees, absenteeism and, ultimately, how long they stay in the job.

Better health requires that improvement be made to the workers environment, work practices and organization of work. Like any other industry the company and especially in the plant the workforce faces a number of risks and hazards. The company has recorded a number of fatal accident and numerous non-fatal injuries contributed to the working environment. However, the risk factors are linked to the physical characteristics such as high level of noise, extreme temperatures, dust, working in confined spaces and working on height. The resulting occupational safety and health problems include noise induced hearing, musculoskeletal disorder due to manual handling, upper respiratory infections as a result of dust, falling from height, trips and falls resulting from poor housekeeping, eye infections due to dust, cuts and burns due to coming into contact and working with sharp objects and hot area.



Plate 1.1: Machines Emmiting Dust

1.2. Statement of the Problem

Human resource is one of the organizations' versatile resources. There is therefore need for management to ensure that personnel in the organization work in safe and healthy environment that will promote their optimum utilization. ILO estimated that more than 125 million workers fall victims of ohs hazards, accident and illnesses/diseases every year and approximately 220,000 workers die and about 10 million people are seriously disabled every year. In Kenya according to DOHS (2003) in 19 district 11,540 ohs accidents were reported of which 145 were fatal and 9 occupational illnesses.

In EAPCC more than five employees go on sick leave every month due to occupational health and safety concerns e.g. the year 2014, a total of 32 occupational accidents and illnesses were reported from different departments, they included cuts, burns, body injury, and motor vehicle accident as a result of occupational health and safety concerns left unaddressed in the company.

Thus the need for this research to establish employee's perception and causes of occupational health and safety concerns.



Plate 1.2: Some of accident that occur in the company; Bruised hand by hot metal

1.3 Objectives of the Study

1.3.1 General Objective

To determine employees perception on occupational health and safety concerns at East African Portland Cement Company (EAPCC).

1.3.2 Specific Objectives

- i. To examine occupational health and safety concerns in the workplace at EAPCC.
- ii. To determine the effects of the occupational health and safety concerns
- iii. To assess the extent to which workers have complied with the OSHA 2007 stipulations of Kenya and the benefits accrued.

1.4 Research Questions

Questions used in the study:

- i. What are the occupational health and safety concerns in the workplace at EAPCC?
- ii. What are the effects of the occupational health and safety concerns on employee's productivity?
- iii. To what extent have workers complied with the OSHA 2007 stipulations of Kenya and what benefits have they accrued?

1.5. Significance of the Study

The importance of this study can be seen in diverse ways. First, it is expected to be of value to the management of East Africa Portland Cement Company Limited. By highlighting the occupational health and safety concerns of the workers and the relationship to the workers productivity, the study has offered recommendations on the best practices in order to enhance productivity and reduce occupational health and safety concerns related to occupational hazards and accidents.

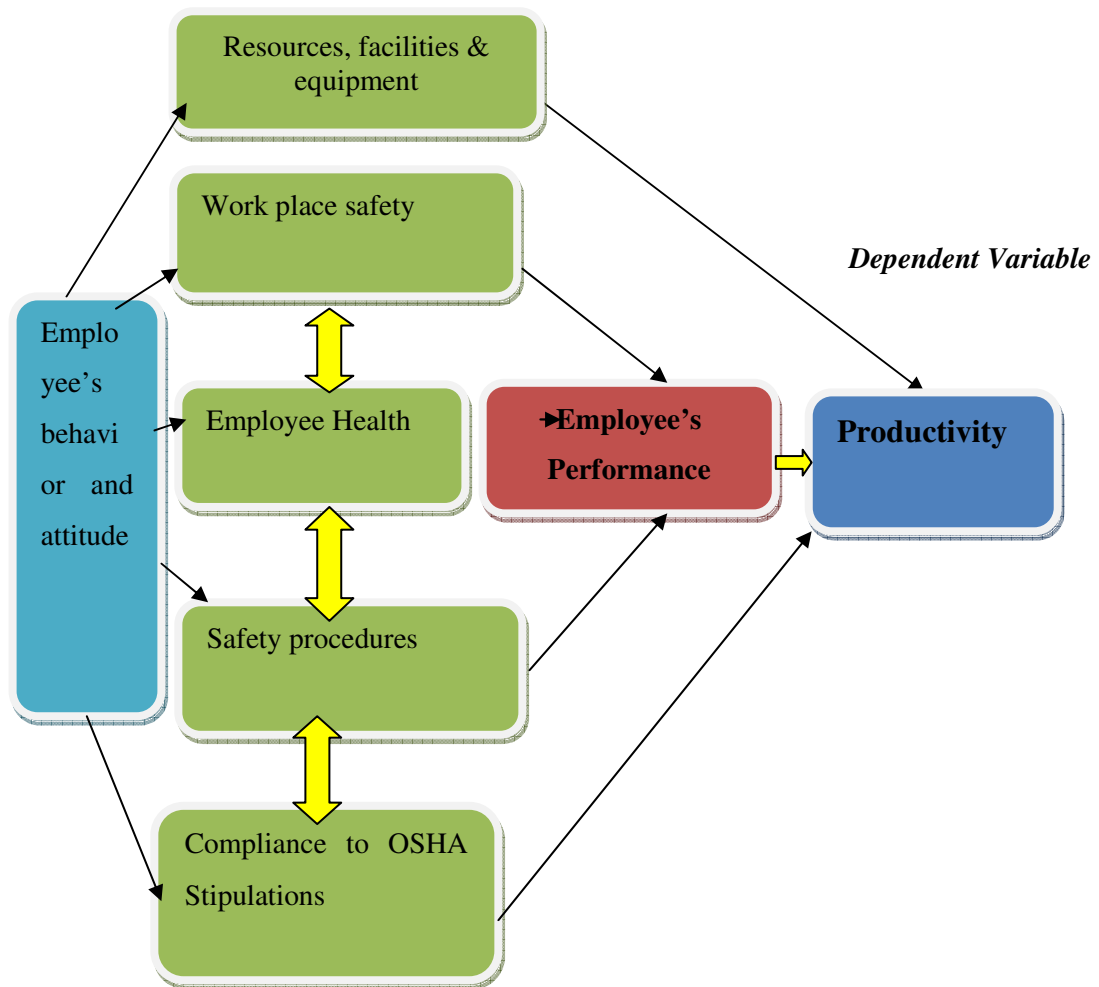
The study would provide bases for the formulation of effective occupational health and safety policies not only at East Africa Portland Cement Company but also in other cement manufacturing companies in Kenya. The study may also provide the opportunity for employees, employers to identify their specific respective roles in health and safety

issues. It will also provide bases for other organizations in different sectors in Kenya to adopt the recommendations in the formation of effective health and safety measures in their organizations as well. The work may be used as reference material for policy makers in making decisions concerning health and safety practices and policies.

The study is expected to add value to the body of knowledge in the area of occupational health and safety and will be a source of reference material for future researchers on other related topics. This study was expected to set a basis for further research on the topic under research.

1.6 Conceptual Framework

The conceptual framework details the network of associations among variables that have been identified in the hypotheses. Conceptualization assists in hypothesizing the relationships between different variables identified in the problem statement. In this study the dependent variable is employees' productivity while the independent variables are employee health, work environment, workplace and compliance to Occupational Health and safety Act.



Independent Variables

Intervening variable

Figure 1.1: Conceptual Framework. Source Author 2013

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This section discusses the literature review on the variable factors. These factors include various variables that impact the safety, health, and well-being of employees, conceptual framework, empirical review and the critical review.

2.2 Impact of Occupational Health and Safety Act

2.2.1 Workplace Safety

In the USA Workplace safety refers to the working environment at a company and encompasses all factors that impact the safety, health, and well-being of employees. This can include environmental hazards, unsafe working conditions or processes, drug and alcohol abuse, and workplace violence. Workplace safety is monitored at the national level by the Occupational Safety and Health Administration (OSHA) (Macleod, 2008). OSHA has three stated goals that serve as the cornerstones of its policies and regulations: 1) Improve the safety and health for all workers, as evidenced by fewer hazards, reduced exposures, and fewer injuries, illnesses, and fatalities; 2) Change workplace culture to increase employer and worker awareness of, commitment to, and involvement in safety and health; 3) Secure public confidence through excellence in the development and delivery of OSHA's programs and services. The federal guidelines imposed by this agency are complemented by state regulations that are often tougher than those proposed by OSHA (WHO, 2000).

Every year the Department of Labor, through its Bureau of Labor Statistics in USA, publishes the workplace injury and illness data that gathers and compiles. In 2004, 5,764 people lost their lives while on the job in the United States. These fatalities were caused,

primarily, to traffic-related incidents (45 percent), followed by assaults and violent acts (18 percent), falls (15 percent), contact with objects and equipment (14 percent), and finally, exposure to harmful substances. The non-fatal injuries and illnesses reported in 2004, serious enough to require time-away from work, numbered 1.27 million, a rate of injury equivalent to 141.3 per 100,000 full-time workers. These data include all work-related injuries and illnesses that resulted in time-away from work beyond the day on which the injury occurred. The median number of days away from work per incident in 2004 was 7 days. By category of injury, the national data break down as follows: Sprains and strains (41.7 percent), bruises and contusions (9.1 percent), cuts and lacerations (7.8 percent), fractures (7.5 percent), heat burns and carpal tunnel syndrome (1.5 percent each), and other injuries and illnesses make up the remaining 5.8 percent of workplace injuries. The goods-producing industries have a higher rate of on-the-job injury than do the service industries with one exception. Businesses in the transportation sector are part of the service industry but they have a very high rate of on-the-job injuries (Macleod, 2008).

With the worldwide industrialization and the rapid growth of construction industry, the international labour organization has estimated that more than 125 million workers fall victims of occupational health hazards, accident and diseases every year. Approximately 220,000 workers die and about 10 million people are seriously disabled every year. According to WHO (2000), all over the world, occupational health and safety is developing according to the priorities chosen the individual countries and international organization and is closely associated with the economic development of the nations. There are, however, some features which describe the worldwide development. Infrastructure of occupational health and safety are uneven and do not correspond due to the hazards produced. If any kind of social economic development is to be attained, a high priority should be given to occupational health and safety programme since the best guarantee for a profitable production is a healthy and efficient worker. Effective control of occupational health hazards requires a preventive approach that is consideration of

occupational health requirements on the planning stage of work. The establishment and strengthening of the structure for inspection, training and information are the most urgent task in developing countries (Roskam, 2001).

2.2.2 Employee Health

The health problems of workers in developing countries are more complex than those of industrialized nations because of the high prevalence of epidemics and epidemic diseases in most areas of the tropics (Tadesse & Admassu, 2006). Industrial activity has evolved significantly in developing countries. These industrial transformations have created a wide range of new occupational health problems for workers in poor nations (Ouye, 2011). The rising issue of chemicals in industrial and agricultural production has created new hazards for workers and a growing work force means that more people are exposed to risk; yet occupational health hazards in developing countries have rarely received priority attention from policy makers (Loewenson, 2001; Amponsah-Tawiah & Dartey-Baah, 2011).

Takala (2003) stated in his article- global estimate of fatal occupational accidents that a higher incident of work related accidents are reported in developing countries than in established market economies that is; 11 – 23 Vs. 5.4 per 100,000 workers respectively. Reporting system in South Africa indicates 1.7 – 5.2 per 1000 currently employed miner worker are certified annually with silicosis or tuberculosis which turned out to be well below as a 1987 study on quarry/mine workers based on routine mass miniature chest radiography estimated the prevalence of silicosis to be 13.8 per 1,000, (Loewenson, 1999). Directorate of Occupational health and safety report statistic of Kenya (2003) compiled from the country, 19 districts had a total of 11540 occupational accidents nationwide of which 145 were fatal besides nine occupational diseases. Mombasa district had a total of nine thousand two hundred and seven reported cases of occupational accidents, One hundred and fourteen of which were fatal making it the

leading district with 81% of the total occupational accidents reported. Two hundred cases of occupational diseases were also reported hence making it the second district behind Naivasha, which had most cases for instance, eight hundred in number annual report statistic (2003).

The performance of an employee is measured actually by the output that the individual produces and it is related to productivity. At corporate level, productivity is affected by many factors such as employees, technology and objectives of the organization. It is also dependent on the physical environment and its effect on health and employees' performance (Loewenson, 1999). In most cases, occupational health safety (OHS) is largely measured by negative outcomes such as workplace injury and illness but these measures have a shortfall, for instance, a low incidence of injury does not necessarily mean that adequate safety systems and controls are in place (Health and Safety Executives, 2006).

In economic terms, "productivity" can be defined as "the ratio of what is produced to what is required to produce it" (Petit, 1982). The Organization for Economic Co-operation and Development expresses the productivity of national economies in currency units of gross domestic product per hour worked by the employed population. Ideally, greater productivity implies greater efficiency and profitability for enterprises, better product quality at a given price for consumers and enhanced incomes and security for workers. In 2006, the ILO estimated that, globally, about 2.2 million people die every year from occupational accidents and diseases, while some 270 million suffer serious non-fatal injuries and another 160 million fall ill for shorter or longer periods from work-related causes (ILO, 2006). This represents an enormous toll of suffering for workers and their families.

The ILO has estimated that the total costs of such accidents and ill health amount to approximately 4 per cent of the world's GDP (ILO, 2006). Other organizations have

estimated that about 5 per cent of the burden of all diseases and injury in established market economies is attributable to work, which correspond roughly to the ILO's figure. A study by the European Commission which estimates that the costs of occupational accidents in the EU15 (15 European Union Member States) in the year 2000 was €55 billion a year (European Commission Report, 2004). While the vast majority of accidents go unreported, a major catastrophe has a devastating effect on the enterprise itself, its workers and the community. Following the Bhopal accident (1984), a total of over 20,000 people have died as a result of the injuries they received and the accident has so far cost the owners about US\$500 million in compensation. Such incidents are rare, but for every similar major incident there are literally millions of smaller accidents that, taken together, have an equally devastating social and economic impact, locally and nationally.

At some cement factories, as long as there are no serious accidents, occupational health and safety policies and practices are not carried out fully. As a result, threats to employees' safety are not eliminated in time because accident-prone areas are not recognized and taken care of before accidents occur (Mehraj, Bhat, Balkhi & Gul, 2013). Muchemedzi and Charamba (2006) explain that accidents do not arise from a single cause but from a combination of factors which act simultaneously. A potentially unsafe situation does not cause an accident until someone is exposed to it. Accidents are caused by the result of unsafe acts or practices (the human element that results from poor attitudes, physical conditions and lack of knowledge or skills to enable one to work safely). They are also caused by the result of unsafe conditions of equipment or materials. Koopman *et al* (2002) states that accidents bring pain and suffering to the worker and his family. When it results in permanent disability, the consequences are disastrous for both the victim and the company. The victim loses his earning capacity and ability to enjoy a normal active life, and the society and company are deprived of his/her skill and contribution to production. Employee confidence and safety are closely linked to productivity. Companies can incur major costs and significant productivity

losses when workers are injured. Even minor injuries require workers to leave the line and visit the company nurse for treatment.

According to Webb (1989), a central belief in most of the occupational medicine/health promotion literature is that people perform better when they are physically and emotionally able to work and want to work which in turn leads to higher productivity. More substantial links between the implementation of health and safety programmes and their beneficial impact on a business's productivity and profits are emerging both directly (such as reduced sick pay and compensation claims) and indirectly (for example, reduced absenteeism, improved corporate reputation and reduced staff agitation). Webb (1989) also studied a workstation change and found out an increase of 1000% in productivity within less than three months. These changes are mechanical and physical, for example a change of postures to reduce physical strain of work and use of appropriate machinery for some tasks.

To keep employees satisfied today, it takes an entirely different approach than it did just a few years ago. Indeed, one-third of the executives surveyed by Robert Half International Inc. have changed their opinions and now say the work environment is the most critical factor in keeping an employee satisfied in today's business world. In 1993, only 9% said that the work environment was an important factor in keeping employees satisfied. Other critical factors include the importance of praise and recognition, and compensation each cited by 28% of those surveyed. Six years ago praise and recognition was at the top of the list, cited by 47% of those surveyed. Other significant changes include concern over promotions. Only 4% of executives say that promotions are a big factor in keeping employees satisfied today, compared with 26% who said that in 1993. Furthermore, the importance of compensation and benefits has risen to 28% from just 7% in the 1993 survey. The report recommended that business executives should consider a positive work environment as the priority in keeping employees satisfied with their jobs according to survey findings of Robert Half International. (Mears, 1999).

2.2.3 Compliance to Occupational Health and Safety Act

The Health and Safety Executive (2006) explains that most important priority for cement companies with regard to employee well-being is the assurance of occupational health and safety, both for workers and contractor personnel. The cement industry is not nearly as advanced as some other heavy manufacturing industries in the implementation of occupational health and safety management systems (Derobert, Klee & Geisinger, 2002). In the future, cement companies might consider the design of inherently safe plants that minimize potential mishaps. In addition, consistent with sustainable development principles, there are a number of other employee well-being issues that a company can support, including training, career development, and professional growth; respect for employee rights, such as freedom of communication and association; promotion of balance between commitment to work and personal or family life; promotion of diversity; and prohibition of discrimination and harassment. Such measures will contribute to employee productivity and safety-consciousness, as well as loyalty and pride (O'Donnell, 2009).

However, based on available evidence, the Occupational Health and Safety Reports argue that there is clearly a vicious circle in that a healthy and happy workforce is more productive, leading to increased investment in health and safety to reduce accidents, which in turn leads to further productivity gains. The Health and Safety Executive (2006) further explains that genuine productivity gains can be realized by those businesses that invest in high performance health and safety practices. However, the Health and Safety Executive (2006) also recognizes that there need to be a positive attitude by many organizations if they are to move on from simply attaining minimum legal compliance toward implementing the best practice of OHS. For those organizations that make the transition, the rewards are well worth the effort. In other words, when an organization is committed to OHS best practice and implements it in a properly managed

manner, the result is a win-win situation that benefits both the workforce and the organization for which they work (Gomes, 2002).

There is need for a workplace improvement in terms of occupational health and safety for the benefit of the employer and the employee in order to increase productivity. According to Koopman *et al.* (2002), presenteeism is a common concept amongst the workforce. Presenteeism is one of the major results of poor OHS practices. Most OHS statutory instruments state that it is the employer's obligation to provide a safe working environment for the workers. These regulations further clarify that it is the duty of the employer to disclose accident statistics and to keep appropriate records. An employee should be informed of the dangers that are eminent in their work. These statutes, further, stipulate that this information should be posted on areas that all workers can see, for example notice boards. Workers commonly refuse to work because of the health risk involved in their work and this can be used as an indicator of poor OHS in the workplace (Hackleman *et al.*, 2002).

In most developing countries, workers rarely consider safety of their jobs due to the high levels of unemployment in such countries (>70%) (Katsuro *et al.*, 2010). Since income is hard to earn and there are no efficient economic security social nets, a worker opts to work in any environment that is risky than losing a precious job. Therefore, data on stop-work, because of an unhealthy situation, is virtually nil in the developing countries (Gomes, 2002). There is need for worker participation in setting up, monitoring and maintaining safe systems. McCunney (2001) demonstrates that the health risks and failure of employees to participate in fitness and health promotion programmes are associated with higher rates of employee absenteeism. McCunney's contribution can only be valid if the fitness programmes are in place. There is need for the employer's participation in ensuring that OHS programmes and policies are existent. If these OHS programmes are in place, it is more likely that the worker participates in order to preserve his/her life.

Towers (2003) explain that it is important to empower, educate and persuade workers to exercise their powers in the protection of their OHS. A recent poll found that, among other things, an employee's productivity is determined by their relationship with their immediate supervisor. When the bad boss fails to keep promises, never gives credit when due, makes negative comments, or blames others for their mistakes, the productivity level of their employees is significantly impacted. "A poor supervisor is definitely the No. 1 factor that causes low productivity," said Barry L. Brown, President of a Florida-based consulting group. "It's been my experience that a good supervisor will motivate, inspire, encourage and reward good performance. Health concerns, naturally, are a big drain on an employee's ability to be productive, and companies know it. At the SHRM Conference and Exposition last June in Washington, D.C., a survey showed that 85 percent of U.S. employers said they were interested in services to increase employee productivity, minimize absences and enhance the health of their employees.

TD Industries in Dallas, Tex., has a unique way of making its employees feel valued and involved. One wall in the company has the photographs of all employees who have been with the company more than five years. Maybe that's why TD Industries was listed last year by Fortune magazine as one of the Top 100 Best Companies. To help create a more positive work environment follows my Hold, Keep, Seek and Review strategy. Employee health and morale are often interrelated when it comes to productivity in the workplace. Unhealthy, ill, stressed employees will miss more days of work than their healthy counterparts, which can have a negative effect on morale and overall workplace performance (Brandt-Rauf, 2007).

Many factors contribute to poor employee performance, including stress and a lack of communication. While business owners and corporate managers can find ways to boost worker morale, employees should also take some measures to discover methods of stress relief. Some professional environments are naturally stressful; it is particularly important

for employees in these environments understand how to understand and manage stress (Oxenburg *et al.*, 2004).

Katsuro *et al.*, (2010) asserts that the working environment affects our sense of well-being, health and motivation to go in to work at all. It is both an employer's responsibility, and in her interest, to ensure that employees work in a positive atmosphere because conditions at work can either maximize or minimize productivity and cause or prevent stress and fatigue. As employers explore ways to improve the health, wellness and productivity of the workforce, incentives have emerged as an attractive tool. But employers remain concerned that incentives not become money frivolously spent.

According to the World Health Organization (2003), one person in four will suffer from a mental health problem at some point in their life. World Health Organization (2006) commissioned by five leading mental health charities states that at least one million adults in the UK are out of work with mental health problems. Work-related stress is the root cause of a significant degree of mental ill health. Stress can manifest itself in absenteeism, reduced productivity, and increased staff turnover. Excessive stress can lead to fatigue, impaired judgment and decision-making and the onset of both mental and physical health problems.

The impact of health on performance is demonstrated by a study of employees at the US banking giant Wachovia, which found that employees put through an energy renewal program outperformed a control group by 15% to 20% in achieving bottom line targets for sales and business growth (Schwartz & McCarthy, 2006). The energy renewal program used simple, practical activities that helped reduce stress and improve energy levels.

2.3 Empirical Review

Legislations governing OHS and Workers, Rehabilitation and Compensation has changed the way in which work-places operate (Bohle & Quinlan, 2000). According to Hennekam and Flower (2002), organizations in the public and private sectors have a responsibility to ensure safety requirements are met. Gallagher *et al.*, (2003) asserted that research concerning OHS has been an important guide to the implementation and systematic management of OHS in organizations. National standards for the conduct of training and assessment known as Training Packages, developed under the control of the National Training Assessment, have according to Simons *et al.*, (2003) changed the way in which work-places develop their staff. Work-places have a new role in developing the competency of their staff through the application of Training Packages in conjunction with Registered Training Organizations (RTO) and Simons *et al.*, (2003) described the use of research to inform work-place utilization of Training Packages to train, assess and develop staff. The importance of training to the planned support of health and safety in the work-place is highlighted by Gallagher *et al.*, (2003) and Hennekam and Flower (2002).

According to Muchemedzi and Charamba (2006), workers began wearing cut- and abrasion-resistant gloves that provided a higher level of protection, and the company trained all employees about which gloves to use for specific tasks. The result was a 77 percent decrease in injuries the first year and a \$101,000 savings in first aid expenses. More serious injuries may require ambulance transportation to the hospital, with companies responsible for medical, insurance, and worker's compensation costs.

Lengthy employee absences often lead to companies replacing experienced laborers with temporary workers. These individuals usually need training and still are unable to perform tasks with the same accuracy and speed as the injured employees. Providing workers the right hand protection to prevent injury may seem like an insignificant change, but it may result in significant cost savings. Injuries at a tire manufacturer

surpassed \$1 million annually when the plant worked with a hand protection specialist to conduct an internal assessment to determine how and why injuries occurred. Workers had used the same hand protection products for 20 years. Once modern hand protection was provided based on assessment results, the facility implemented a training program to introduce the new gloves, explain why they were necessary, and educate workers about how they should be used. The plant's efforts resulted in a \$500,000 savings in injury costs during the first year. Muchemedzi and Charamba (2006) analyzed the above statistics and established that the majority of accidents (98%) do not just happen. Instead, people who perform unsafe acts and create unsafe conditions cause them and therefore accidents are preventable. Most accidents are so minor that they have no visible injury or damage. Taking care of these minor problems results in a reduction or elimination of the major ones.

2.4 Critical Review

The researcher had opted to carry out this research in East African Portland cement to establish occupational health and safety concerns on employees which is eminent to the workers' productivity and with this research will help them improve on safety and health and increase workers performance.

Kimani (2011) carried a study on occupational health and safety risks on metal fabricating workers in Nairobi. He found out that 93.8% of the workers were exposed to noise levels of 90 dB (A) and above for more than 8 hrs daily. On the other hand, 90.6% of the workers were aware that noise can cause deafness and 88.8 % of the workers were aware that it can be prevented, but only 2.9% of the workers possessed hearing protectors. The study also found that 35.2% of the workers had impaired hearing and 83% of those with impaired hearing had worked for more than 6 years. It was established that workers are exposed to hazardous noise levels and they recognize noise as a hazard, but they do not use hearing protective equipment. It was recommended that

training programmes in occupational health and safety be made mandatory plus also the enforcement of occupational health and safety regulation in this set up. However, the study did not link the occupational health and safety risks that the respondents were experiencing with their productivity.

Odero (2000) in his research project sought to establish the importance of good working environment and its impact on employee productivity at Kabete Technical Institute. He noted that physical facilities were in acute shortage and most equipment outdated. In addition, there were no arrangements for replacing old equipment due to financial constraints. He concludes inter- alia that management should take audit of available facilities in order to alleviate congestion and acute inadequacy of facilities. However, the institute chosen for the study was a learning institution thus; the results may not be applicable to the Manufacturing Industry.

CHAPTER THREE

MATERIALS AND METHODS

3.1 Organization of the chapter

This chapter presents the methodology used in the study. The study was organized as follows: it presents the research design, the target population, sampling and sampling procedure, data collection procedures, reliability and validity tests, pilot study and data processing and analysis.

3.2 Research Design

Research design is the blueprint that enables the investigator to come up with solutions to problems and guides her/him in the various stages of the research (Nachmias & Nachmias, 2000). It sought to observe, explain, and describe phenomena of interest without manipulating the variables or the respondents.

The study adopted a descriptive survey design. The descriptive research design was preferred because it was efficient in collecting large amounts of information within a short time. Cooper and Schindler (2003) propose for the use of surveys in social economic fact finding because they provide a great deal of information which is accurate. Furthermore Cooper and Schindler (2003) state that the intention of survey research is to gather data at a particular point in time and use it to describe the nature of existing conditions. Since the aim of this study is to investigate the effects of occupational health and safety measures on employee's productivity, a survey design is most suitable for the study.

3.3 Study Area and Population

The study was carried out at East African Portland Cement Limited, located in Athi River area along Namanga Road. The target population of the study is 800 EAPPC employees who comprised of top, middle and low level management staffs and the general staff in the various departments who are directly dealing with the day to day operations of the East African Portland and Cement Company Limited. The researcher examined a sample of staff drawn from the population of 800 staff working at East African Portland and Cement Company Limited.



Plate 3.1: Eapcc Plant

3.4 Sampling and Sampling Procedure

Sampling is a procedure, process or technique of choosing a sub-group from a population to participate in the study (Mugenda & Mugenda, 2003). According to Mugenda and Mugenda (2003) a sample of at least 10% and not more than 30% is considered representative. Stratified proportionate random sampling technique was used to select the sample. Ngechu (2004) assert that stratified proportionate random sampling technique produce estimates of overall population parameters with greater precision and ensures a more representative sample is derived from a relatively homogeneous population. Stratification aims to reduce standard error by providing some control over variance.

A sample population of 800 respondents was selected from staff working at East African Portland Cement production department. Stratified proportionate random sampling technique was used to select the sample. The study took a 10% from each strata to get a sample of 80 respondents. Simple random sampling was used to select the respondents.

The sample size distribution is shown in Table 3.1:

Table 3.1: Sample Size

Category	Population	Sampling (%)	Sample size
Top management	10	10	1
Middle managers	25	10	2
Packing plant	125	10	13
Process	105	10	11
Laboratory	102	10	10
Mechanical	109	10	11
Electrical	103	10	10
Projects	123	10	12
Administration	98	10	10
Total	800		80

3.5 Data collection

3.5.1 Research Instrument

This study utilized a questionnaire to collect primary data. The questionnaire designed in this study comprised of two sections. The first part included the demographic and operational characteristics designed to determine fundamental issues including the demographic characteristics of the respondent. The second part was devoted to the identification of impacts of occupational health and safety on employee's productivity.

The questionnaire was designed to include both structured and unstructured questions. The structured questions facilitated collection of quantitative data while the unstructured questions were used to facilitate an in-depth analysis of the study objectives. The study used a questionnaire since its cheaper to administer over a large population and it also enhance standardization of data.

3.5.2 Data Collection Method

The study sought collected data from the staff in EAPCC. First, an introductory letter for data collection was obtained from the Univesity and further appointments made with the respective respondents. The researcher personally administered the questionnaires to the respondents. Nevertheless, where it proved difficult for the respondents to complete the questionnaires immediately, the questionnaire was left with the respondents and picked later. To ensure high response rates, interpretations of the sections of the questionnaires were done to the respondents to ensure that they fully understand the questions before answering.

3.6 Pilot Study

Cooper and Schindler (2003) posit that a pilot test is conducted to detect weaknesses in design and instrumentation and to provide proxy data for selection of a probability sample. Mugenda and Mugenda (2003), concurs with Orodho (2003) that a pilot study is conducted when a questionnaire is given to just a few people with an intention of pre-testing the questions. The pilot test was carried out to assist the researcher in determining flaws, limitations, or other weaknesses within the research instruments allowing for necessary revisions prior to the implementation of the study (Ngechu, 2004). A pilot study was undertaken on ten (10) EAPCC Company employees to test for reliability and validity of the research instrument. The pilot study enabled the researcher to discover weaknesses, inconsistencies and ambiguity in the questionnaire as appropriate so as to capture data accurately.

3.6.1 Reliability of the Research Instrument

Reliability refers to the extent to which a measuring instrument contains variable errors that appear inconsistency from observation during any one measurement attempt or that vary each time a given unit is measured by the same instrument. Construct validity is established by relating measuring instruments to a general theoretical framework in order to determine whether the instrument is tied to the concepts and theoretical assumptions they are employing (Nachmias & Nachmias, 2008).

To measure the reliability of the research instrument, the researcher used the Cronbach's alpha (α). It indicates the extent to which a set of test items can be treated as measuring a single latent variable (Cronbach, 1951). Cronbach's alpha of above 0.7 implies that the instruments were sufficiently reliable for the measurement. The recommended value of 0.7 was therefore used as a cut-off of reliabilities.

3.6.2 Validity of the instruments

Validity is the strength of our conclusions, inferences or propositions. More formally, Patton (2002) define it as the best available approximation to the truth or falsity of a given inference, proposition or conclusion. To ascertain the validity of the research instrument, the researcher intensively discussed the instrument with supervisor on items analysis and accuracy of the questionnaire and the observation guide items in relation to the variables of the study.

3.7 Data Analysis

The data analysis process involved using the SPSS (Statistical Package for Social Sciences) programme. The researcher first itemized the questionnaires, by numbering them. Using the SPSS programme prepared a code book that had variable labels and values. Entries of the raw data were entered into the code book systematically by the researcher. After completion of the data entry, each variable was analyzed using frequency tables. The tables were preferred for clarity of the variable relationships, while bar graphs and pie-charts were used to represent data that involved use of dichotomies like Yes or No.

Analysis through tabulations was based on computation of frequencies and percentages. Statistical inferences were made at the 95% confidence level, and 5% significance level. Multiple regression analysis was used to predict the changes in the dependent variable in response to changes in the independent variables. Data from interviews and secondary data was read carefully paying particular attention to comments, ideas and concerns from the participants. The field notes were edited, coded and written based on content and then analysed deductively.

3.8 Ethical Considerations

This study was based on the following ethical considerations. First, the research participants were allowed to make an informed decision on whether to participate in the research process or not. This implies that the researcher did not force or coerce the sample into participating in the research process. Secondly, the responses from the respondents were considered anonymous responses. This implies that the respondents were not required to give their names on the questionnaires they fill. This prevented victimization of any employee due to participating in the research study. Thirdly, the researcher sought permission from all the research stakeholders – the university and from EAPCC management before undertaking the process of data collection. Fourthly, the researcher communicated the findings of the research study to the research stakeholders.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Analysis of the Results

This chapter entails the findings of the study based on the data collected from the field. The study sought to establish employee's perception on occupational health and safety concerns at East African Portland Cement Company. The study targeted the employees in all levels and departments. The data was analyzed and presented in form of pie charts, bar graphs and tables.

Table 4.1: Response Rate

Respondents	Frequency	Percent
Responded	76	95
Not Responded	4	5
Total Sample Size	80	100.0

Table 4.1: Response Rate

Out of a total of sample 80 respondents targeted, 76 respondents successfully filled the questionnaires which translate to a response rate of 95%. The response was appropriate for the study to continue and provide reliable results. According to Mugenda and Mugenda (2003) a fifty percent response rate is adequate, sixty percent good and above seventy percent rated very well.

4.3 Demographic Information

This section presents the general information of the respondents as it forms the basis under which the study rightfully accessed the relevant information. The general information of the respondents included information such as gender, age, marital status and level of education of the respondents which was captured in the first section.

4.2.1 Gender of the Respondents

The study sought to establish the distribution of respondents in EAPCC by gender. The findings are presented in Figure 4.1.

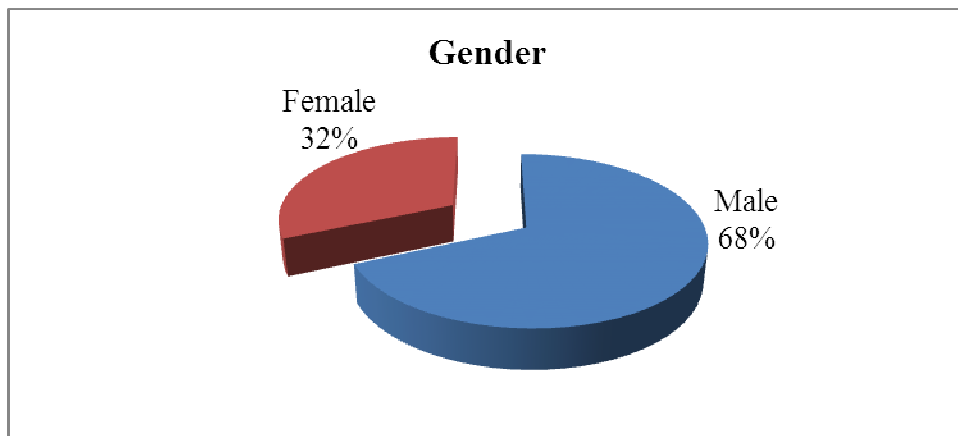


Figure 4.1: Gender of the Respondents

Figure 4.1 above shows that majority of the respondents 68% (n=52) were male while 32% (n=24) were female. The number of male respondents was high since majority of the employees at EAPCC were involved in the production or manufacturing process of the cement which involved operations of machines or working in the quarries, work that attracted more male than female workers.

The inferential statistics established that there is no significant relationship between the gender of the employees and the occupational health and safety risks as shown; $r=0.087$, $p=0.712>0.05$). This implies that the occupational health and safety concerns in the company were not in any way influenced by the gender of the employees.

4.3.2 Level of Education

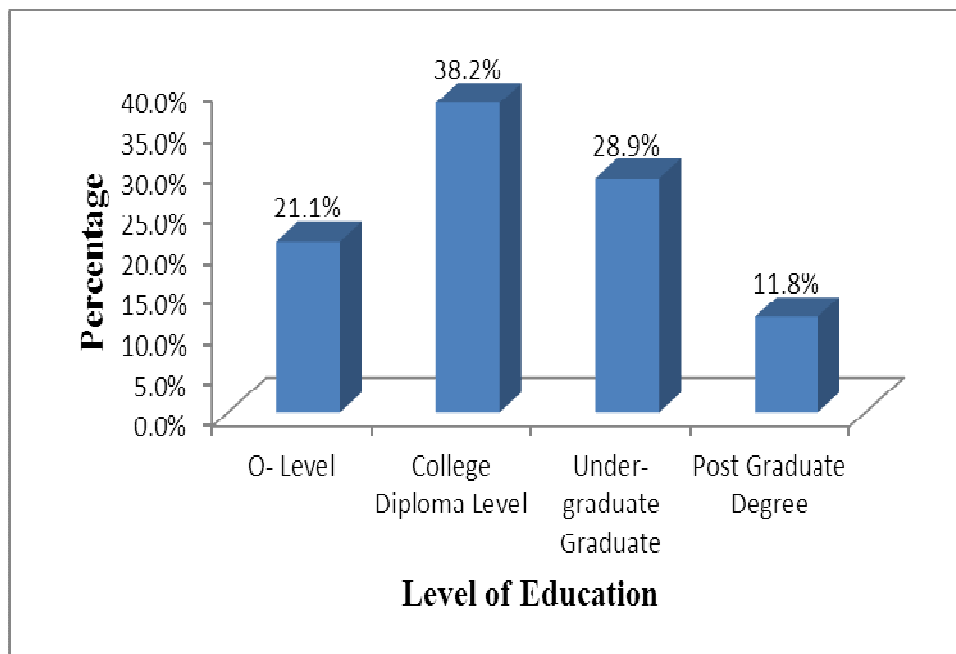


Figure 4.2: Level of Education

The study shows that 38.2% (n=29) of the respondents had attained a college diploma while 28.9% (n= 22) of the respondents indicated that they were undergraduates. On the other hand, 11.8% (n=9) of the respondents revealed that they had attained a post graduate degree. This shows that majority of the employees in EAPCC were educated and qualified in their work, this means they are competent at their work; however more accident are reported according to the safety records checked by the researcher.

The inferential analysis further shows that there is a significant relationship between the level of education of the employees and the occupational health and safety concerns reported by the employee ($r = -0.534$, $p = 0.001 < 0.005$). This is to mean that an increase in level of education and more training would lead to a decrease in occupational health and safety concerns raised; therefore the level education and trainings is a critical factor in addressing the occupational health and safety issues in the company.

4.3.3 Age of the Respondents

Table 4.2: Age of the Respondents

Age Bracket	Frequency	Percent
18-25years	11	14.5
25-35 years	32	42.1
36-45years	27	35.5
46-55years	6	7.9
Over 56 years	-	-
Total	76	100.0

On the age of the respondents, 42.1% (n=32) revealed that they were between 23-35 years of age while 35.5% (n=27) indicated that they were between 36-45 years of age. This shows that majority of the employees in EAPCC fell in the two age brackets. On the other hand, 7.9% (n=6) of the respondents were between 46-55 years of age while 14.5% (n=11) were between 18-25 years of age. According to the researcher's observation and the questionnaires administered it came out clear that, accident occurred to different age groups, for example in the financial year 2013/2014 34 accidents were recorded and the age groups was from 25 to 50years of age this showed that any person from any age group could get injured.

The inferential results further shows that there is a negative and insignificant relationship between age of the employees and the occupational health and safety concerns in the company ($r= -0.321$, $p=0.304<0.05$). This is to mean that occupational health and safety issues in the company were not influenced by the age of the employees.

4.3.4 Duration Worked in EAPCC

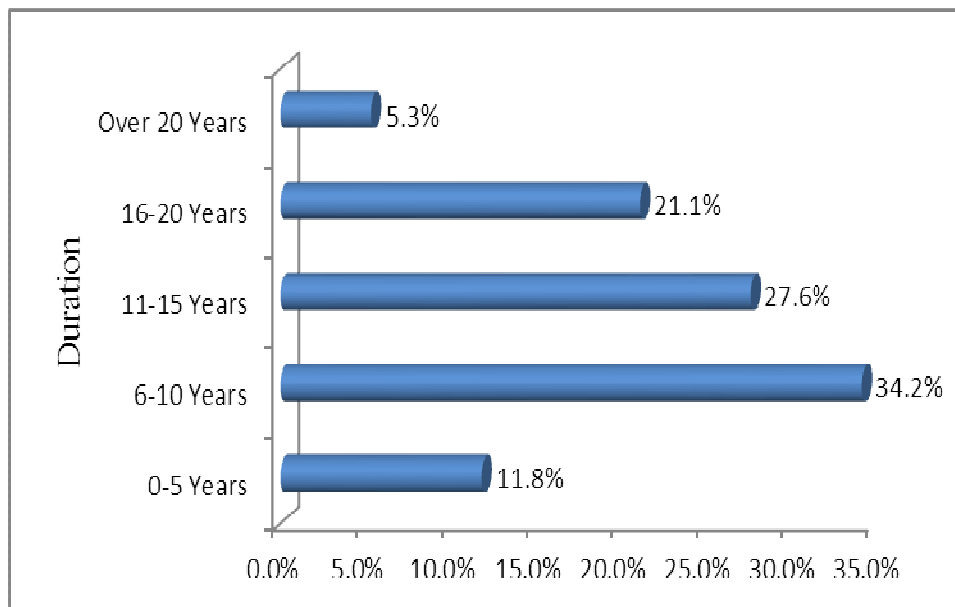


Figure 4.3: Duration Worked in EAPCC

The study shows that most of the respondents 34.2% (n=26) had worked with EAPCC for a duration of 6-10 years while 27.6% (n=21) had worked for a duration of 11-15 years. This shows that majority of the respondents had worked for a long duration in the company hence they were much aware of the operations of the company, and informed on occupational health and safety issues in the company however from the safety records more injuries/ accidents and absenteeism were observed from workers currently employed. During sampling of the safety records the researcher saw accidents were

more frequent to the casual workers than the permanent employees. Also the permanent employees were aware of safety concerns in their work areas than the current employees.

The inferential statistics shows that there is a negative but statistical significant relationship between duration worked in the company and the occupational health and safety concerns ($r = -0.208$, $p = 0.000 < 0.05$). This is to mean that an increase in duration worked in the company would lead to a reduction in occupational health and safety concerns; that is, the more the employees stays in the company, the occupational health and safety concerns such as accidents reduces.

4.3.5 Respondents Terms of Employment

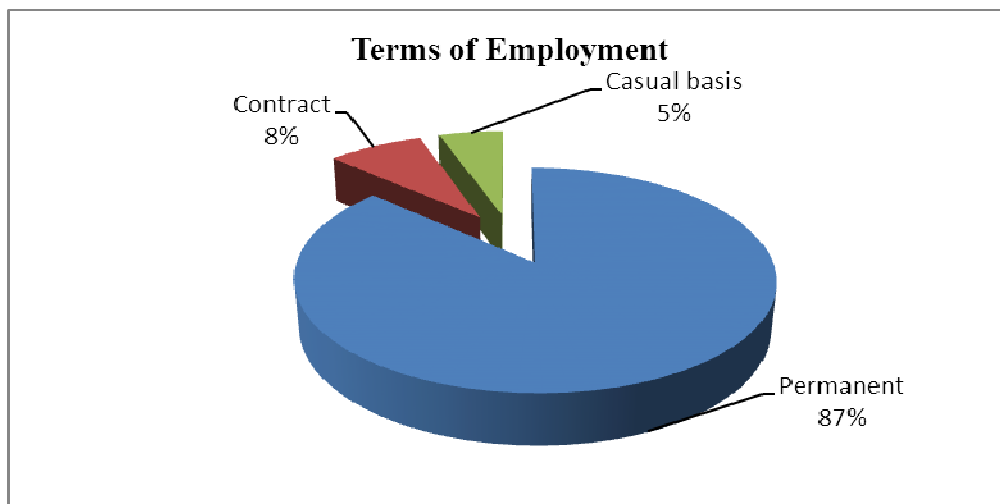


Figure 4.4: Terms of Employment

Figure 4.4 above shows that majority of the respondents $n = 66$ (87%) were in employed on permanent terms. However, $n = 6$ (8%) of the respondents were employed on contract basis while 4 (5%) were on casual basis.

The safety records and observation made was clear that employment terms influenced the health and safety concerns in the company. According to the safety audit report done in 2014 the researcher saw a record of 34 accidents of which 30 of them were from contract and casual staff.

The statistical results shows that there is significant relationship between the terms of employment and the occupational health and safety concerns ($r=0.064$, $p=0.216$). This implies that the terms of employment have effect on occupational health and safety risks in the company.

4.4 Employees Perception on Occupational Health and Safety Concerns

In this section, the study sought to establish the health and safety concerns by the employees in the company, the causes of the accidents in the company and the actions taken to avoid occurrence of the accident. Moreover, the section shows the extent to which safety measures were put in place in the organization.

4.4.1 Occupational Health and Safety Concerns in the Company

The respondents were asked to indicate the major occupational health risks and safety concerns they experienced in the company. The findings are presented in Table 4.2.

Table 4.3: Occupational Health and Safety Concerns in the Company

Concerns	Frequency	Percentage
Exposure to dust	43	56.6
High temperatures	42	55.3
Allergic industrial substances	39	51.3
Slippery floors	17	22.4
Noisy environment/ exposure	41	53.9
Radiation exposure	12	15.8

The study established that exposure to dust, high temperatures, noisy environment and exposure to allergic industrial substances were the major occupational health and safety concerns in the company as reported by n=43 (56.6%), n=42 (55.3%), n=41 (53.9%) and n=39 (51.3%) of the respondents respectively. Other concerns though on a low scale were slippery floors n=17 (22.4%) and radiation exposure n=12 (15.4%). During site visit by the researcher dust was observed emanating from some of the machineries e.g. the Cement mills, noise levels were high in blowers machines and cement mills; high temperatures were felt from some machineries especially the kiln which has a 1300⁰C. All these concerns were seen to influence the safety of the workers and the accident that occur in the company.

The statistical results show that there is a significant relationship between the occupational health and safety concerns in the company and employees productivity ($r = -0.452$, $p = 0.001 < 0.005$). This is to mean that an increase in the occupational health and safety concerns in the company would lead to a decrease in productivity.

This is to mean that, if these hazards are left unaddressed, they would affect the performance of employees which would further affect the company's performance. These findings concurs with a study by Reich (1998) who asserts that industrial transformations have created a wide range of new occupational health problems for workers especially in developing countries which causes respiratory infections, parasitic diseases, and viruses. The rising issue of chemicals in industrial production has created new hazards for workers and a growing work force means that more people are exposed to risk.

4.4.2 Occurrence of Accidents in the Organization

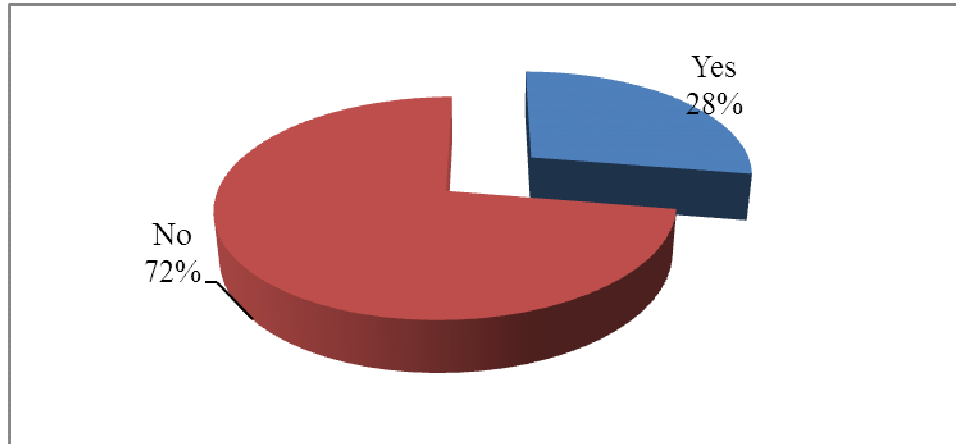


Figure 4.5: Suffered an Accident in the Organization

The study established that majority of the respondents $n=55$ (72%) had not experienced any accident in the course of their work since they were engaged in their organization. However, $n=21$ (28%) of the respondents reported that they had experienced an accident. The researcher was shown some safety records and according to her interpretation, the number of accident recorded in a span of 1 year out of the number of employees in the company could be seen insignificant but an accident to one person is considered a big loss to the company.

This concurs with Ministry of Labour (2003) under the directorate of occupational health and safety, Kenya which established that a significant number of workers in industrial companies were being affected by occupational accidents some of which were fatal. This is also supported by a report by international labour organization (2001) which revealed that industrialization and the rapid growth of construction industry had led to high number of workers falling victims of occupational health hazards, accident and diseases.

4.4.3 Actions Taken to Project the Occurrence of the Accident

As shown in Figure 4.5, majority of the respondents 72% (n=55) had not experienced any accident in the course of their work. However, 28% (n=21) of the respondents reported that they had experienced an accident. Those who had experienced accidents in the organization indicated that the cases were reported to the appropriate authorities and some of the actions were implemented while others have not. One of the injured staff in the company mentioned to the researcher that he was injured at packing plant in 2014 by some rollers that squeezed his hand in between the rollers. One year later the rollers were not modified as per the recommendations of accident investigation report. This leaves a loophole to another accident. The machine below caused the accident.

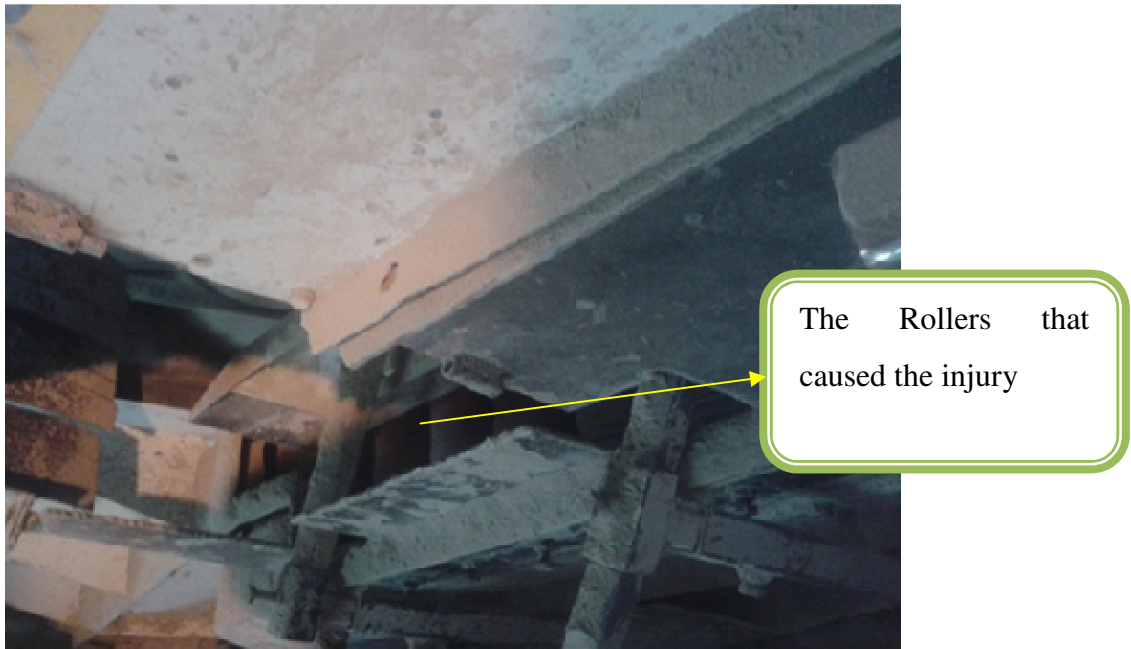


Plate 4.1: Packing plant machine that injured staff

The respondents stated that accident cases were offered first aid in the factory clinic or referred to company's referral hospitals for medical attention.

Other actions taken according to the respondents but perceived to be not enough were increasing sensitization programmes on safety and health at the work place to enhance good safety culture. Also, protective gears were also provided but not of good quality and in some cases they were inadequate.

Companies can incur major costs and significant productivity losses when workers are injured, therefore there is need to take appropriate measures. The findings are in consistent with those of Muchemedzi and Charamba (2006) which show that use of protective gears provided a higher level of protection. Moreover, training of employees on how to effectively use the protective gears and safety issues decreased injuries in the work places.

4.4.4 Causes of Accident in the Company

Table 4.4: Causes of Accident in the Company

Causes	Frequency	Percentage
Lack of adequate of training on health and safety	52	68.4
Non provision of adequate protective clothing and equipment	27	35.5
Ignorance on health and safety matters	68	89.5

On the causes of accidents in the organization, n=68 (89.5%) of the respondents reported that workers ignorance on health and safety matters was the major risk factors of accidents in the company while n=52 (68.4%) indicated that it was due to inadequate training on health and safety issue. On the other hand, n=27 (35.5%) of the respondents indicated that non provision of adequate protective clothing and equipment was also a

risk factor in the company. The respondents further stated that excessive noise, very high temperature, humid conditions, slippery floors, failure to use safe attire or personal protective equipment's, and failures to follow safety rules were risk factors of accidents in the company.

According to the safety reports analyzed by the researcher the major cause of accident was due to personal error that is not complying to the laid down procedures and instructions. For example the researcher observed an accident that occurred in 2013 that involved 5 staff working in a cyclone, a machine was started while they were inside luckily they screamed and alerted other workers outside causing the machine to be stopped. According to the accident investigation report the cause was recorded as lack of following procedure because the work permit form was not fully filled and the person to confirm and cancel the permit by ensuring all is well did not do that.

The inferential results further show that there is statistical significant relationship between the health and safety concerns and the risk factors: lack of adequate training ($r=0.386$, $p=0.004$); non provision of adequate protective clothing and equipment ($r=0.192$, $p=0.034$) and; ignorance on health and safety matters ($r=0.056$, $p=0.021$). This is to mean that an increase in these causes would lead to more occupational health and safety concerns in the company.

These findings are in line with those of Muchemedzi and Charamba (2006) whom in their study found out that accidents were perpetuated by the result of unsafe acts or practices the human element that results from poor attitudes, physical conditions, and lack of knowledge or skills to enable one to work safely. They are also caused by the result of unsafe conditions of equipment or materials.

4.4.5 Frequency of Training, Monitoring and Evaluation

Table 4.5: Frequency of Training, Monitoring and Evaluation

Frequency at which the following are conducted:	Quarterly		Biannually		Annually		No definite time	
	F	%	F	%	F	%	F	%
Training organized for staff on occupational health and safety	5	6.6	9	11.8	16	21.1	46	60.5
Monitoring, inspection and evaluation of occupational health and safety policies	3	3.9	13	17.1	28	36.8	32	42.1

Majority of respondents n=46 (60.5%) reported that there was no definite time fixed for training of the company’s staff on occupational health and safety. However, while n=32 (42.1%) of the respondents revealed that there was no definite time fixed for monitoring, n=28 (36.8%) reported that the monitoring, inspection and evaluation of occupational health and safety policies was done annually. During interview with some of the staff some said no specialized training has ever been organized for them, others said the trainings were for specific people and they were not invited to attend. On monitoring and evaluation, the staff reported they sometimes see the safety team walking around and they were not aware what they are doing others were positive and they said the safety team engaged them on their visits.

The inferential statistics further shows that there is significant association between the occupational health and safety concerns and the training of staff ($r = -0.218$, $p = 0.000 < 0.05$); and with monitoring, inspection and evaluation of policies ($r = -0.189$, $p = 0.023 < 0.05$). This is to mean that an increase in training and monitoring, inspection and evaluation of health policies would lead to a decrease in occupational health and safety concerns raised by the employees in the company.

The study results are in line with the findings by Muchemedzi and Charamba (2006), who indicated that there is need for the company to have regular trainings on occupational health and safety so as to equip the workers with knowledge and skills as this would minimize the risks and improve workers' productivity.

4.4.6 Satisfaction Levels on Management Effort on Occupational Health and Safety

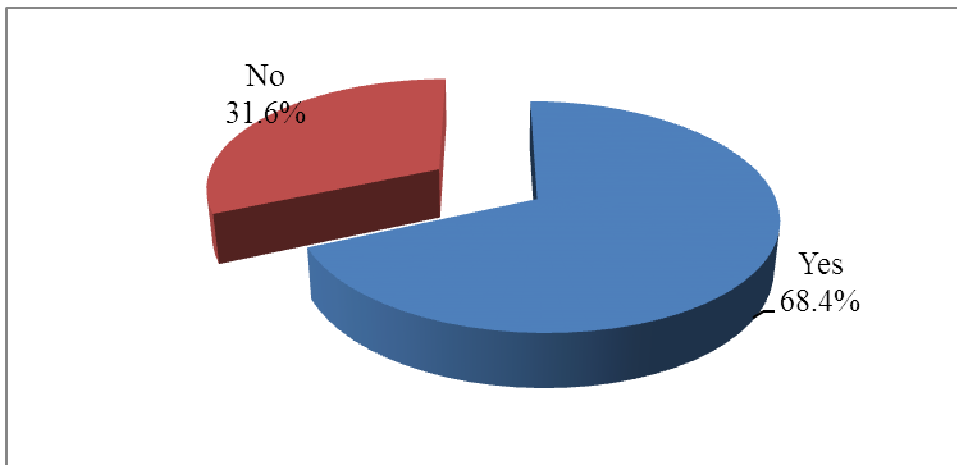


Figure 4.6: Satisfaction Levels on Management Effort

Figure 4.6 above shows that n=52 (68.4%) of the respondents were satisfied with management efforts in improving occupational health and safety of the workers in the company. However, n=24 (31.6%) of the respondents were not satisfied. Some employees reported some safety concerns have not been implemented for a long period of time despite them reporting and several reminders. A case in point that the researcher observed was lack of bag filters to trap dust in the packing plant. This problem has been reported year in year out and no actions has been taken. The researcher observed eminent dust emission from the machines and some areas emitting dust were covered with empty cement bag cements as seen in below plate;



Plate 4.2: Staff working inside dusty environment

The statistics results shows that there is a significant relationship between the management support on the occupational health and safety and the occupational health and safety concerns raised by the employees in the company ($r = -0.389$, $p = 0.001 < 0.05$). This is to mean that, an increase in management support on on the occupational health and safety in the company would lead to a decrease in occupational health and safety concerns in the company.

The findings concur with those of Kimani (2011) who carried a study on occupational health and safety and showed that the greatest opportunity for increasing workers' productivity is by providing a safe and conducive environment. He revealed that successful companies increase productivity by increasing by creating a favourable environment for the employee which can only be done by putting in place good safety measures.

4.4.7 Level of Satisfaction on Occupational Health and Safety Measures Put in Place

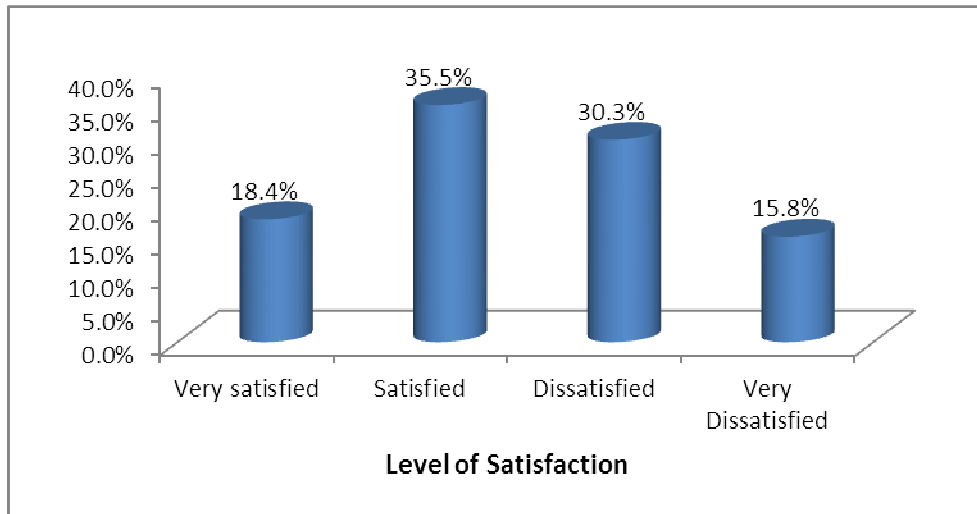


Figure 4.7: Level of Satisfaction on Occupational Health and Safety Measures

On the satisfaction levels on the occupational health and safety measures put in place in the company; while n=27 (35.5%) of the respondents reported that they were satisfied, n=23 (30.3%) indicated that they were dissatisfied. Further, n=14 (18.4%) revealed that they were very satisfied while n=12 (15.8%) indicated that they were very dissatisfied. According to the interview and observation some workers were satisfied while others complained of lack of implementation of the recommended actions, lack of training and sufficient ppes.

Statistical analysis shows that there is a significant relationship between the occupational health and safety measures put in place and employees productivity ($r=0.160$, $p=0.010<0.05$).

The findings above show that workers environment is an important component that determines the workers satisfaction. This is supported by the results by a study by Mears

(1999) on behalf of Robert Half International Inc. who showed that the work environment has become one of the most critical factors in keeping an employee satisfied in today's working environment. It also concurs with The findings concurs with findings of Kimani (2011) who revealed that there is need to create a favourable environment for the workers by putting in place good safety measures.

4.4.8 Extent Safety Measures are put in Place in the Organization

Table 4.6: Extent Safety Measures are put in Place in the Organization

Safety Measures	Mean	Std. Dev.
Using protective clothing	4.20	0.789
Prompt reporting of accidents/injuries	4.40	0.699
Safety training as part of orientation on first employment	3.20	0.748
Proper disposal of waste	3.90	0.738
Regular monitoring on safety and health standards to ensure if they are complied with	3.60	1.430
Re-training on safety and health practices	2.60	0.699

The study shows that majority of the respondents revealed that the company ensured use of protective clothing though sometimes they are inadequate, prompt reporting of accidents/injuries, proper disposal of waste to a great extent; this is shown by mean scores of 4.20, 4.40 and 3.90 respectively. Further, the respondents reported that regular monitoring on safety and health standards were conducted to extent to ensure the standards are complied with as shown by a mean score of 3.60. However, the study found out that measures such as safety training as part of orientation on first employment, and re-training on safety and health practices were put in place to a moderate extent as shown by mean scores of 3.20 and 2.60 respectively but need to be enhanced to keep reminding the workers on the importance of safety.

The inferential results found out that there was a significant relationship between employees occupational health and safety and use of protective clothing ($r=0.314$, $p=0.000<0.05$); prompt reporting of accidents/injuries ($r=0.189$, $r= 0.041<0.05$); safety training ($r= 0.513$, $p=0.003<0.05$); proper disposal of waste ($r=0.074$, $p=0.023<0.05$); regular monitoring on safety and health standards ($r=0.406$, $p=0.036<0.05$) and ; re-training on safety and health practices ($r=0.261$, $p=0.048<0.05$). This is to mean that an increase in any of these safety measures would lead to increase employee's occupational health and safety.

This concurs with findings of a study by Muchemedzi and Charamba (2006) which shows that use of protective gears, training of workers on safety issues decreased injuries and resulted to increased savings in first aid expenses thus high productivity. It is the obligation of the employer to ensure that the safety measures are put in place. A study by Koopman *et al.* (2002), revealed that most OHS statutory instruments state that it is the employer's obligation to provide a safe working environment for the workers. This can be done through disclosing accident statistics and to keep appropriate records as well as training and orienting/informing the workers of the dangers that are eminent in their work. This information can be posted on areas that all workers can see, for example notice boards.

4.5 Effects of Occupational Health & Safety Concerns and Employees Productivity

In this section, the study sought to establish the effects of the occupational hazards/accidents on the employees and the company; and further determine the extent to which occupational hazards and accidents in the company affects the employee's productivity.

4.5.1 Occupational Hazards/Accidents on Employees and Company

Table 4.7: Occupational Hazards/Accidents on Employees and Company

Effects	Frequency	Percentage
Increased accident	58	76.3
Increased absenteeism	51	67.1
Decreased productivity	42	55.3
Increased hospital bills	49	64.5

According to 76.3% (n=58) of the respondents, occupational hazards and accidents in the company led to decreased productivity while 67.1% (n=51) indicated that it led increased absenteeism. On the other hand, 64.5% (n=49) of the respondents revealed that the accidents led to increased hospital bills and increased life insurance claims 55.3% (n=42). According to the company safety reports and statutory audit reports for the year 2013 and 2014, the researcher observed that the company sick off and lost man hours was high as compared to previous years. This led to increased hospital bill as indicated in the reports hence lowering the productivity. Causes of this lost time injuries were as a result of dust, poor guarding of machines and not following laid down procedures for the jobs done.

On the other hand, the inferential analysis results shows that there was a significant relationship between employees' occupational hazards and accidents and increased absenteeism ($r= 0.192$, $p= 0.038<0.05$); increased life insurance claims ($p=0.087$, $r=0.000<0.05$); increased hospital bills ($r=0.318$, $p= 0.008<0.05$). The findings are in line with those of McCunney (2001) who revealed that the health risks at work and failure of employees to participate in health promotion programmes are associated with higher rates of employee absenteeism and low productivity.

4.5.2 Extent Occupational Hazards and Accidents Affect Employees Productivity

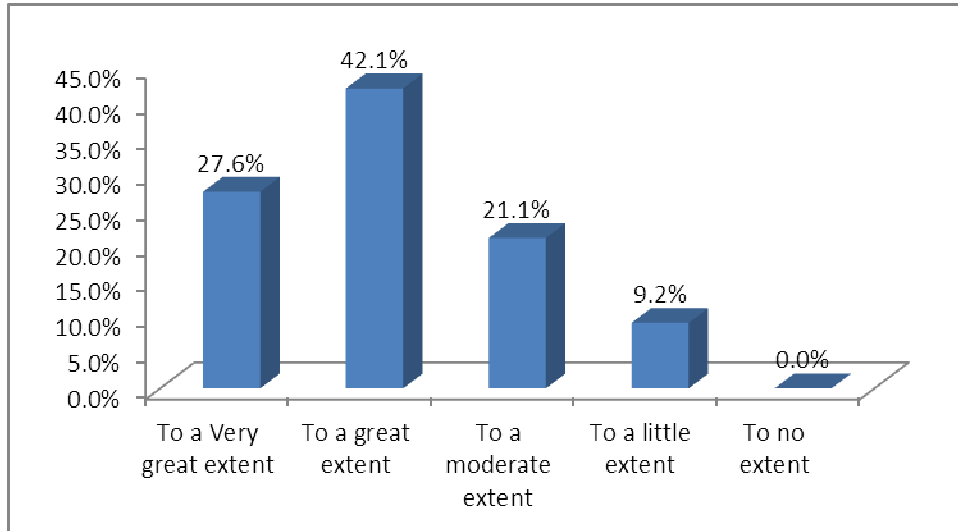


Figure 4.8: Extent Occupational Hazards/Accidents Affect Employees Productivity

According to n=32 (42.1%) of the respondents, occupational hazards and accidents in the company affect employees productivity to a great extent; this was further agreed upon by n=21 (27.6%) of the respondents who indicated that it affects productivity to a very great extent. A case in point was observed when the researcher was informed of a worker who was a lee loader operator and was injured while working and since his injury 2 months after; the machine has been parked awaiting him to heal to continue with his job. This injury had stopped operations on his side and when the management was asked on the way forward they said they are yet to recruit an alternative person.

The inferential results shows that there was a negative but significant relationship between occupational hazards and accidents in the company and employees productivity as shown by $r = -0.462$, $p = 0.000 < 0.05$). This is to mean that an increase in occupational hazards and accidents in the company would lead to a decrease in employees productivity/performance and vice versa.

These findings concurs with those of McCunney (2001) and also Webb (1989) who studied a workstation change and found out an increase in employees productivity within less than three months after measures were put in place to reduce physical strain of work and use of appropriate machinery in the work station.

4.5.3 Extent the Measures Improve Occupational Health and Safety in the Company

In this section the study sought to determine the extent to which the various measures could improve occupational health and safety challenges in the company. The results are presented in table 4.7 below.

Table 4.8: Measures to Improve Occupational Health and Safety in the Company

Measures	Mean	Std. Dev.
Constantly reviewing health and safety practices	4.50	0.527
Regular training to employees on safety issues	4.30	0.675
Engagement of safety expert to re-design occupational health and safety policies for the company	3.60	1.430
Creating the environment for staff to freely report on occupational health and safety	4.30	0.483
Supervision and safety management	4.60	0.516

Majority of the respondents indicated that measures such as supervision and safety management, constant reviewing of health and safety practices and regular training to employees on safety issues could improve occupational health and safety concerns in the company to a great extent; this is presented by mean scores of 4.60, 4.50 and 4.30

respectively. Moreover, the respondents reported that creating an environment that staff can freely report on occupational health and safety matters and engagement of safety experts to re-design occupational health and safety policies for the company could also improve the situation to a great extent; this is shown by mean scores of 4.30 and 3.60 respectively on the like scale.

The statistical results shows that there was a positive and statistical significant relationship between measures put in place to improve occupational health and safety in the company and the employees productivity as show: constantly reviewing health and safety practices ($r=0.125$, $r=0.050$); regular training to employees on safety issues ($r=0.257$, $p=0.029<0.05$); engagement of safety expert to re-design occupational health and safety policies for the company ($r=0.424$, $p=0.004<0.05$); creating the environment for staff to freely report on occupational health and safety ($r=0.308$, $p=0.006<0.05$); supervision and safety management ($r=0.514$, $p=0.000<0.05$).

These findings are in line with the Health and Safety Executive (2006) report there is need for organizations to simply attain the minimum legal compliance and implement the best practice of OHS. The report shows that there is clearly a vicious circle in that a healthy and happy workforce is more productive. Therefore there is need for a workplace improvement in terms of occupational health and safety for the benefit of the employer and the employee in order to increase productivity.

4.6 Occupational Health and Safety Policy and the Benefits Accrued

The study sought to establish whether the organization has an Occupational Health and Safety Policy and the benefits accrued from the policy. The results are presented below.

4.6.1 Existence of Occupational Health and Safety Policy in the organization

Table 4.9: Occupational Health and Safety Policy in the organization

Responses	Frequency
Yes	76
No	0
Not aware	24
Total	100.0

Table 4.8 shows that 76% of the respondents (n=76) reported that EAPCC has an occupational health and safety policy while 24% was not aware of the policy in place. The majority of the people who were aware of the policy few knew the content while others did not. The researcher sampled a few workers and asked questions on the policy but you could see most of the people struggling to remember the content of the policy this showed the policy awareness was low hence need to create more training awareness.

This concurs with Health and Safety Executive (2006) report which emphasizes on organizations implementation the best practice of OHS in order to ensure workers are safe and healthy hence improving the their productivity.

4.6.2 Effectiveness of the Occupational Health and Safety Policy

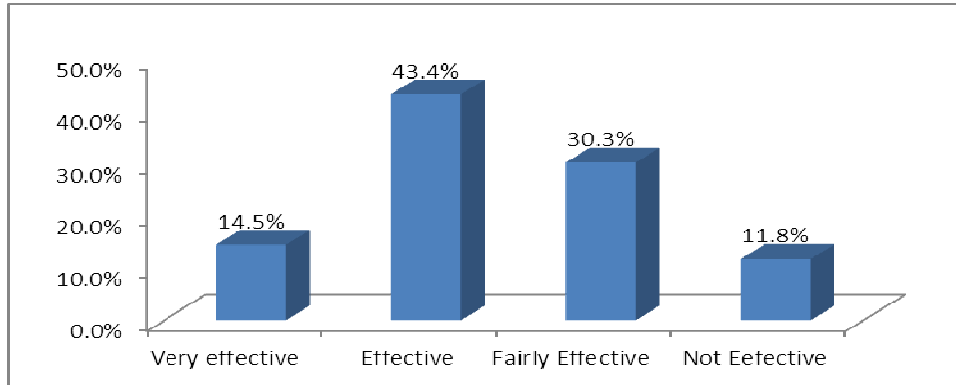


Figure 4.9: Effectiveness of the Occupational Health and Safety Policy

The study shows that most of the respondents 43.4% (n=33) reported that the occupational health and safety policy company was effective in reducing occupational hazards and improving safety among employees in the company. However the researcher noted despite the workers reporting good effective of the policy there was need to create more awareness of the policy to make it more effective.

A further 14.5% (n=11) indicated that the policy was very effective; however, a significant number of the respondents 30.3% (n=23) indicated that the policy was ineffective. The inferential analysis show that there was a positive and significant relationship between the occupational health and safety policy and employees productivity ($r=0.482$, $p=0.026<0.05$).

The findings concurs with McCunney (2001) who asserts companies should ensure that effective OHS programmes and policies are existent, since when these OHS programmes are in place, it is more likely that the worker participates in order to preserve his/her life. The Health and Safety Executive (2006) report also supports this stating that a OHS programme would be effective in ensuring workers safety and company's productivity.

4.6.3 Occupational Health and Safety Policy and OSHA 2007

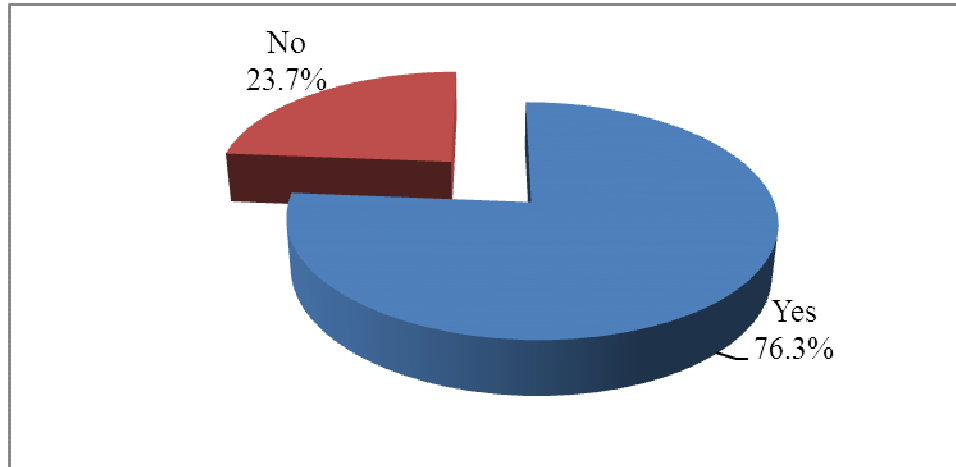


Figure 4.10: Occupational Health and Safety Policy and OSHA 2007

According to n=58 (76.3%) of the respondents, the existing occupational health and safety policy in EAPCC is in tandem with the Occupational Safety and Health Act No.15 of 2007. However, n=18 (23.7%) of the respondents reported that the policy was not in line with OSHA which emphasize the right to safe and healthy working conditions. The researcher sought to understand why the policy was not in line with the OSH act and the workers reported that the accident recorded

From the findings, EAPCC has an occupational health and safety policy in that is guided by the OSHA 2007. However, Health and Safety Executive (2006) report emphasizes that there is need for organizations to simply attain the minimum legal compliance and implement the best practice of OHS. This would improvement the employees working conditions and the environment which would further benefit the employer and the employees and increase productivity in the company.

4.6.4 Benefits Accrued from Implementation of the Occupational Health and Safety Policy

In this section, the study sought to establish the benefits that the company and the employees had accrued as result of implementation of the company’s policy on occupational health and safety. The results are shown below in table 4.10.

Table 4.10: Benefits Accrued

Benefits	Mean	Std. Deviation
Decrease accident rates	4.50	0.972
Decreased absenteeism	4.40	0.516
Decreased insurance claims	4.10	0.568
Lead to a better working condition	4.30	.675
Enhance employees performance	4.30	0.527
Get different perspective on hazards	4.10	0.876
Workers take ownership for safety and health issues	3.60	0.516
Make employees more aware of safety and health issues	4.00	0.699

Majority of the respondents agreed that implementation of the occupational health and safety policy by the company had decreased the accident rates, decreased absenteeism, led to a better working condition and enhanced employees performance; this is shown by means scores of 4.50, 4.40, 4.30 respectively. The study also agreed that with the implementation of the occupational health and safety policy, there were decreased costs in the company due to reduced insurance claims (4.10), the employees were more aware of safety and health issues (4.00); and that workers now took ownership for safety and health issues (3.60).

The statistical analysis result shows that there was a positive and significant relationship between employees productivity and: decrease in accident rates ($r=0.504$, $p=0.000<0.05$); decreased absenteeism ($r=0.496$, $p=0.002<0.05$); decreased insurance claims ($r= 0.283$, $p=0.047<0.05$) and better working conditions ($r=0.097$, $p=0.001<0.05$).

The above findings on the benefits accrued from the implementation of the occupational health and safety policy is supported by various authors. For instance, Webb (1989) found out that when measures to reduce physical strain of work and use of appropriate machinery in the work station were put in place, there was an increase in productivity within less than three months after that change. Muchemedzi and Charamba (2006) also shows that use of protective gears, training of workers on safety issues (compliance with OHS) decreased injuries and resulted to increased savings in first aid expenses thus high productivity. On the other hand, McCunney (2001) found out that existence of OHS programmes and policies enhanced workers productivity. These findings are also echoed in the Health and Safety Executive (2006) report revealed that OHS programme is effective in ensuring workers safety and company's productivity.

4.6.5 Challenges in Implementation of the Occupational Health and Safety Policies

The respondents acknowledged that there were challenges in the implementation of the occupational health and safety policy in the company. They stated that there lacked effectiveness in monitoring the quality of policy execution which led to untimely correction of causes of incidences. Another challenge was lack of effective supervision whereby for instance the quarries are far away from the main factory; hence difficult to have an effective supervision. There has also been cases of resistance from both the management and the staff and also lack of resources; both financial resources and other technical enhancement required to realise a safe work environment.

This affected effective implementation of occupational health and safety management system in the company.

4.7 Regression Analysis

A multivariate regression model was applied to determine the relationship between occupational health, safety and the performance of employees in EAPCC. The results are as shown below:

Table 4.11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.930(a)	0.865	0.798	0.427

A Predictors: (Constant), occupational health concerns, occupational safety concerns

Adjusted R^2 is called the coefficient of determination and tells us how performance/ productivity of employees varies with the occupational health and safety concerns. From the regression model summary above, the value of adjusted R^2 is 0.798. This implies that occupational health and occupational safety (independent variables) explains 79.8% of performance of employees; the remaining 20.2% would be explained by other variables not included in the study.

Table 4.12: Coefficients Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.559	1.430		1.090	0.000
	Occupational health concerns	-0.925	0.161	-1.304	-5.745	0.001
	Occupational safety concerns	-0.777	0.141	-1.170	-5.503	0.002

a Dependent Variable: Employees performance/ productivity

From the regression analysis, the following regression equation was established:

$$Y = 1.559 - 0.925X_1 - 0.777X_2$$

From the above regression model, holding all variables constant, employee performance would be at a unit of 1.559. Further, a unit increase occupation health concerns would cause a decrease in performance by a factor of 0.925 and; a unit increase in occupational safety concerns would cause a unit decrease in productivity of employees by a factor of 0.777. Both the relationships are significant as shown by the p value ($p=0.001<0.005$) and ($P=0.002<0.005$).

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion and recommendations

This chapter is a synthesis of the entire report and contains the conclusions arrived at, policy recommendations and recommendations for further research.

5.2 Conclusions

The following conclusions were made based on the study findings.

The study concludes that exposure to dust, high temperatures, noisy environment and exposure to allergic industrial substances were the major occupational health and safety concerns in the company. However, the company has put measures to improve occupational health and safety in the company. Some of the measures put include supervision and safety management, constant reviewing of health and safety practices and regular training of employees on safety in a bid to improve occupational health and safety concerns in the company.

The study concludes that occupational health and safety significantly affects employee productivity in EAPCC. There have been efforts to establish and implement an occupational health and safety policy. However, there cannot be any effective occupational health and safety policies if both employers and employees fail to perform their respective responsibilities.

The company has an occupational health and safety policy. The policy can be effective in reducing occupational hazards and improving safety among employees in the company. However, implementation seems to be a problem. Accidents are costly both to the affected worker and the organization. Increased accidents lead to increased

absenteeism and increased hospital bills. Therefore, every effort should be made in order to avoid them from happening at the work place.

5.3 Recommendations

The following recommendations were made based on the findings of the study:

Education and training: Management of EAPCC should organize regular training, workshops, seminars on health and safety for staff, publish materials on safety and many other steps to inculcate safety consciousness in the minds of workers. Employees should be made to understand that safety and health practices are the responsibility of both management and staffs and this will go a long way to make the work area safe. Management should provide and maintain at the workplace, adequate plant and system of work that are safe and without risk to health.

Provide the necessary information, instruction, training and supervision having regard to the age literacy level and other circumstances of the worker to ensure, so far as reasonably practicable, the health and safety at work of those other workers engaged on the particular work. Some accidents that happen could have been avoided if effective supervision were carried out during the execution of duties at the work place. Management must share hazard and risk information with other employers including those on adjoining premises, other site occupiers and all sub-contractors coming on to the premises. Proper dissemination of risk information is important in ensuring safe and healthy working environment.

The study recommends that the management should institute a safety committee to be in charge of all health and safety related issues. The safety committee should be responsible for studying trends in accidents with the view to making suggestions for corrective actions, examining safety reports, and making proposals for avoiding

accidents. Through examining and discussing reports from safety representatives, the safety committee should make proposals for new or revised safety procedures.

Workers should be given enough insight of the risk and dangers inherent in their work at the work places. Through education some of these accidents could be minimized if not eradicated entirely. The provision of protective clothing and putting in place safety and health measures is not enough. Management should put in place a regular monitoring team who will go round to check whether the employees really do put on their protective materials given to them before doing their duties and also observe in strict terms safety measures put in place in order to avoid any mishaps and accidents.

5.4 Suggestion for Further Research

This study sought to determine the occupational health and safety concerns of employee's and how it affects their performance in EAPCC. This study was limited to a company in the cement industry. The researcher recommends that a replica study be conducted in other manufacturing firms in Kenya for comparison of results. The study can also include government agencies who deal with occupational health and safety polices, so as to make the study inclusive of all the stakeholders.

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APPENDICES

Appendix 1: Questionnaire

SECTION A GENERAL INFORMATION

1. Name of the respondent (optional) _____
2. Gender
Male Female
3. Highest completed level of education
O- Level College Level Under- graduate Graduate
Post Graduate Degree
4. Age bracket:
18-25years 25-35 years 36-45years

46-55years Over 56 years
5. Number of years worked in EAPCC
0-5 years 6-10 years 11-15 years
16-20 years Over 20 years
6. The section you work for.
Top management Middle management Process
Packing plant Mechanical Electrical
Projects Laboratory
Other (specify).....

7. Please indicate your terms of employment

- Permanent Contract
Casual basis

Section B: Occupational Health and Safety Concerns

8. What are the major occupational health and safety concerns in the company?

Exposure to dust () High temperatures () Allergic industrial substances

()

Slippery floors () Noisy environment/ exposure () Radiation exposure ()

b). Any other (splease specify).....

9. Have you suffered any accident or injury in the organization since you were engaged?

- a) Yes () b) No ()

10. If Yes, did you report the accident to the appropriate authorities and what actions were taken to forestall the occurrence of the same accident or injury.....

.....
.....
.....

11). What were the causes of the accidents?

- a) Lack adequate of training on health and safety ()
b). Non provision of adequate protective clothing and equipment ()
c). Ignorance on health and safety matters ()
d). Not sure ()

Others (specify).....

12). How regular is training organized for staff on occupational health and safety?

Quarterly () Biannually () Annually ()
 No definite time fixed for training ()

13). How often is monitoring, inspection and evaluation conducted?

Quarterly () Biannually () Annually ()
 No definite time fixed for monitoring ()

14. Are you satisfied with what management is doing currently to improve upon occupational health and safety of the workers in the company?

a) Yes () b) No ()

15) Indicate how satisfied you are with the current occupational health and safety measures put in place

a) Very satisfied () b) satisfied () Dissatisfied () d) Very Dissatisfied ()

16). To what extent are some of the following safety measures put in place in your department? Use a scale of 1-5 where 5 is to a Very great extent, 4 is to a great extent, 3 is to a moderate extent, 2 is to a little extent while 1 is to no extent.

Safety Measures	1	2	3	4	5
Using protective clothing					
Prompt reporting of accidents/injuries					
Safety training as part of orientation on first employment					
Proper disposal of waste					
Regular monitoring on safety and health standards to ensure if they are complied with					
Re-training on safety and health practices					

On overall, to what extent do you agree that the following occupational health and safety concerns affects the employees productivity ion your organization. Use a scale of 1-5 where 5 is strongly agree, 4 is agree, 3 is neutral, 2 is disagree while 1 sia strongly disagree.

Concerns	1	2	3	4	5
Work place safety					
Employee Health					
Work Environment					

Section C: Occupational Health & Safety Concerns and Employees Productivity

17. What are the major effects of occupational hazards and accidents on the employees and the company?

Decreased productivity () Increased absenteeism ()

Increased insurance claims () Increased hospital bills ()

b) Others Specify.....

18. To what extent to you think the occupational hazards and accidents in the company affects the employees productivity/performance?

To a Very great extent () To a great extent () To a moderate extent ()

To a little extent () To no extent ()

19. To what extent do you think the following measure can improve occupational health and safety challenges in the company? Use a scale of 1-5 where 5 is to a Very great extent, 4 is to a great extent, 3 is to a moderate extent, 2 is to a little extent while 1 is to no extent.

	1	2	3	4	5
Constantly reviewing health and safety practices					
Regular training to employees on safety issues					
Engagement of safety expert to re-design occupational health and safety policies for the company					
Creating the environment for staff to freely report on occupational health and safety					
Supervision and safety management					
Others.....					

Section D: Occupational Health and Safety Policy and the Benefits Accrued

20. Is there an occupational health and safety policy/strategy in the organization?

Yes () No ()

22. If yes, how effective has the occupational health and safety policies been in reducing occupational hazards and improving safety among employees in the company

Very effective () Effective () Fairly Effective () Not Effective ()

23. Do you think the occupational health and safety policy in your organization is in tandem with the Occupational Safety and Health Act No.15 of 2007 which emphasize the right to safe and healthy working conditions?

Yes () No ()

24. To what extent has the implementation of the occupational health and safety policies in the organization resulted to the following benefits?

Statement	Strongly agree	Agree	Somehow agree	Disagree	Strongly disagree
Decrease accident rates					
Decreased absenteeism					
Decreased insurance claims					
Led to a better working condition					
Enhance employees performance					
Get different perspective on hazards					
Workers take ownership for safety and health issues					
Make employees more aware of safety and health issues					

b). What other benefits have been accrued as a result of the implementation of the occupational health and safety policies in the organization?

.....

25. Is there any challenges in the implementation of the occupational health and safety policies in the organization? State them

.....

THANK YOU FOR YOUR PARTICIPATION

Appendix II: Request to the Identified Organization to Carry out Research

Jomo Kenyatta University of Agriculture and Technology

P.O BOX 25713 – 00100

Nairobi, Kenya

23rd August 2012

Dear Respondent,

I am a master's student at Jomo Kenyatta University of Agriculture and technology, Reg. No. EET32-0322/2010 pursuing a Master of Science Degree in Occupational Safety and Health.

I intend to carry out my research which is a questionnaire based case study entitled *Establishing employees perception on occupational health and safety concerns at east African Portland cement*. The data gathered will be treated with confidentiality. The findings of the study will not be used for any other purpose other than for academic progress.

Attached please find an introduction letter from the institute and a copy of my questionnaire. Please consider this letter a request in your institution and assist in honestly answering the questions in this questionnaire.

Looking forward for your consideration.

Thank you.

Yours faithfully,

JUDITH M. MAILU

Appendix III: Letter of Introduction to Respondents

Jomo Kenyatta University of Agriculture and Technology

P.O BOX 25713 – 00100

Nairobi, Kenya

23rd August 2012

Dear Respondent,

SUBJECT: JUDITH M. MAILU – EET32-0322/2010

The above named person is a Masters student at the institute of Energy and Environmental Technology (IEET) in Jomo Kenyatta University of Agriculture and Technology pursuing Masters in Occupational Health and safety. She is currently in the process of collecting data for her research on establishing employee's perception on occupational health and safety concerns at East African Portland Cement.

Any assistance given to her will be highly appreciated and the information given therefore shall be treated professionally and shall only be used for the purpose of producing the thesis as required and no other reports or publication shall be made using the data. The student has undertaken to follow the research ethics as stipulated by the institution.

Thanks you for your assistance.

DR. R. KINYUA

DIRECTOR, INSTITUTE FOR ENERGY AND ENVIRONMENTAL TECHNOLOGY