International Journal of Latest Research in Engineering and Technology (IJLRET)
ISSN: 2454-5031
www.ijlret.com || Volume 03 - Issue 12 || December 2017 || PP. 72-97

Determinants of Employees Health and Safety Programs: A Case of Kipevu III Thermal Power Plant Mombasa, Kenya

Andrew Kibet Langat

Abstract: The objective of the research were to determine the factors that influence occupational safety and health practices at the kipevu 3 and contribution of health and safety measures of working environment and also assesses the impact of work environment as on working condition and the effects of health care on workers. The other aim is to develop a theoretical framework to explain relationships involved, the importance of health and safety by both to the administration and the employees. It has also identified health and safety practices, current situation and preventive measures which should be taken to improve the situation The success by any organization depends largely on the constant enforcement and review of health and safety measures. The virtual aspect is to keep health and safety practices as a top priority. The research involved review of literature and occupational health and safety from various books which concluded that effective health and safety policy and programs are vital and legal requirements for any organization with more than five employees. The study involves various statistical analyses on both secondary and primary data obtained from kipevu 3 power plant. Qualitative data was obtained from about 67% of the staff using a self administered questionnaire. Interview and observation guide was also used during the study. The result of the study demonstrates that there is need for a provision of adequate HSE facilities and proper support by the management. However there is a correlation between company financial condition, Infrastructural facilities, health and safety trainings, leadership and commitment to health and safety programs at the plant. In addition it was found out that most of the employees are literate and hence could read and understand safety rules and regulations and most have undergone through health and safety trainings. It was also established that the company has invested on health and safety infrastructure. The research recommends that trainings on health and safety should be mandatory on recruitment and when the risks change. This can be done through seminars, workshops, meetings and on job trainings. The management should ensure provision of enough protective equipment, devices and clothing's to safeguard against hazards and ill health. The research makes suggestion that a risk assessment be carried out in all the power plants and a similar study be conducted in other power plants including hydro-power, wind and geothermal power plants.

Introduction

1.1 Background of the Study

Today health and safety is a major function of any organized human resources department. Health and Safety Programmes are concerned with protecting employees and other people affected by what the organization produces and does. It aims at protecting employees from the dangers emanating from their workplaces. HSE Programmes deals with the prevention of any unsafe act at workplace. Wayne,(1986) observes that accidents result from two causes, unsafe work conditions (physical and environmental) and unsafe work behaviors. Unsafe physical conditions include defective equipment, inadequate machine guards, and lack of protective equipment. Unsafe conditions and noise, radiation, dust, fumes and stress, therefore the organizations needs to put health and safety programmes in their manufacturing firms to make sure that employees don't conduct injuries or get accidents due to unsafe conditions. The occupational safety and health administration establishes and enforces the necessary safety and health standards.

According to world health organization, workers safety entails various issues include physical, social and psychological stability. To meet this requirements certain organizations factor in their policy thrusts, guaranteeing employees of safe workplace to facilitate enhancement of physical, mental, and emotional factors. Human resource as plays a pivotal role in contemporary management. This is pegged on its ability to manipulate the assets with an intention of getting an output. Therefore health and safety should not be viewed as a separate function or responsibility because it aims at improving productivity, profitability and competiveness of a firm (Pike, 2000). Employees should be protected from occupational hazards which may affect them. Health and safety at work place and employee's welfare and maintenance emerged with the onset of industrialization.

1.1.1 Health and Safety Programmes

Aswathappa, (2007) states that safety programmes of an organization, industrial accidents emanate from poor management particularly with regard to upholding safety standards at work. Amongst the issues is the inadequate supervision, lack of focus in identification analyzing and elimination hazards coupled with poor training facilities. Key role of safety programs is to effectively facilitation of safe acts and swift remedial action taken which is necessitated by the presence of established safety structures both for communicating unsafe acts with the potentiality of causing accidents, damage or injury.

Relevant safety records, adequate procedures incorporating the important checks, investigation and inspections. Ways of ensuring safety equipment maintenance and usage. Proper ways of ensuring that leader and their followers give priority to safety matters Top management have a key role in formulating safety policies, besides being involved in monitoring to ensure that the corrective action is implemented where necessary Armstrong, (2006) states that safety programs deal with the prevention of accidents and with minimizing the resulting loss and damage of persons and property and that they relate more to systems of work than the working environment. Employees should be given instructions in first aid procedures including specialized techniques resuscitation, using the techniques when the employees is at risk

Working in an environment where lives are at risk due to the condition occasioned by spillage or poisonous emissions which have an implication of causing severe injury or death upon contact with the body tissue, warrant an installation of important safety devises including emerging showers that provide a first aid in an event of exposure to hazards requiring an emergency intervention. Specialized trainings to employees on the hazards and the importance of using PPEs while performing any task will help in eliminating such accidents. Team leaders are responsible for the job training. Specialized trainings can be incorporated by top management to supplement supervisory work as provided in the in job analysis and injury prevention (Aswathappa, 2007).Wendell,(2003) suggests that managing safety and health is one of the more difficult areas of management influencing the attitudes and behaviors that contribute to accidents. The challenge of safety management is to influence people to apply the safety principles. Mark (2010) defines health and safety programmes as demonstrating a model programme that emphasis management commitment and employee involvement. Management commitment provides the motivating force and the resources for organizing and controlling activities within an organization. In an effective programme, management regards workers, safety and health as a fundamental value of the organization and applies its commitment to safety and health protection.

According to Robert, (1994) the maintenance of safe working conditions and the prevention of accidents are most important. Accidents prevention is the responsibility of the management and it is usually dedicated to the Human Resource Manager. In other organizations it may be the responsibility of workers, engineer or managers. The health and safety at work Act 1974 lays down broad duties which are supplemented by more detailed regulations, UK .The principle duty which the Act puts on employers as to ensure the health, safety and welfare at work of all employees. This deals with the plant and systems of work, handling and storage of materials. Mark, (2010) defined occupational safety and health as to concern the preserving and protecting of human and facility resources in the workplace. Practitioners in the field try to prevent needless deaths and injuries to workers. The discipline involves more than first aid activities and far reaching both in scope and practice. The occupational safety and health administration Act was created in 1970 within the US department of labour. It was designed to reduce occupational diseases and on the job injuries.

The official mission of occupational safety and health is to ensure workers' safety and health in United States by working with employers and employees to create better working environment. In Kenya we have the health and safety Act (2007) Labour Laws which deals with health and safety and welfare of employees at the workplace. It requires an employer to create a safe and healthy conducive environment and the workplace to prevent injuries and ill health on employees and also prevent damage to property.

KenGen (Kenya Electricity Generating Company Limited), the leading power generation company in Kenya, produces more than 80 percent of electricity consumed in the Kenya utilizing various sources ranging from hydro, geothermal, thermal, wind and solar. To offset increasing demand for affordable electricity and reduce the nation's exposure to the variability of hydro resources, it invited bid on 23rd July 2009 for EPC (Engineering procurement and commissioning) installation of approx 120 MW thermal power plant on fast track basis. The earliest completion of the plant is crucial and there is huge penalty for delay. It is to be located opposite Tsavo power plant (A 74 MW project consisting of 7 x W18V38 Wartsila engines commissioned in 2001) in Mombasa very close to the port and named as Kipevu-III Power plant.

1.2 Statement of the Problem

Health and safety principles are universal; the organization therefore plays a major role in mitigating the hazards prevailing while executing their daily production or services, and the adequacy of its existing

arrangements. Sound management practices on health and safety are the key tenets trumpeted by proponents of quality management they have a bearing towards, safeguarding life environmental protection, and business excellence. It is universally acknowledged that successful companies excel in health and safety matters and apply same techniques to all other areas in their organization. Besides protecting the physical phenomena through quality management, there is need also to protect employees through health and safety approaches. As described in ISO 9000 (QMS) and ISO 14000 (EMS) there are similar approaches between health and safety.
According to world health organization, workers safety entails various issues include physical, social and psychological stability. Certain organizations have initiated policies to ensure that works are done in safe conditions. Human resource has a key role in manipulating the resource to give the desired output. Dollard and Neser (2013) discovered that upon managing the range of other variables, employee's health and safety accounted for 13 percent of variation in GDP this being the statistics sampled across their countries. Management has strategically and deliberately attracted human capital for the desired labour and this is done by providing safe working environment.

There have been various studies on the determinants of health and safety programs, michael (2001) on health and safety on open shop construction companies in USA examined that given the transient nature of the construction industry both in terms of the jobsite and the workforce, it is understandable that a contractor might not immediately see the value of providing safety and health training to their workers. Mutemi, (2005) carried out a survey of the occupational health and safety programmes adopted by chemical manufacturing firms in Nairobi. He found out that health and safety hazards which are considered as very crucial by most of the firms mostly are fire, smoking, flammables and chemical exposure, however, he left a gap of study in the food manufacturing, construction industry, flower processing, and cement manufacturing industries. Kariuki, (2006) conducted a survey on the perception of staff welfare programmes in large manufacturing firms in Nairobi. She found out that most of the firms provided staff welfare programmes such as sickness, bereavement, counselling programmes; however, she left a gap of finding out whether there is any relation between provision of staff welfare programmes and financial performance and stability of the firm. Given the large body of evidence on Health and Safety programs, there is also need to investigate the health and Safety programs in Kipevu III thermal power plant in Mombasa, Kenya. Motivated by this gap in literature, the study sought to answer the question: What are the determinants of the employees' health and Safety Programs in Kipevu III thermal Power Plant in Mombasa Kenya?

1.3 Purpose of the Study

The purpose of this study is to investigate determinants of employee's health and safety programs at Kipevu III thermal power plant in Mombasa Kenya.

1.4 Research Objectives

This study is guided by the following objectives

i. To establish how financial state of the company influence employees' health and safety programs in Kipevu iii thermal power plant.
ii. To establish how leadership influence employees' health and safety programs in Kipevu iii power plant.
iii. To establish the extent to which the infrastructural facilities influence the employees' health and safety programs in Kipevu iii thermal power plant.
iv. To establish the extent to which health and safety trainings influence employees' health and safety programs in Kipevu iii thermal power plant.
v. To determine the moderating influence of training and capacity building in health and safety programs in Kipevu iii thermal power plant.

1.5 Research Questions

The study sought to answer the following questions;

i. How does financial state of the company influence employees' health and safety programs in Kipevu iii thermal power plant?
ii. To what extent does Leadership and management commitment to employees' health and safety influence their employees' health and safety programs in Kipevu iii thermal power plant?
iii. How do infrastructural facilities influence employees' health and safety programs in Kipevu iii thermal power plant?
iv. How do trainings affect employees' health and safety programs in Kipevu iii thermal power plant?

1.6 Research hypothesis

The research hypotheses for this study are as follows:

i. Ho: There is no relationship between financial status and employees Health and Safety Programs in Kipevu III Thermal Power Plant Mombasa Kenya.
   Ha: There is a relationship between Financial Status and employees Health and Safety Programs in Kipevu III thermal Power Plant Mombasa Kenya.
ii. Ho: There is no relationship between Infrastructural facilities and employees Health and Safety Programs in Kipevu III thermal Power Plant Mombasa Kenya.
   Ha: There is a relationship between Infrastructural facilities and employees Health and Safety Programs in Kipevu III thermal Power Plant Mombasa Kenya.
iii. Ho: There is no relationship between leadership and Commitment and employees Health and Safety Programs in Kipevu III thermal Power Plant Mombasa Kenya.
   Ha: There is a relationship between leadership and Commitment and employees Health and Safety Programs in Kipevu III thermal Power Plant Mombasa Kenya.
iv. Ho: There is no relationship between Training and Capacity building and employee Health and Safety Programs in Kipevu III thermal Power Plant Mombasa Kenya.

1.7 Significance of the Study

The research findings may help to create awareness, especially to the employees, on the importance of their safety within the work and even outside work. Awareness of that safety plays a major role in day to day life. Management and other stakeholders would be equipped with understanding of their major roles in mitigating workplace risks particularly when putting up strategies to help in reduction of risks that are a threat to employee's safety. The study also sought to equip the employees on the in-depth knowledge on the implications of unsafe working conditions to both the employees, the company, the community and to the country at large it also sought to make recommendations for policy makers and those involved in approving establishments of industries. In addition, the study may form a strong basis for further academic research in areas pertaining to workplace safety and health

1.8 Limitation of the Study

Limitations are the shortcomings, conditions or influences that cannot be controlled by the researcher that place restrictions on your methodology and conclusions. Some of the limitations of this study are as follows:

i. Time constraint

The time allocated to this research is limited while the researcher has fulfilled most of the requirements of the study in a given duration; the researcher will not be able to reach a wider sample considered comprehensive within the allocated period of time.

ii. Inadequate Finances

Financial resources required to cover the laid down budget was not sufficient

iii. Confidentiality

Due to the nature of the study, the participants in this research might disclose some information which may fall in the hands of competitors.

1.9 Delimitation of the Study

The study is designed to investigate the determinants of employee health and safety programs in Kipevu iii. The study findings may be generalized for thermal power plants under similar operating conditions and may not extensively apply in other mode of power generation i.e. hydro-power, geothermal, wind and solar energy

1.10 Assumptions of the Study

This study is anchored on the fact that the organization and other stakeholders are making every effort to ensure the programs of health and safety standards were achieved and that all respondents would be cooperative and give honest and unbiased responses.

1.11 Definition of significant terms

Financial Status of the company

The status of the assets, liabilities, and owners' equity (and their interrelationships) of an organization, as reflected in its financial statements. Also called financial condition that ensures the employees health and safety programs are implemented in the organization.

Infrastructural Facilities

This comprises of the established health and safety structures in the organization including emergency response mechanisms, fighting system, fire detection systems, PPES, signage's, Instructions and procedures. They interface the human resource with the aim of eliminating or mitigating the risks emanating from the workplaces.

Leadership and Commitment

Leadership has been defined in terms of traits, behaviours, influence, interaction patterns, role relationships and occupation of administrative positions. Leadership is the process of influencing others to understand and agree about what needs to be done and how to do it; and the process of facilitating individual and collective efforts to accomplish shared objectives. House et al (1999) defined leadership as the ability of an individual to influence, motivate and enable others to contribute toward the effectiveness and success of the organisation.

Training and Capacity Building

This involves developing skills and competencies in various sections of workplace; it entails skills on how to use newly acquired machines, tool and equipments. It is teaching, or developing the employees and relevant stakeholders on any skills and knowledge that relate to specific useful competencies regarding safe working conditions at workplaces. It has the main objective of improving the capability and capacity to execute the assigned tasks safely which goes hand in hand to improving the productivity The urge to train beyond the basic technical skills for various roles at workplaces should continue particularly beyond initial qualifications this maintains and elevates the skills through work life. It also entails sharing life experiences (REX-Return on experience).

1.12 Organization of the Study

This study is organized into five chapters. Chapter one entails the background of the study, statement of the problem, objectives of the study, research questions, and purpose of the study, significance of the study, scope/organization of the study, basic assumptions of the study, operational definition of terms and organization of the study. Chapter two is the literature review and has been organized according to the objectives of the study. A theoretical framework and conceptual framework are at the end of this chapter. Chapter three presents the methodology, that is, the research design, location of study, population and sample, sampling procedure, research instruments, pilot study, administration of research instruments and data collection procedures, internal validity and reliability, data analysis and considerations in operationalization of variables.

Literature Review

2.1 Introduction

This chapter gives an extensive discussion of the determinants of employee health and safety programs, theoretical framework of the study, a review of occupational health and safety, importance of health and safety, Employer and employee responsibilities.

2.2 Determinants of Health and Safety Programs

The recurrent challenges in employee health and safety have exposed many organizations to risk at workplace which in some cases do not lead to accidents. It has been a common phenomenon for institution to have challenges in employee programs of health and safety. Many companies, are exposed to higher risks at workplace which often than not do cause injuries to the employee or other client at place of work. Among the challenges on employees health and safety is attitude which exhibits itself in the form of employee negligence to adhere to the laid down health and safety norms, another key ingredient to employee health and safety is management commitment whose principle is to allocate available resources for production and ensure all the relevant requirements and supports are offered. Time, money and people are amongst the limited resources that the organization has to work with and ensure maximum benefits are derived. The core mandate of the managers is to ensure safety and health for employees under their lead. Resource allocation by management remains to be the key factors in ensuring accidents are eliminated. Management needs to be conversant on the types of resources allocated to safety and their criticality and impact when it comes to accidents reduction. This can be done by generating a criticality and priority matrix to enable in choosing the right resources for the sections. Petersen, (1988) indicated that traditional safety management efforts have run the gamut from the inspection era, the OSHA era, to the Accountability and the Human era. Petersen, (2000) explained that it is the management system which plays a critical role in injury rates. There is a clear demonstration that lower injury rate and higher production are associated to systemic management of health and safety. O'Toole (1999), in a

study of employee participation at eight manufacturing sites, found that lower incidence is occasioned by allowing the employees to participate in safety processes and has lowered incidences and lost time injuries with a corresponding drop in severity rates over time. There is need to encourage continuous learning by advising workers to be innovative and give quality works Drucker's (1999) high quality healthcare workplaces vision and action) engaging healthcare workers by the process of continuous learning with an aim of achieving high quality In the end, enhancement of overall performance and achieving better quality work life. Chu et al. (2000) explained that a healthy work organization model is now being proposed in both the health promotion and epidemiological literatures.

2.2.1 How Financial Factors influence Health and Safety Programs

Finance plays a major role in OHS matters. A better OHS program has brought savings which is associated to the improvements in the OHS. Costs associated with OHS are measured against benefits associated with improved OHS programs. Costs associated with health and safety and cost benefit analysis are the best techniques to measure the relevance of OSH.

2.2.1.1 Costs associated with health safety programs

As a matter of facts firms do not shoulder all the damage costs of work place injury and disease. Social costs on families, communities, national welfare system are in most occasions not internalized in the decision making as depicted by economic theory that less than the optimal degree of OSH is compensated to workers. In free market where alternative employment opportunities are open to employees cost with differential are only likely to arise. Competition is usually stirred by the mobility of labour which in turn makes the employers provide an attractive package in terms of wage, safety or bundled. There is always high chances of workers suffering with low pay vicious cycle in industries where the accidents are prevalent Asplund et al., (1998); Stewart and Swaffield, (1999); European Commission, 2004).

Employees are reluctant to quite their current jobs due to the offer basis which is on take-it-or leave–it basis this may imply joblessness as the only outside available options only. Biddle and Zarkin (1988), Herzog and Schlottmann(1990) explained that a variation usually arises between the workers' willingness to pay for risk reduction in the workplace through diminished wages and market valuations with respect to the level of risk exposure. Intervention of relevant government bodies' e.g directorate of occupational health and safety and the respective government policies were set not only to achieve equitable and efficient levels of OSH but to provide adequate information, set up standards and also imposition of penalties or prosecution to them that violates the safety provisions. According to Rosen, (1986); Arabsheibani and Marin, (2000); Hintermann et al., (2008), the cost benefits of alternative health and safety interventions is provided by the willingness estimates it also allows the measurement of the relative efficiency of different policies to be assessed. Establishment of business case on OHS programs has long history dating back to 1930s. There is a direct relationship between this study and other subsequent studies where the research seeks to demonstrate the business case for OHS which uses the general approach of identifying both direct and indirect costs of OHS Panopoulos and Booth (2007).

2.2.1.2 Health and Safety Cost benefits analysis

For any transaction there is a systematic way of identifying strengths and weaknesses that justify that transactions or functional requirements in any venture. For any venture to be adopted a technique or approach has to be adopted in order to determine the best option in terms of its benefits in cost and other variables such as labor and time. According to Edkins (1998) in the research on the implementation of a safety program adopted by a regional Australian airline, He concluded that the safety programs adopted by employees had a positive effect on safety performance. It lead to the improvements of employees understanding on OHS matters particularly understanding the hazards and the impending risks in the organization including willingness to report safety hazards and accidents. LeCouteur(1999)examined the implementation of an OHS management system in the local authority in victoria.

One of the major pillars on OHS is training which in most occasion has a direct and considerable influence on the company finances by the fact that there are several costs associated with training can have a considerable influence on company finances as there are several training costs that companies may incur in an event of setting up the OHS systems and forms part of the investment in terms of capacity building. Amongst the costs incurred include direct costs which include supervision instructor's salary and materials. The other type of costs is indirect costs which includes costs related to the worker output, and productivity upon completion of training. Due to the output increase the company tends to benefit in form of increase of productivity as a result of reduction in accidents. The employee also benefits immensely from this process considering that the increase in output translates to higher wages and opportunities for career advancement. According to Kaufman and Hotchkiss, (2006) the company will compare the costs and returns to training to

identify the amount of investment to incur. Planning plays a major role in attaining the benefits derived upon training, This then ought to be done in advance by ensuring that that the trainers and the trainees are prepared in advance. Kenney and Reid (1996) Explained that planning during training is an ultimate and deliberate intervention aim at achieving the objective of improving job performance.

There is an overwhelming net benefit outcome associated with cost benefit studies of OHS despite the biasness of publishing null or negative results thus providing the justification for the OHS programs intervention. There has to be clear analysis for the investment on OHS for a number of reasons, they include the variations between studies in terms assumptions regarding the rate of return on the investment initially invested and the time period which the returns are expected.

According to Uegaki et al.(2010) Owing to consequences occasioned by the advice given to business concerning economic advantages of investing in OHS program intervention. In the latest review studies done by, Baxter, Sanderson, Venn, Blizzard, and Palmer (2014) A detailed econometric assessment regarding cost benefit analysis of implemented workplace health and safety programs of workplace health promotion programs in 12 countries. An assessment of return on investment in work place OHS programs where two independent measures of study quality. Analysis indicated an overall net benefit on OHS programs even for studies assessed to be of lower quality.

2.2.2 Leadership and Commitment to OHS program

Findings indicate that managers play a key role in implementation of OHS and ensure its integration into the process that drives production or performance. The findings also suggest that managers play a critical role in signaling employees on the business focus around health and safe work behavior where among the key factors include leadership style and commitment, Job satisfaction, perception of management commitment to safety and finally employee participation on health and safety matters.

2.2.2.1 Leadership Styles

Behavior management is one of the key tenets shaping employee perception of risks**.** Beus, Payne, Bergman and Arthur (2010) expounded out that management commitment to OHS is the strongest indicator of occupational injuries. Several studies support this finding by addressing the link between leadership behaviors and styles including the health and safety outcomes. The studies have focused whether leadership style matter. Transformational leadership styles are characterized with better OHS outcome which also includes reduced rate of injury at workplace. Zohar (2003) shows that some aspects of transaction leadership focusing on internal incentives which plays a key role in improving safety outcomes. Squires, Tourangeau, and Doran (2010) Identifies the role that the quality of leadership on the places of work particularly in ensuring safety climate. They concluded that 'resonant leadership' and interactional justice influenced the quality of the leader relationship which, in turn, is associated with a higher quality work environment and safety climate. The finding correlates with few errors at workplace. Employers have the responsibility to provide a safe workplace. Employers MUST provide their employees with a workplace that does not have serious hazards and follow all relevant OSHA safety and health standards. Employers must find and correct safety and health problems. OSHA further requires employers to try to eliminate or reduce hazards first by making changes in working conditions rather than just relying on masks, gloves, ear plugs or other types of personal protective equipment (PPE).

According to U.S department of Labour, the responsibilities of employer includes:- Ensuring workplace is free from any hazards and the employees comply with the rules and regulations set by the employer under OSHA, The plays a role in ensuring that the employee have safe tools and equipments which are correctly maintained. It also entails use of colour codes signage. Indicating potential hazards at workplace, Use of updated procedures and ensuring they are communicated well. The other role is to ensure employees follow OSH requirements and ensure the provisions of safety and health trainings to employees in a language employees understand better. The responsibility of employers handling hazardous chemical is to ensure hazard communication program is implemented and employees have undergone through training and understood the hazards they are exposed to. Employers with hazardous chemicals in the workplace must develop and implement a written hazard communication program and train employees on the hazards they are exposed to and proper precautions are taken. The requirements by OSHA on hazard communication and the provision of medical examination as well as training is complied with. Employees and their representative's access to the log of work related incidences and near miss in the respective near miss reporting form. There should be routine inspection and access to employee medical records and exposure records to employees or their authorized representatives, Provide to the OSHA compliance officer the names of authorized employee representatives who may be asked to accompany the compliance (audit) officer during an inspection, Not discriminate against employees who exercise their rights under the Act.

According to Kelloway, Mullens and Francis (2006) show that a passive styles of leadership can prove to be detrimental for WHS outcomes. Also Clarke and Ward (2006) explored that the leadership style have influence tactics on employee participation in OHS initiatives. It is evident that the techniques linked with both transformational and transaction leadership styles focused on OHS have an effect of building trust in OHS system and encourage employee's participation in them. It is therefore clear that transformational style of have a stronger effect on OHS system.

2.2.2.2 Effect of Job satisfaction on employee health and safety programs

Job satisfaction refers to how the employees are contended with their current work environment and all the prevailing conditions around the workplace. An employee will be intrinsically motivated if he/she is satisfied with the work he/she does. According to Epicurus (2007) the quality of life is derived from job satisfaction which has been consistently labeled as the most important ingredient of quality of life and satisfaction. Frey and Stutzer, (2002) examined that the determinants of job satisfaction and its link with the aspects of individual health and overall well-being. There is a strong correlation between employee behavior and performance. Green and Tsitsianis (2005) argue that intensification of work the declining task discretion is appropriate factors for job dissatisfaction. Inferior working condition is one of the factors which may lower job satisfaction and lead de-motivation An analysis featuring "quality" working condition and the basis was on the perception of workers whether their jobs were dangerous in terms of exposure to risk of physical injury, contact with harmful products and quality environment in terms of heat, noise, dirtiness. Employee motivation are is associated with improved working condition It is found that inferior working conditions are associated with reduced employee motivation and job satisfaction, which is a major contributor to higher incidence of workplace. Stansfeld et al., (1998) Explained that job dissatisfaction and de-motivation have an indirect effect of workers health both physically and psychologically effect on employee health. Faragher et al. (2005) provides an analysis and a systematic review on evidence linking employee health. Employee intrinsic motivation and self-reported job satisfaction emerges to contain by far the strongest link with employee well being. A sample of 500 jobs was analyzed and there was a clear indication of a strong relationship between job satisfaction and both mental and physical health. The findings showed strong significant positive correlation both numerically, statistically and clinically. The findings showed impressive relationships particularly on matters to do with mental health, depression, anxiety and cases of low self esteem. Studies have shown that dissatisfaction at work has negative implications to an employee's wellbeing and mental health conditions. Michael, Evans, Jansen and Haight (2005) did an investigation on the role of management commitment to OHS on employee perceptions and behaviors. They went ahead and studied the employee perceptions of management's commitment to OHS and emerged that there is positive correlation with job satisfaction, commitment, and job performance and negatively correlation with employee withdrawal behaviors.

2.2.2.3 How employees' participation influence health and safety programs

Team work between various stakeholders in an organization is an important tool of accidents and diseases prevention in an organization. Fundamentally a worker has a right to participate in various activities in the organization. According to Naylor(1996), The employee has a responsibility to take of his or her own safety and the safety of the others and there should be a cordial relationship with the employer on matters to do with safety. The employer has a role to play in ensuring the provision of a safety environment and it's the role of the employee to cooperate maximally even as those obligations are being fulfilled. OHS representatives in their roles ought to ensure maximum cooperation with the employer in health and safety matters. One of the key pre-condition for successful OHS is the employee participation on OHS matters. Sustainability of acceptable levels of OHS is associated with employee's participation on OHS matters which has been accompanied by achievement of OHS programs at a reasonable cost. Participation entails allowing workers and their representatives to participate at the shop-floor level including the definition stage, setting of goals and the resulting actions and responsible person on occupational safety and health. Employee participation ensures that all problems relating to OHS are tackled since they have and know all problems affecting them on the other hand management may not have a solution to all health and safety problems. Primarily workers and their representatives are equipped with immense knowledge on how the job is to be done. It is therefore prudent that managers and employees should work together to find a joint solution to their problems (European agency for safety and health at work)

Emphasis on adhering key management processes such as OSHA have shown systematic improvement of health and safety processes whose effect has lowered the injury rates and improves productivity.
O'Toole (1999), Carried a study on employee participation in OHS programs in eight manufacturing sites and discovered that encouraging employees to participate in health and safety processes led to a reduction in incidences of OSHA and Lost time injury.

2.2.3 How infrastructural facilities influence Health and Safety Programs

An infrastructural facility plays a very important role in acting as an interface between the employee and the prevailing hazards in the workplace. Workers in the informal sector are exposed to poor working conditions, low level of OHS standards, and environmental hazards which make them suffer poor health as a result. Most workers lack knowledge on OHS and how to avoid the emanating risks.

According to Cole (2000) the principle role of an employer is to act as stated:-Provide reasonable health and safety environment, Ensure health and safety welfare of all employees is provided, Importantly expected to provide and maintain plant and systems of work that are safe and without risks. Ensure all the operations in the plant are done in safe manner. Provide relevant information, training and supervision so as to ensure health and safety of employees.

According to Smith, (1979) , Weil, (1994) Industry has the main role and that is to regulate the issues that OSHA regulates and it forms the basis of audit during regular inspection. According to the Graham (1998), accident reports forms part of return on experience and plays a role in identifying and preventing similar or dangerous occurrences through analysis recurring are useful in identifying and preventing the occurrence of dangerous activities.

Government has a role of drawing and implementing health and safety policies which are reflected in legislation. The major challenge is the fact that legislation doesn't cover all workplace hazards. This therefore calls for a collective agreement between the relevant stakeholders. Implementation and support of OSH policies is only possible if there is support from workers and employers particularly if the employer had a hand in drawing them up. Among the indicators able to capture individual elements of OSH infrastructural facility within the organization is challenging and various proposals in the literature include: (i) the amount of organizational health and safety expenditure as a proportion of NOI (or within enterprises, the proportion of total costs of the firm devoted to OSH within the costs devoted to OSH); (ii) The extent to which employee devote to OSH, (iii) Focus on investment of OSH activities in such a way to prevent or reduce occupational risks and to protect employees health and safety. Chau and kanbur, (2001) explained that lack of infrastructure and political will and incompatibility with legal systems are the key effects to OSH infrastructure.

According to Burchill (1996) and Bennet (1997) under the health and safety work act (1974), firms have a responsibility to ensure adherence to the health and safety at work by all employees and any breach of this duty can lead to criminal prosecution. All equipments in the plant must be well maintained and must be safe for use. All arrangements including handling and transportation and must be free from hazards.

Improvement of working conditions so that they become conducive to safety and health. It entails development of work organizations and safety and health cultures this goes a long way to promoting safety culture. Culture in this context implies to the environment which reflects the OHS value systems.

2.2.4 How Employee Training influence health and safety programs

The continuous improvement comes with applying new and current techniques on health and safety and this can only be achieved by applying new approaches which can only be acquired through training of new integration of improvements into the work process is vital, but it is possible only if everyone involved is properly trained. Training is an essential element in maintaining a healthy and safe workplace and has been an integral component of OSH management for many years. All stakeholders need to undergo through OHS training. Fundamentally, management's responsibility is to ensure that necessary instructions and training is done considering the different abilities of different workers. Graham (1998), argue that amongst the factors for the existence of accidents is due to the unsuitability and lack of trainings amongst many other factors.

The main aim for training is top enhances action and also triggers awareness thus allowing the trainees to adapt new techniques acquired.OSH Training must form an integral part of job training which ought to be in cooperated into the daily work procedures. Zayles (1981**)** Explains that good Health and safety programs include:-Safety training and Inspection and discipline of careless employees the main focus of management is to ensure that the key players in production process undergo through OSH training. Training for the acquisition of technical skills should therefore always include an OSH component. Workers need to appreciate that safety starts with them and that the safety of others is also important and a slogan of "Safety for me for you and for us all" should not escape one's mind. Management should ensure that all the workers are adequately trained for the task they are expected to undertake. According to V.N**.** Bhat (1998**),** health and safety training includes training on personal protective equipment, emergency preparedness and documentation of accident courses. Crucial information relating to safety and health should be included in such trainings this will assist in mitigating hazards. Betts (1983) further argues that lack of experience and poor training also cause accidents. The question of safety and the correct method of performing a task are an essential part of any training scheme. The importance of correcting bad habits as they appear is emphasized from the safety aspect and the supervisor must

check new and existing employees for allowing a new comer to work on his own before reaching a suitable level of competence is inviting him to have an accident.

Hazard Prevention, control and risk protection should form part of the training programs. Essentially employees must train in such a way that they can handle accidents and any emergencies arising including the provision of first aid facilities. Prior arrangements should be made to ensure compensation of work related injuries and diseases. Aim of preventive program is to provide safe and healthy environment.

2.3 Theoretical Framework

Existing literature points out various theories that explain the determinants of the employees Health and Safety Programs on firms. The main theories considered in this section includes: Resource dependency theory and resource based theory

2.3.1 Resource Dependency theory

Resource dependence theory (RDT) is the study of how the external resources of organizations affect the behavior of the organization. The procurement of external resources is an important tenet of both the strategic and tactical management of any company. Nevertheless, a theory of the consequences of this importance was not formalized until the 1970s, with the publication of "The External Control of Organizations: A Resource Dependence Perspective" Pfeffer and Salancik (2003). The theory bases its argument on the fact that the organization consists of both internal and external variables (resources) which have an influence on the existence of the firm. The firm therefore uses all the available opportunities to acquire these resources which assist in determining the strength of the company with respect to reduction in relying on other external organizations. This minimizes or eliminates their dependence or reliance on the other firms The assumption is that firms have both internal and external systems whose exchanges aims at controlling the resources whereas the environment is assumed to contain scarce resources which are crucial for the survival of the organization and the firm therefore works towards acquiring control over resources that minimize their dependence on other organizations and control over resources that maximize the reliance of themselves other than depending on other organizations. Acquisition of external resources gives the organization the strength to the point that others have to depend on for their existence.

Successful implementation of occupational health and safety strategy is also dependent on how the companies acquires and maximizes the external resources. The company should acquire those resources that are going to guarantee the success of the strategy. It may include; the services.

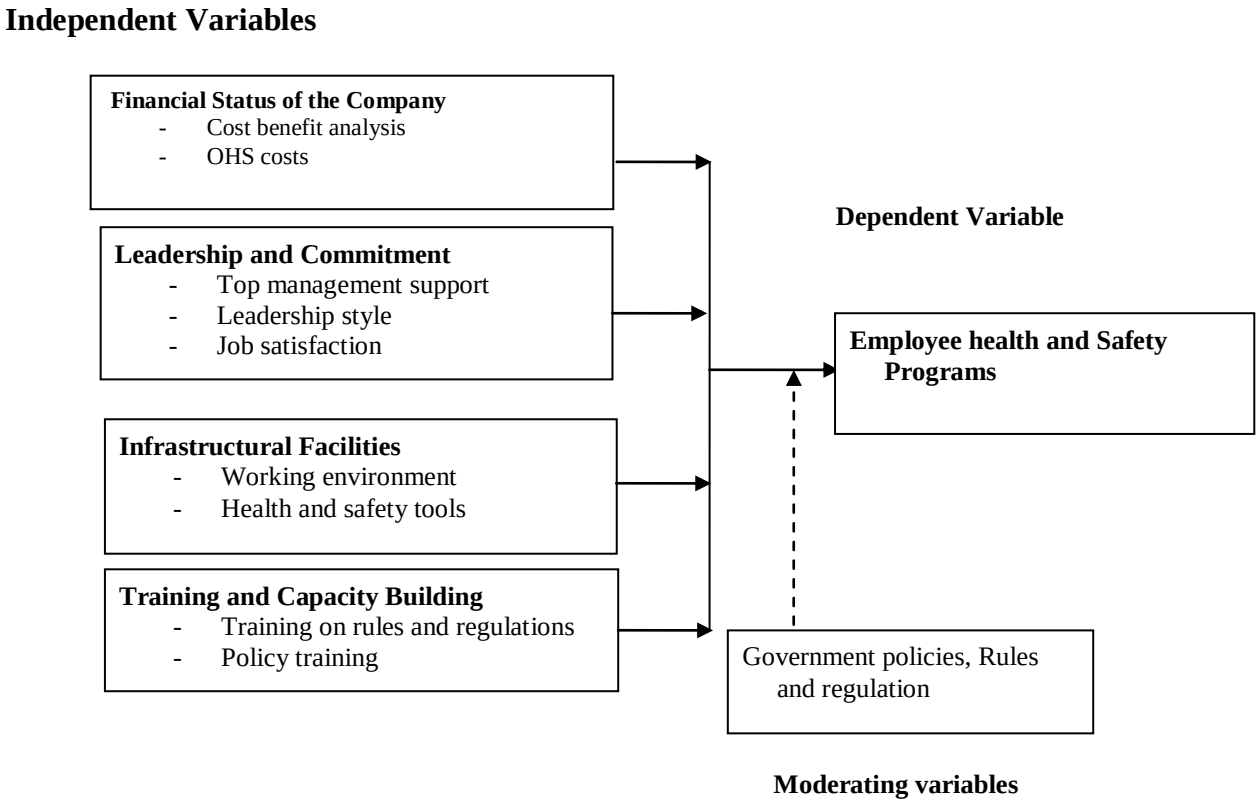
2.3.2 Resource Based Theory

This theory was developed by Birge Wenefeldt in 1984. It is a method of analyzing and identifying a firm's strategic advantages based on examining its distinct combination of assets, skills, capabilities and intangibles as an organization. The RBV's underlying premise is that a firms differ in fundamental ways because each firm posses a "unique" bundle of resources tangible and intangible assets and organizational capabilities to make use of those assets.

Each firm develops competencies from these resources, and when developed especially well, these become the source of the firm's competitive advantage Pearce & Robinson, (2007). In the context of this theory, it is evident that the resources that a firm has will play a big role in the strategic implementation process. This is because no matter how good the strategies are, without the necessary resources to enable the implementation, they remain in the planning phase. Therefore, based on the above literature, the successful implementation of the occupational health and safety strategy by the EAPCC is highly dependent on the resources available. Resources may include both the physical and the human capital. Adequate resources would give the company the capability to successfully implement its strategies.

2.4. The conceptual framework

Figure 1: The conceptual framework showing the determinants of the employees Health and Safety Programs.



2.5 Knowledge Gap

Although much has been written about the individual variables on occupational health and safety, a survey of literature, however, reveal that very little empirical studies on this subject exist, especially regarding Kenyan situation where occupational safety health programs is faced with a lot of challenges especially in various institutions and industrial set ups. Previous investigations into the occupational health safety programs have provided insights into the range of influences on its access by various groups of people. However, few studies have been carried out focusing on determinants of occupational health and safety programs in thermal power plants. The current researcher addresses similar issues from thermal power plants focusing majorly in Kipevu iii thermal power plant. It is anticipated that further insight into determinants of occupational health and safety will be revealed by this study. There is no similar study known to the current researcher that is carried out in the area where the current study is conducted.

Table: 2.4 Gap analysis

Variable	Author	Finding	knowledged Gap
Trainings on health and safety	Michael(2001)	Contractors might not see the need to provide health and safety trainings to their workers	It narrowed down to contractors only and did not factor the main company
Leadership and commitment to OHS	Mutemi(2005)	Fire, smoking,Flamable products and chemical exposure are the most crucial hazards considered by most of the firms	Left a gap of study in the food manufacturing, construction industry, flower processing, and power plants industries.

Financial positions of the company	Kariuki(2006)	Most firms provide staff welfare programs such as sickness, bereavement and cauncelling programs	Relatationship between staff welfare programs and financial state of the company
Infrustructural facilities	Chau and Kanbul(2001)	Lack of infructructure and political will and incompartibility with legal systems are the key effects to OSH infrustructure	Narrowed down only to three factors and did not factor the inter-relationship between the three factors to the financial state of the company

Research Methodology

3.1 Introduction

This chapter describes the methodology to be used in conducting the study. The tools to be employed to present data for analysis in order to ensure proper and maximum information related to the subject under study were obtained. The section explains the research design chosen for the study, target population, sampling techniques, data research instruments, validity and reliability of research instruments, data collection procedure and data analysis techniques.

3.2 Research design

A cross sectional survey was adopted in carrying out the study. Descriptive survey was used focusing on finding out what, when and how much of these principles applied. Descriptive survey design involves collection of data from a sample of a population in order to determine the current status of that population with respect to one or more variables Mugenda (1999). According to Mugenda and Mugenda (2008), descriptive survey is an approach in research that describes the characteristics or behaviour of a particular population in a systematic and accurate fashion. Also Kothari, (1985), argued that descriptive design allows the researcher to describe record, analyze and report conditions that exist or existed.

3.3 Population of the Study

The population that is actually surveyed is the study population. According to (Mugenda and Mugenda, (2003), the target population is that which researcher wanted to generalize the results of the study. The population for the study will comprise the personnel in Kipevu iii thermal power plant. The study is carried out with a target population of 70 personnel. The study utilized a sample due to limited time, cost and labour resources and also due to the fact that some of the staffs work in shifts and in different hours which made it difficult to reach all of them.

3.4 Sample Size and Sampling Techniques

Sampling technique is the process of selecting a specific number of objects to form respondents for study Ngulube, (2003). The study will use random sampling. This sampling technique is one where the items for the sample are selected without any preferred order by the researcher and the researcher's choice concerning the items remains supreme (Kothari, 2004). The main rationale behind using samples is so that the findings represent the entire population. The main advantage of using sampling is that it saves a lot of time and effort and yet able to meet the objectives of the research (Kothari, 2007).

According to Borg and Gall, (2003) at least 30% of the total population is representative of the study population. Mugenda and Mugenda, (2003) explains that the target population should have some observable characteristics to which the researcher intends to generalize the results of the study. A sample of 70 respondents was identified to fill the questionnaires and also to be interviewed they were selected using simple random sampling.

3.5 Data Collection Instruments

Questionnaires will be used because the population is literate and able to comprehend the questions. The information collected using questionnaires is recommended by Mugenda and Mugenda (1999). The questionnaires will be administered through a drop and pick technique in order to improve the response rate and quality of data gathered. The questionnaires will be administered to the firms Health and safety Managers, Project Managers and supervisors.

3.6 Validity and Reliability of Instruments

Frankel and Wallen (2008) define validity as the appropriateness, correctness and meaningfulness of the inferences selected on research results. It is the degree to which results obtained from analysis of the data actually represent the phenomenon under study. The question of validity is raised in the context of the form of the test, the purpose of the test and the target population. This study concentrated on content validity. Mugenda and Mugenda (2003) define content validity as a measure of the degree to which data collected using a certain instrument represent a specific domain of indicators or content of a particular subject. The questionnaire items were assigned arbitrary scores and data entered into computer software for Statistical Package for Social Sciences and regression analysis to find out the relationship of determinants of health and safety programs in the Kipevu thermal plant.

3.6.1 Validity of Instruments

Instrument validity refers to accuracy, meaningfulness and technical soundness of the research instrument; Mugenda and Mugenda (1999). The questionnaire guide are said to be valid when they actually measure the intended parameters; Borg and Gall, (1989). The researcher enhanced the validity of the instruments by subjecting them to the supervisor appraisal and also carried out a field pre-test through a pilot of a few respondents. The researcher then made adjustment of the tools to improve validity.

3.6.2 Reliability of Instruments

Reliability is the extent to which the results are consistent over time and are accurate representation of the total population of the study. The data was collected using well tested and accepted procedures to yield consistent data. Instrument reliability is the dependability and trustworthiness of the test. This was measured through a test-retest technique where the questionnaire was administered to a group of individuals with similar characteristics as the actual sample. The test was then repeated after one week. The scores obtained from both tests were correlated to get the coefficient of reliability.

3.7 Data Collection Procedures

The researcher obtained permission to collect data from the university. It also requested for permission to collect data. Questionnaires will be administered to the Health and safety Managers, Operations managers, Plant Managers and supervisors.

3.8 Ethical Considerations

The researcher will adhere to ethical standards by protecting the sources of information which is critical and private. The information obtained will be used for academic purposes and for mutual benefit of stakeholders. The respondents will make informed consent to voluntarily take part in the study.

3.9 Data Presentation and Analysis Techniques

Data analysis is the process of obtaining raw data and converting it into information useful for decision making by users. All the collected data will be edited, coded and tabulated. To analyze the data, quantitative and qualitative techniques will be used to determine determinants of employee health and safety programs at Kipevu III power plant.

Data analysis is the process of obtaining raw data and converting it into information useful for decision making by users. Data is analyzed to answer questions, test hypotheses or disprove theories. The nature of data collected is quantitative and qualitative. It will be analyzed using descriptive statistics as well as inferential statistics. According to DeCaro, (2003), descriptive statistics describes a big junk of data with summary, charts and tables but do not attempt to draw conclusions about the population. Inferential statistics tests hypothesis to draw conclusions about the population under study. This study will use both descriptive and inferential statistics by way of charts, frequency diagrams, graphs and percentages to summarize data. The study will use regression analysis to analyze data.

$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + \square$; Where:

Y = Employee Health and Safety Programs

a = Constant

b_1, b_2, b_3, b_4= Coefficients of Employees Health and Safety Programs

X_1, X_2, X_3, X_4, = Employees Health and Safety Programs Independent (variables).

X_1 = Financial Status of the Company

X_2 = Leadership and Commitment

X_3 = Infrastructural Facilities

X_4 = Training and Capacity Building

€ = Error term.

3.10 Operational definition of Variables

Table 3.10 Operational Definition of variables

Research Question	Type of Variable	Indicator	Measurement	scale
To what extent does Financial status influence employee health and safety programs?	Independent	Budgeting Value placed on staff and training	Likert scale	Ordinal Nominal
To what extent does infrastructural facilities influence health and safety program in Kipevu thermal plant?.	Independent	Complexity of OSH Infrastructure Condition of OSH	Likert scale	Ordinal Nominal
To what extent does leadership and commitment influence health and safety programs in Kipevu thermal plant?	Independent	Top management Leadership style	Likert scale	Ordinal Nominal
To what extent does training and capacity building influence health and safety programs in Kipevu thermal plant?	Independent	Awareness of health and safety	Likert scale	Ordinal Nominal

Results, Data Analysis and Discussion

4.1 Introduction

This chapter presents an analysis of data collected and discusses the findings on the Occupational Health and Safety success at Kipevu III plant. The aim of this study was to perform an evaluation of the determinants of safety and health programs at Kipevu III power plant. The data collected is largely summarized in table form to bring out the significant features.

4.2 Demographic Characteristics of the Respondents

4.2.1 Respondents Response rate

From Table 4.1 below of response rate, the results show that out of the 56 targeted respondents, 38 successfully filled the questionnaires. This represents a response rate of 67.86%. This response rate was good and representative and conforms to Mugenda and Mugenda (2003) stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent.

Table 4.1 Response rate

Response	Frequency	Percentage
Response	38	67.86
No responses	18	32.14
Total	56	100.00

4.2.2 Respondent Gender

The study sought to establish the gender of the respondents who participated in the study. The findings are as indicated in table 4.2 below.

Table 4.2 Respondents Gender

Gender	Frequency	Percentage
Male	33	85.71
Female	5	14.29
Total	38	100.00

The study findings show that 85.71% of the respondents were male while 14.29% were females. This was largely because the power plant was largely dominated by male workers who constituted the highest employee population.

4.2.3 Periods Respondent Employed in the Power Plant

The study sought to establish the period's respondents were employed in the power plant; the analysis was done from a period of between 0 to 30 years. Findings are indicated in table 4.2 below.

Table 4.3 Periods Employed in Kipevu Power Plant

Period	X	Frequency	FX	Percentage
0-5	2.5	5	12.5	13.16
5-10	7.5	6	45	15.79
10-15	12.5	8	100	21.05
15-20	17.5	5	87.5	13.16
20-25	22.5	4	90	10.53
25-30	27.5	6	165	15.79
Above 30 years		4	130	10.53
Total		38	630	100.00

The results above which contains information on the periods the respondent had been employed at Kipevu Power plant, showed that 5 (13.16%) respondent had been employed in the plant for a period less than 5 years, 6 (15.79%) had worked for between 5 to 10 years; and 8 (21.05%) had worked for the plant for a period of between 10 and 15 years; 5 (13.16%) between 15 and 20 years; 4 (10.53%) between 20 and 25 years; 6 (15.79%) between 25 and 30 years and 4 (10.53%) had worked for a period of more than 30 years.

The average age limit of employment is 16.578 years which shows remarkable level of experience. The midian age limit of employment is between 10-15 years which also doubles as the age limit with the highest No. of respondents (modal class). The median age of the respondents is 10.4 years this means that a majority of the respondents could be presumed to have the requisite professional experience that could enable them provide relevant and dependable information on the determinants of employee Occupational Health and Safety situation at the plant.

4.2.4 Respondents Education Level

The study sought to determine the respondents' level of education. This was analyzed for primary, secondary, university, college and others levels. The findings are as indicated in Table 4.4 below

Table 4.4: Respondents Education Level

Educational Level		Frequency	Percentage
Primary	: YES	38	100.00
	: NO	0	0.00
Secondary	: YES	38	100.00
	: NO	0	0.00
College	: YES	33	86.84
	: NO	5	13.16
University	: YES	26	68.42
	: NO	12	31.58
Others	: YES	22	57.89
	: NO	16	42.11
Total		38	100.00

The study findings established that all the respondents had attained both primary and secondary level of education; 86.84% of the respondents had attained college education while 13.16% did not have college education; 68.42% had attained university education while 31.58 of the respondents did not have university education and finally 57.89% of the respondents had attained other trainings both in occupational health and safety and other relevant areas. The most common other trainings attained included certification courses in fire engineering service, accreditation by NEBOSH and certifications as energy manager auditors. These findings also implied that all the respondents had the requisite education experience necessary to provide reliable information on matters of health and safety.

4.2.5 Respondents Working Department

The study also sought to establish the various departments from which the respondents were drawn. The study findings are as indicated in the table 4.5 below

Table 4.5 Respondents working department

Department	Frequency	Percentage
Administration	7	18.42
Maintenance	7	18.42
Operations	10	26.32
Manpower	7	18.42
Security	7	18.42
Total	38	100.00

4.3 Training and Level of Awareness

4.3.1 Training

The study also sought to establish whether the respondents were aware of the rules and regulations on the health and safety policies within the plant. The respondents were asked to rate how the training and capacity building factors influence health and safety programs in Kipevu III. The results are shown in the table 4.6 below.

Table 4.6 Summarizes the Training and Capacity Building On OHS In Kipevu III.

Variable		Frequency	Percentage
Do you have any information/ awareness of workplace safety hazards?	YES	29	76.32%
	NO	9	23.68%
Are the rules and regulations on health and safety practice at work place communicated to you?	YES	34	89.47%
	NO	4	10.53%
Have you attended a health and safety training course or seminar?	YES	38	100.00%
	NO	0	0.00%

These study results indicate that a majority of the respondents agreed that necessary training workshops were conducted for the team to foster team work and enhance skills on OHS among the questions the researcher conducted sourcing information from the respondents whether or not they have any information on workplace health and safety hazards where 76.32 % of them indicated to be aware of the same while 23.68 % of them argue that they have no information on the nature of tasks going on inside and the nature of products being handled. The second part was to inquire if the respondents have attended any health and safety training course or seminar and it was overwhelming to note that 100 % of the respondents indeed agreed to have attended at least one course on OHS and among the major trainings described were OSHA, First AID and basic firefighting.

4.3.2 Level of awareness in OSH programs in the Kipevu III

The study also sought to establish the level of awareness of occupational health and safety initiatives among the employees at the plant. The respondents were asked to rate the information determinants of OHS programs in Kipevu III. The results are shown in the table below.

Table 4.5 Response on how knowledge and awareness on OHS in Kipevu III influence health and safety programs

Table 4.7: Level of Knowledge and Awareness of OHS

Variable		Frequency	Percentage
Among the tasks you handle, is there one which you consider harmful and risky?	YES	36	94.74%
	NO	2	5.26%
Do you have any information/awareness of workplace health and safety	YES	33	86.84%
	NO	5	13.16%
Are the rules and regulations on health and safety practice at work place communicated to you?	YES	38	100.00%
	NO	0	0.00%
How are the OHS regulations communicated to you?	ALWAYS	8	21.05%
	OCCASSIONALY	30	78.95%
	NONE	0	0.00%

The study sought to seek information from the respondents on the level of knowledge and awareness of OHS. 94. 74 % of the respondents admitted to be handling harmful or risky tasks in the plant at least at one time. 100 % of them are aware of how to attend to some emergencies including first Aid administration and fighting small fires. 78.95 % believe that the OSHA regulations are only communicated during training and not on a regular basis. Among the other information the researcher was seeking from the respondents included staff OSH safety preparedness procedures and it included staff training on OSH safety and staff performance on OSH and safety drills. Among OSH safety drills include OSH drill, Oil spill drills and armed personnel entering into the premise to which majority of the respondents have never experienced.

4.4 Employee Perception of management commitment to safety

The study sought to investigate the level of employee perception of management commitment to health and safety matters. The study results were as depicted in table below.

Table 4.8: Level of perception of management commitment to health and safety

Variable		Frequency	Percentage
Do you think the management is committed to health and safety of the staff	YES	33	86.84%
	NO	5	13.16%
Are the proposals on health and safety recommendations considered?	YES	19	50.00%
	NO	19	50.00%
Are you suffering from any work fatigue	YES	33	86.84%
	NO	3	13.16%
Are the rules and regulations on occupational health and safety communicated to you	ALWAYS	38	100%
	OCCASSIONAL	0	0
	Y	0	0
	NONE		

The study results on the staff perception of management on commitment to OHS at workplaces revealed that 86.84 % of employees have positive perception towards management compliance to safety which was a highly rated response. 50 % of the respondents feel most of the recommendations on OHS they pass across are not considered. 86.84 % of the respondents are fatigued and perceive that majority of the accidents could be due to fatigue arising from overworking. While 13.16 % are okay and argue that most of the incidents and accidents is due to negligence.

4.5 Occupational Health and Safety Infrastructure

The study sought to investigate how occupational health and safety infrastructure has an influence on health and safety programs. The infrastructure might contribute to differences in the responses given by the respondents. Responses to the questionnaires were as depicted in table below.

Table 4.9 summarizes the status of OHS infrastructure in Kipevu III.

Variable		Frequency	Percentage
How would you describe your working environment?	NORMAL	7	18.42%
	SAFE	20	52.63%
	HOT	0	0.00%
	FUMED	0	0.00%
	HAZARDOUS	11	28.95%
Facility for welfare members	YES	30	86.84%
	NO	10	13.16%
Provision of PPE's	ADEQUATE	25	65.79%
	INADEQUATE	13	34.21%
Have you established a health and safety infrastructure	YES	5	83.33%
	NO	1	26.67%

The study also sought to establish the influence of OHS infrastructure on the success of OHS initiatives. This was measured using both closed and open ended questions, document review and also observation. 52.63% of the respondent felt the place is safe and 18.42% believe it is normal whereas 28.95% see the working environment as hazardous based on chemicals, fuels, oils and metals they handle they also agreed that there are OHS facilities which are relevant for their job description within their reach and 65.79% were comfortable using them and agree that they are adequate and 34.21% are in disagreement and believe that the management has been borrowing from the nearby company. 71.5% admitted that the sharing of some OSH had an effect in the service delivery and safety. The shared facilities included Cloves for peak pressure, Switchgear isolation devices.

On observation, the researcher found that a serious safety induction is conducted to those entering the plant for their first time and one has to pass through the protocol of seeking work permit which is made by shift supervisor and signed by safety officer although as one goes to the control room safety signs on PPE's are a first sight. First AID kit, OSHA ACT no 15 of 2007 is clearly pinned at the wall in control room. CCTV system, EXIT signs clearly visible. Both smoke and flame detectors are installed, fire extinguishers and OSH manual call points are in place. Campaigns on safety are clearly pinned on the wall and this included safe your fingers campaign and WECARE. Among the major installations on OHS at the control room is a Cabinet containing lock out tag out and adjacent to it is the control panel for fighting system and a few meters are both emergency buttons for engine wise and plant shutdown. In the Engine hall, walkways are clearly demarcated. Eye wash installation and numerous cylinders of CO2 for firefighting are clearly visible as you enter and on looking at the rooftop the sprinklers and numerous smoke detectors are in place. At the auxiliaries OSH firefighting pumps which included electrical Engine driven and Foam system for tanks and transformer sprinkler control system were in place. At the changing room, every personnel has his/her own locker and clean warm water and all welfare facilities provided.

4.6 Leadership and Commitment to OHS program

The study sought to investigate the how leadership and commitment to health and safety matters influence health and safety programs. The study responses and findings were as in the table 4.8 and table 4.10 below

Table 4.10 Questions Administered To Administration

Variable		Frequency	Percentage
Have you put any Occupational health and safety measures in place?	YES	38	100.00%
	NO	0	0.00%
Has the administrators provided any welfare facilities for members of staff?	YES	32	84.21%
	NO	6	15.29%
Is the company management committed to health and safety of the staff?	YES	35	92.11%
	NO	3	7.89%
maintenance of the OHS facilities	YES	30	78.95%
	NO	8	21.05%

Table 4.11 Questions Administered To Management

Variable		Frequency	Percentage
Do you have any suggestions to improve the existing health and safety programs?	YES	5	83.33%
	NO	1	16.17%
Have you established your health and safety infrastructure?	YES	6	100.00%
	NO	0	0.00%
Have you identified any health hazard in your company?	YES	4	66.67%
	NO	2	33.33%
Are the employees' proposals and recommendations considered?	YES	4	66.67%
	NON	2	33.33%
How often do you discuss health and safety issues with your staff?	ALWAYS	3	0.00%
	OCCASSIONALLY	3	50.00%
How often do you test the effect of occupational hazards in your company?	ALWAYS	4	66.67%
	OCCASSIONALYY	2	33.33%
	RARELY	0	0.00%
Have you put in place any procedures and programs on health and safety in your company?	YES	5	83.33%
	NO	1	16.67%

According to this study there was an overwhelming agreement from all the staff that management has put in place health and safety measures and 100% of the staff agreed that the management encouraged the use of OHS. Management is also responsible for provision of these facilities. Analysis of the questionnaires administered to the administrators on whether they have put any Occupational health and safety measures in place and if they have established your health and safety infrastructure and both had a 100% admission and when the same was tested on staff i.e. if the company management is committed to health and safety of the staff

which 92.11% agreed and 7.89% disagreed and argued that there were some few missing important safety aspects which makes the place unsafe e.g. fault fire fighting pump and black start which are very essential in case of fire outbreak. Similar results were achieved on maintenance of the OHS facilities. 94.7% admitted to having a relevant OHS facility within their reach. And 92.11% of the company management believes they are committed to health and safety of the staff. This shows that there is support and encouragement by the management. And on whether the company management has established health and safety infrastructure 100% of management believe they have done so. However, on the issue of welfare facilities 84.21% were happy with the provision of welfare facilities for members of staff by administrators but 15.79% disagree and argue that things like hand washing soap has been a challenge to acquire sometimes, utensils and on observation some security guards were showering at the nearby bush. However 89.47% of those in management admitted that they discuss health and safety issues with their staff while 11.53% felt otherwise. 83.33% of the administrators felt they have put in place procedures and programs on health and safety in the company while 26.27% felt they are yet to do more. Concerning commitment to establishing health and safety infrastructure, 100% of the respondents admitted to have committed and are willing to commit extra time and resources towards OHS establishment and improvement. However 87% of employees felt that most of the proposals on OHS are never implemented and at times those who have had OHS queries with the management felt that the response was poor and only 36.8% felt that the response was satisfactory. Still 6.8% said that there was no response at all. Again 59.4% said that the maintenance of the OHS facilities was poor and only 78.95% were satisfied with the maintenance of the OHS facilities in their departments but 21.05% felt otherwise. 94.74% of the respondents felt that the place is risky considering some of the tasks they handle.

4.7 The effect of critical factors on success of occupational health and safety programs

The study also sought to establish the effect of the above practices on the success of OHS programs at Kipevu III Plant. To facilitate an inferential analysis of the effect of the various practices outlined below on the success of OHS initiatives, the respondents were requested to indicate the extent to which these practices had contributed to the success of OHS programs at Kipevu III plant.

4.7.1 Coefficients of Correlation between Success of OHS programs and factors

A correlation model was applied to determine the effect of the various practices on the success of the OHS programs. The model used took the following form:

$Y= \beta_0 +\beta_1 X_1 +\beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Where: Y is the dependent variable which is success of the program; β_0 is the Y intercept; β_1, β_2, β_3 and β_4, are the coefficients of the predictor variable and X_1, X_2, X_3 and $X_4$are the predictor variables.

Table 4.12 Correlations matrix for program success and the other practices

rrelations						
		Success	Leadership	Infrastructure	Funding	Training
	Success	1.000				
	Leadership	. 0.685 (0.000)	1.000			
	Infrastructure	.0.443 (0.003)	.0.789 (0.000)	1.000		
	Funding	. 0.340 (0.018)	. 0.766 (0.000)	.0.774 (0.003)	1.000	
	Training	. 0.310 (0.029)	. 0.704 (0.000)	.0.780 (0.000)	.0.878 (0.018)	1.000

The model above simply states that the success of OHS initiatives at Kipevu III plant depends on a number of practices included in this study which have either positive and significant relationship or vice versa. The model above is simply a representation of the above relationship. The coefficients of correlation from the table 4.10 above and the associated significance revealed the following: That there exists a positive and significant relationship between leadership and commitment and success of the OHS programs as shown by the positive coefficient of correlation (0.685) and level of significance (0.000) that is less than the level of significance of 0.05 adopted by the researcher.

There also exists a positive and significant relationship between OHS infrastructure and success of the OHS programs as shown by the positive coefficient of correlation (0.443) and significance (0.003) that is less than the level of significance. There also exists a positive and significant relationship between funding of OHS

programs and success of the OHS initiatives as shown by the positive coefficient of correlation (0.340) and significance (0.018) that is less than the level of significance of 0.05.
The study findings also show that there exist a positive and significant relationship between training and high level of awareness and success of the OHS initiatives as shown by the positive coefficient of correlation (0.310) and significance (0.029) that is less than the level of significance of 0.05.

Table 4.13 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					rbin-Watson
					R Square Change	F Change	lf1	lf2	Sig. F Change	
1	0.774	.554	.500	.0.45943	.554	10.243	4	33	.000	1.968

a. Predictors: (Constant), Training, Leadership, Infrastructure, Funding

b. Dependent Variable: Success

R^2 is coefficient of determination which is a measure of the variation in the dependent variable due to changes in the independent variables. From the findings in the table 4.11, the value R^2 was 0.500. This indicates that only 50.0% of the variation in success of the OHS programs could be accounted for by the variation in the factors adopted within the plant. 50.0% could be accounted for by other factors not included in this study. R is the correlation coefficient which shows the relationship between the success of the OHS programs and the factors practiced within the plant. The findings show that there was a strong positive relationship between the success of the OHS initiatives and the various factors shown by an R value of 0.774. The relationship is significant as proved by further test in the table 4.12 below as the p-value of 0.000 is less than 0.05 level of significance.

4.7.3 Model Significance

ANOVA[a]

Model	Sum of Squares		Mean Square		.
Regression	8.648	4	2.162	10.243	.000[b]
Residual	6.966	33	.211		
Total	15.614	37			

a. Dependent Variable: Success

b. Predictors: (Constant), Training, Leadership, Infrastructure, Funding

From the ANOVA statistics in table 4.12, the processed data, which is the population parameters had a significance level (p-value) of 0.000which shows that the data is extremely ideal for making a conclusion on the population's parameter as the value of significance (p-value) is less than 0.05. This is also an indication that the various factors included in the study significantly influence success of the OHS programs at the plant. The significance value was less than 0.05, an indication that the model was statistically significant.

Summary, Conclusion and Recommendations

5.1 Introduction

This chapter presents the summary of the study findings, discussions, recommendations and conclusion of the research. The chapter also contains suggestions of related studies that may be carried out in the future.

5.2 Summary of Findings

The purpose of this study was to establish the determinants of employees' health and Safety programs in Kipevu III thermal power plant Mombasa, Kenya.

There also exists a positive and significant relationship between funding of OHS programs and success of the OHS initiatives as shown by the positive coefficient of correlation (0.340) and significance (0.018) that is less than the level of significance of 0.05.

That there exists a positive and significant relationship between leadership and commitment and success of the OHS programs as shown by the positive coefficient of correlation (0.685) and level of significance (0.000) that is less than the level of significance of 0.05 adopted by the researcher.

There also exists a positive and significant relationship between OHS infrastructure and success of the OHS programs as shown by the positive coefficient of correlation (0.443) and significance (0.003) that is less than the level of significance.

The study findings also show that there exists a positive and significant relationship between training and high level of awareness and success of the OHS initiatives as shown by the positive coefficient of correlation (0.310) and significance (0.029) that is less than the level of significance of 0.05.

5.3 Discussion of Findings

The study examined the determinants of employees' health and safety programs in Kipevu III thermal power plant Mombasa, Kenya

The findings with a positive coefficient of correlation (0.34) to employee health and safety programs in the company, is a clear sign that financial status is a key contributor to employee health and safety programs. To ensure achievement of equitable levels of OSH it is paramount that the government should intervene so as to provide crucial information including setting up of standards or imposing of penalties or even prosecuting those who violates the OSH and ensures the achieving of efficiently high OSH levels. Arabsheibani and Marin, (2000), Explains that the willingness estimates provide useful information regarding the cost and benefits of alternative health and safety interventions, which allows the relative efficiency of different policies to be assessed.

The findings with a positive coefficient of correlation (0.685) to employee health and safety programs in the company is a clear sign that leadership is significant in ensuring employee health and safety programs in the company.Zohar (2003) stated some factors of transformational leadership which focuses on the extrinsic incentives can play some role in improving safety. Quality of leadership relationship in workplace and the employer-employee relationship is linked to higher workmanship and safety climate Squires, Tourangeau and Doran (2010)

The findings with a positive coefficient (0.443) to employee health and safety programs in the company is an indication that infrastructural facilities are key to ensuring employee health and safety programs in the company. The principle duty of the employer according to the act as stated by Cole (2000) is: - To ensure, so for as is reasonably practicable the health, safety and welfare at work of all employees. More specifically, the employer is expected, To provide and maintain plant and systems of work that are safe and without risks, Ensure safety in the use, handling, storage and transport of articles and substances, To provide sufficient information, instruction and training and supervision to ensure Health and safety of all employees, To maintain a safe place of work and safe means of access and exit.

The finding with a positive coefficient (0.310) to employee health and safety programs in the company is an indication that training and capacity building are key to ensuring employee health and safety programs in the company. The key mandate of OSH training is to facilitate action. It must create awareness and impart knowledge which helps the recipients to adapt their roles. Important part of job training should be featured in the training and should be captured in the daily procedures. Zayles (1981**)** state that good Health and safety programs include: -Safety training and Inspection and discipline of careless employees. The responsibility of management is to ensure that all the employees undertaking various roles in the production process should undergo through training to enhance their technical skills and should always include an OSH component. The most important fact that the employees should know is not only on how to protect their life but also of those of the workmates.

5.4 Conclusion

The research concludes that the firm (Kipevu III) has implemented the safety programs variables in the company to ensure employees health and safety is achieved.

The health and safety measures at work place have a positive and significant correlation to work performance therefore each and every company should practice or implement the health and safety programmes at their work place if they are to improve performance. This shows that health and safety programmes at the work place have a positive impact on employee performance, so every employer should ensure that implementation of health and safety programmes is carried out, not just because it is an obligation of the employer, but it is also an essential benefit to the organization's performance.

5.5 Recommendations

The researcher's recommendations are that all organizations and manufacturing firms should ensure that they implement the health and safety programmes at their work places not just because it is a government requirement but also because it will result or lead to improved employee performance which is a positive result and an achievement of their goals. It is the responsibility of the management to put safety of their employees first before the proceeds from any venture.

The government should also ensure that it does not put it as a requirement but should make sure that the health and safety programmes are being implemented by each and every work organization. The government should also send an inspectorate team to go round all the companies to ensure that these companies are practically implementing these programmes and not just displaying the health and safety acts on their notice boards.

Organizations should ensure allocation of funds to OHS programs during yearly budgeting to facilitate implementation of important OHS features; this will ensure employees execute their roles in a safe environment. There is clear and evident relationship between financing OSH programs and returns associated with that investments in terms of the benefits derived thereof. Investing in OSH has both short and long term gains in terms of restoration and establishing of employee confidence, benefits from fines associated with court cases, Benefits from reduced lost times through lost time injuries.

Organizations should embrace establishing a culture where there is constant assessment of employee skills and competencies which forms the basis of training needs assessment. The system should be in such a way that it automatically captures those who should undergo through a specific training ranging from technical to basic OSH trainings.

Organizations should ensure investing in OSH infrastructure forms the first pillar in protecting employees against any prevailing hazards in the organization. Amongst the fundamental pillars of OSH is infrastructural development. The OSH structures ranges from basic to complex based on the financial status of the company the management may choose to start with basic OSH systems such as first AID boxes, Fire extinguishers, Signage's and for well established organizations complex OSH structures such as fire fighting systems, foam pourers, Sprinkler system, Automatic smoke and heat detectors in cooperated with automatic extinguishing system.

5.6 Suggestions for further Research

This study only examined influence of four (4) determinants of employees' health and safety programs in Kipevu III thermal power plant. However there are other factors which contribute to OHS in firms therefore it is recommended that further research be done to identify and examine additional variables influencing OHS programs in companies.

Additionally, a study should be carried out to establish critical success factors that influence OHS programs. This should be exploited in-depth to understand and highlight the hindrances and stumbling blocks that are disturbing the effectiveness OHS programs. Another useful avenue for future research is to carry out a comparative study with companies in other service sector to provide good insights on the determinants of employee health and safety programs.

References

[1]. Armstrong, (2006) A Handbook of Human Resource Management Practice
[2]. Asplund et al., (1998), Stewart and Swaffield, (1999) Low-wage careers: Are there dead-end firms and dead-end jobs?
[3]. Aswathappa, (2007) Human Resource Management: Text and Cases
[4]. Baxter, Sanderson, Venn, Blizzard, and Palmer (2014) Handbook of Employee Selection
[5]. Bennet R. (1997).*Management 3rd Edition Financial Times.*
[6]. Betts P.W. (1983). *Supervisory Management*. 4th Edition
[7]. Beus, Payne, Bergman and Arthur (2010) Leading to Occupational Health and Safety: How Leadership BehavioursImpact .
[8]. Bhatt V.N. (1998). *Total Quality Management*. ISO 14000 Approach
[9]. Biddle and Zarkin (1988), Herzog and Schlottmann (1990) an inquiry into the theory, causes and consequences of monitoring indicators of health and safety at work
[10]. Borg and Gall, (1989).Educational Research
[11]. Borg and Gall, (2003) Research and Evaluation Methods in Special Education
[12]. Burchill (1996), Bennet (1997) Employment Law in Practice
[13]. Chau and kanbur, 2001 Labour Laws and Global Trade
[14]. Chu et al. (2000) Social Work and Health Care in an Aging Society: Education, Policy, Practice .
[15]. Clarke and Ward (2006) The Wiley Blackwell Handbook of the Psychology of Occupational Safety and health
[16]. Cole (2000) Economy and Society in Europe: A Relationship in Crisis
[17]. DeCaro, (2003), Arabsheibani and Marin, (2000) New Analyses in Worker Well-Being
[18]. Dollard and Neser (2013) The Wiley Blackwell Handbook of the Psychology of Occupational Safety and health
[19]. Drucker's (1999) Management and Leadership for Nurse Administrators
[20]. Edkins (1998) Culture, Organizations, and Work: Clarifying Concepts
[21]. Epicurus 2007 Business Ethics and Social Responsibility' 2007 Ed.
[22]. Faragher et al. (2005) Handbook of Managerial Behavior and Occupational Health
[23]. First Aid at Work: The Health and Safety (First-Aid) Regulations 1981
[24]. Frankel and Wallen (2008) How to Design and Evaluate Research in Education
[25]. Frey and Stutzer, (2002) Handbook on the Economics of Happiness
[26]. Graham (1998) Elderly Medicine: A Training Guide
[27]. Green and Tsitsianis (2005) Dimensions of Dignity at Work
[28]. House et al (1999) Contemporary Leadership Theories: Enhancing the Understanding of the complexity, subjectivity and dynamics of leadership
[29]. Kariuki, (2006) Online Learning Communities
[30]. Kaufman and Hotchkiss, (2006) effect of training on employees' performance in nigerian banking industry
[31]. Kenney and Reid (1996) Strategic Management of the Manufacturing Value Chain:
[32]. Kelloway, Mullens and Francis (2006) The Fulfilling Workplace: The Organization's Role in Achieving Individual
[33]. (Kothari, 2007) Brain Dominance and Leadership Style
[34]. Kothari, (1985),The International Journal of Indian Psychology, Volume 4, Issue 1
[35]. Naylor(1996), Initiation of Educators into Educational Management Secrets
[36]. LeCouteur (1999) Workplace Safety and Health: Assessing Current Practices and Promoting change in the proffesion
[37]. Mark (2010) Fundamentals of Occupational Safety and Health
[38]. Michael (2001) Workability Management
[39]. Michael, Evans, Jansen and Haight (2005) The Individual in the Changing Working Life
[40]. Mutemi, (2005) the Extent of Compliance with Occupational Safety and Health Regulations at Registered Workplaces in Nairobi
[41]. Mugenda, O. M. (1999). *Research Methods, Quantitative and Qualitative Approaches.*
[42]. Mugenda and Mugenda (2008) Digital Transformation in Journalism and News Media
[43]. Mugenda and Mugenda, (2003), Digital Transformation in Journalism and News Media: Media Management, Media
[44]. Nairobi, African Centre for Technology Studies (ACTS) Press.
[45]. Ngulube, (2003) (Kothari, 2004) Research Methodology: Methods and Techniques

[46]. O'Toole, M. F. (1999). *Successful safety committees: participation not legislation. Journal of Safety* Research, 30, 39–65.
[47]. O'Toole (1999) Human Safety and Risk Management, Second Edition
[48]. Panopoulos and Booth (2007) Operational Safety Economics: A Practical Approach Focused on the Chemical industries
[49]. Pearce & Robinson, (2007) Formulation, Implementation, and Control of Competitive Strategy
[50]. Petersen, D. (1988). *Safety management* (2nd ed.). Goshen, NY: Aloray.
[51]. Petersen, D. (2000). *The barriers to safety excellence. Occupational Hazards*, 37– 42 (Dec. 1).
[52]. Pratt R. J (1979).*Elements of Personnel Management* –Foundation for the Improvement of Living and Working Conditions.
[53]. Pfeffer and Salancik (2003) The External Control of Organizations: A Resource Dependence Perspective
[54]. (Pike, 2000).Management Obligations for Health and Safety
[55]. Robert, (1994) Exploring European Social Policy
[56]. Rosen, (1986), Arabsheibani and Marin, 2000, Hintermann et al., (2008) Hiring, Pay, Promotion and Job Security in an Internal Labor Market: Evidence from the Union Bank of Australia
[57]. Smith, (1979), Weil, (1994) OHS Regulation for a Changing World of Work
[58]. Squires, Tourangeau and Doran (201 The link between leadership and safety outcomes in hospitals
[59]. Stansfeld et al., (1998) Surviving the Workplace: A Guide to Emotional Well-being
[60]. Tourangeau, and Doran (2010) Handbook of Research on Human Factors in Contemporary Workforce Development
[61]. Uegaki et al.(2010) Creating Healthy Workplaces: Stress Reduction, Improved Well-being.
[62]. V.N. Bhat (1998) Introduction to Green Chemistry, Second Edition
[63]. Wendell,(2003) Leadership for Environmental Sustainability
[64]. Zohar (2003) Theory and Practice of Leadership
[65]. Zohar, D. (1980). *Safety climate in industrial organizations*: theoretical and applied implications. Journal of Applied Psychology, 65, 95– 102.
[66]. Zohar (2003) Theory and Practice of Leadership
[67]. Zayles (1981) determinants of occupational health and safety practices in the private hospitals in mombasa island