

**Enforcement and Compliance on Occupational Health and Safety Measures in  
Industries in Thika municipality, Kiambu County.**

By

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**A Research Project Submitted in Partial Fulfillment of the Requirements for the  
Award of Bachelors Degree in Environmental Planning and Management.**

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## **DECLARATION**

This research project is my original work and has never been presented for a degree in any other university or institution.

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## **Approval**

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

**Dr. Sammy Letema** \_\_\_\_\_ **Date** \_\_\_\_\_

## **ABSTRACT**

Occupational Safety and Health (OHS) is a cross-disciplinary area concerned with protecting the safety, health and welfare of people engaged in work or employment. The goal of occupational health and safety programmes is to foster a safe and healthy work environment. As secondary effects, OSH may also protect coworkers, family members, employers, customers, suppliers, nearby communities, and other members of the public who are impacted by the workplace environment as well as reduce medical care, sick leave and disability benefit costs.

The lack of effective OHS measures in the industries in the study area and the laxity of the responsible institutions to enforce OHS regulations have contributed heavily to non-compliance with OHS measures.

Data from both primary and secondary sources was collected using interviews, observations, questionnaires and documented literature. Sampling frame of twenty five respondents was identified from five industries in the study area and sampling units drawn using systematic random sampling. Both quantitative and qualitative methods of data analysis were employed in the organization and interpretation of the gathered data in line with the objectives of the study.

The objectives of the study helped to find out what OHS measures existed in the industries in the study area, assess the enforcement and compliance of OHS regulations in the study area and to give suggestions on and how to enhance safety and health of workers in industries in the study area. The findings assisted the researcher in formulating

recommendations that could significantly improve the efficacy and compliance levels of OHS measures in industries in Thika Municipality.

## **DEDICATION**

This work is dedicated to my parents for their support and encouragement during my studies.

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## **ABBREVIATIONS**

<b>OHS</b>	Occupational Health and Safety
<b>WHO</b>	World Health Organization
<b>ILO</b>	International Labour Organization
<b>GDP</b>	Gross Domestic Product
<b>OSHA</b>	Occupational Safety and Health Act
<b>DOHSS</b>	Director of Occupational Health and Safety Services
<b>EMCA</b>	Environmental Management and Coordination Act
<b>WIBA</b>	Work Injury Benefits Act
<b>NACOSH</b>	National Council for Occupational Safety and Health
<b>FKE</b>	Federation of Kenya employers
<b>COTU</b>	Central Organization of Trade Unions
<b>NEMA</b>	National Environment Management Authority
<b>KMD</b>	Kenya Meteorological Department

## **CHAPTER ONE**

### **1.0 INTRODUCTION**

#### **1.1 Background**

Occupational health and safety (OHS) is a multi-disciplinary area that is concerned with the safety, health and welfare of people at the workplace (Ayubu, 2012) It can also protect co-workers, family members, employers, customers, supporters, nearby communities and other members of public affected by workplace environment (Ayubu, 2012).

Industrialization has brought in its wake many problems like industrial accidents and other occupational health related issues of the workers working in the industries (Kumuda, 2012)

Despite a plethora of legislations at national level and International level and various safety measures, it is found that by breach of safety norms there is rise in consequences such as accident, occupational disease and disasters in industries (WHO 2008). Such consequences effect about 70 percent of adult men and up to 60 percent of adult women throughout the world, estimated 40 million adults are finally affected or lose their life in the industrial sector (WHO 2008).

Joint ILO/WHO committee (1995) noted that the main objectives of OHS are firstly to maintain and promote workers' health and working capacity. Secondly it is to develop work organizations and working cultures in a direction which supports health and safety at work.

Armstrong (2006) observes that achievement of health and safety at workplaces is critical for eliminating or minimizing health and safety hazards and risks. This requirement is threefold; firstly, from a moral perspective; managers should undertake accident prevention measures on purely humanitarian grounds to reduce incidents of pain and suffering among workers and their families. Secondly, managers should take prevention measures for legal reasons owing to the existence of laws covering occupational health and safety. Thirdly, due to economic reasons, preventive measures should be undertaken since the expense of accidents to the organization is usually exorbitant.

Despite global efforts to address OHS concerns, it is estimated that 2 million work related fatalities still occur every year (ILO, 2009). In addition, there are more than 330 million occupational accidents and 160 million work related diseases that affect workers every year (Marksnen, 2004). The ILO (2009) estimates that more than \$1.25 trillion, which is equivalent to 4% of the world's Gross Domestic Product (GDP), is lost each year due to occupational accidents and diseases.

## **1.2 Statement of the problem**

Bell (1981) argues that issues of OHS have not only become a global concern for employers, workers and national governments, but are also of major concern to managers of industries and other organizations. Managers are accountable for any shortcomings at the workplace and therefore recognize that it is in their economic interest to create safe working practices and comply with OHS regulations (Bell 1981).

Sakari (1991) argues that the worker spends about one third of their time at the workplace. During this time, they are exposed to various hazards including accidents,

noise, dust, vibrations, heat and harsh chemicals among others (Sakari, 1991). The Occupational Safety and Health Act (Kenya, 2007) has various provisions for the safety, health and welfare of workers and all persons lawfully present at workplaces in Kenya. Despite the fact that the Government of Kenya has put in place legislations to safeguard the safety and health of workers, the number of accidents at workplaces has continued to increase (Mutemi, 2005).

For instance the number of accidents between 2001 and 2007 in Nairobi was 1,035 accounting for 12,941 man days lost. This high number of accidents and the attendant losses can be attributed to failure by management at workplaces to comply with the legal and regulatory framework regarding OHS. (Mutemi 2005)

However, not much has been documented, particularly in Thika Municipality, on compliance to OHS regulations at workplaces. This study therefore seeks to establish the extent to which OHS regulations have been enforced and complied with by industries in Thika Municipality.

This study aims to answer the following questions:

1. What are the OHS measures by industries in Thika municipality?
2. To what extent have the OHS measures been implemented and enforced by the industries in Thika municipality?



#### **1.4 Study Objectives**

1. To examine the occupational health and safety measures by industries in Thika municipality
2. To assess enforcement and compliance of occupational health and safety regulations by industries in Thika Municipality.
3. To give suggestions on how to enhance safety and health of workers in industries in Thika municipality.

#### **1.5 Research Premises**

- Existing OHS policies and practices in industrial workplaces in Thika Municipality are in line with OSH Act 2007.
- Poor enforcement of OHS policies at industrial workplaces in Thika Municipality has not compromised its regulatory compliance.

#### **1.6 Justification of the study**

Generally, OHS defined as the science of the anticipation, recognition, evaluation and control of hazards arising in or from the workplace that could impair the health and well-being of workers, taking into account the possible impact on the surrounding communities and the general environment (Ali, 2008)

Thika municipality is home to about 20 major industries and about 100 small scale industries in and around the town. These industries are majorly involved in agricultural

processing, particularly in horticulture and pineapple, coffee cooking oils and animal feed processing. Other industries include textile (cotton), macadamia nuts, wheat, tannery, motor vehicle assemblies, cigarette manufacturing, bakeries, packaging and industrial chemicals.

Industrial growth has in turn resulted to creation of employment opportunities for many people. Therefore there is need to examine compliance of OHS measures by industries in Thika to ensure that the health and safety of workers is safeguarded.

WHO (1999) acknowledges that the health status of the workforce in every country has an immediate and direct impact on national and world economies. Total economic losses due to occupational illnesses and injuries are enormous. The International Labor Organization (ILO 1998) estimated that in 1997, the overall economic losses resulting from work-related diseases and injuries were approximately 4-5 % of the world's Gross National Product.

### **1.7 Significance of the Study**

This study is significant in that it will help enhance the knowledge of OHS measures and fill the existing gaps on establishment and implementation of OHS in industries in Thika municipality.

The findings of this study will lead to awareness rising in the importance of incorporating OHS measures in industries within Thika Municipality.

This study is also significant because it will propose recommendations which if adopted by the industries will reduce risks faced by workers as they carry out their duties thus safeguarding workers health and safety.

### **1.8 Scope of the study**

This study aimed to determine whether industries in Thika municipality have complied with Occupational Health and Safety measures and how compliance of these measures is enforced by the responsible authorities.

The study focused on industries located in Thika industrial area.

### **1.9 Limitations of the study**

Time has always been a hindrance to many research works and this one is no exception.

Time available for field data collection was grossly inadequate.

Mistrust and suspicion on the intentions of the interviewer in spite of clear explanations to the respondents hindered collection of data greatly since I was even denied entrance to the industries.

The funds for this project were grossly inadequate to cover for all the expenses in the field and preparation of data collection tools.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Positioning of Occupational Health and Safety**

One of the most important aspects of human concern is OHS at places of work. OHS aims at adaptation of working environment to workers for the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations (Takele&Mengesha, 2006). The main contributory factors towards OHS becoming an issue of global concern seem to be the rapid industrial and agricultural developments that are taking place in the developing countries (Takele &Mengesha, 2006).

Ali (2008) states that OHS measures are necessary for protecting the workers in a nation because they are the major contributors of a nation's economic growth. He argues that a wide range of structures, skills, knowledge and analytical capacities are needed to coordinate and implement all the building blocks that make up OHS systems so that protection is extended to both workers and the environment at large.

Burton (2006) states that in Africa, studies on human perception and experience of environmental safety management are sparse. These studies tend to focus on behavioral qualities of the workers at the workplaces and on issues such as occupational hygiene, global equity challenges, policies, problem solving ,welding health hazards, health education, asbestos problems, responsibility assignment, health and safety and equity in

the workplace (Spee, 2006). In South Africa workplace studies address issues of trade unions and democracy, job security and conditions of work, race and labor, workplace concerns, education and labor market as well as statistical quantities of studied variables (Lund & Ardington, 2006). In South Africa studies concerning to worker perspectives are extremely rare. It is this gap that this study seeks to fill by analyzing workers' perceptions of occupational health and safety measures in the workplace.

Bennet (2002) argues that when it comes to workers' views on occupational safety and health in the workplace they are often ignored due to various management styles and a shortage of safety regulations, allowing for little reflection for worker contribution. Workers as subordinates often find themselves compelled to simply comply with and submit to rules and policies already in place at the workplace. He believes that workers' perceptions on the subject are seldom considered. He states that in many industries, the plight of workers is left in the hands of health and safety professionals, industrial hygienists, academics and industrial managers. Bennet (2002) argues that the concerns of safety and health management are aspirations arranged in point form to be met by management as envisaged goals. He argues that management systems are always silent as to how safety and health at the workplace looks like, how it is structured, how it functions, how it relates to the management of the enterprise in general and how it is reconciled with the functions and responsibilities of other parties. He argues that the workers are not objects to be managed like machines or other factors of production. They are living, breathing and thinking human beings who have the most fundamental stake in any system of health and safety that affects their lives in workplaces. (Bennet 2002)

Bennet (2002) finds the ILO approach towards safety and health in the workplace ideal since it seeks to benefit the workers who are always vulnerable to occupational incidences by advocating that total safety and health specifications should be given priority over performance standards. He argues that pursuing performance standards does not have the safety of workers at heart and pursues a goal of keeping the establishment going other than the total safety of workers. He maintains that performance standards contain no specific objectives and thus are not measurable. Bennet (2002) argues that ISO voluntary standards are mainly focused towards the performance of the business. He believes that ISO standards simply enjoy the World Trade Organization (WTO) endorsement and are pro-production rather than pro-human life. He argues that for a person who is doing routine work with a specific target to meet per day, the prime factor for management is to meet the target rather than to ensure the individual's health, whose stress levels could adversely impact on the operation of the company. He argues that management's views towards environmental health and safety are production oriented. He states that ISO standards simply address matters of policy, planning and implementation, measuring performance, audits, checking, corrective action and management review but are silent on worker perspectives.

Bennet (2002) argues that industrial hygienists simply concern themselves with auditors, disability management and insurance matters rather than with workers' safety and health. He believes that industrial managers simply focus on issues of quality assurance, productivity, cost benefit and continual improvement rather than on quality of life.

A study highlighting statistics gathered from Namibian workplaces on common causes of workplace incidents revealed that the most common incidents at the work place occur more often due to ordinary negligent human activity than use of dangerous machinery and substances (Amweelo, 2000). This also indicates the significance of the role played by individual workers in ensuring safety and health in the workplace .With regard to compliance with regulation it has been noted that regulatory bodies simply function on a state mandate, and base their work on law and policies. In essence this ought to be in support of human welfare, yet in practice it is deficient. In a country like Kenya where industrial development has been built on severe environmental injustice, regulation is practically ineffective. Amweelo (2000) writes that the corporate veil frequently wards off the penetration of standards into the corporate world and prevents the imposition of legal sanctions. She states that “adversarial trained lawyers often facilitate avoidance and evasion of corporate liability through creative compliance with legal requirements”. She also states that a commonly preferred solution to the problem of ensuring that values permeate the internal working of corporations is to require large institutions to regulate themselves, which is often found to be effective by some and problematic by others.

Most workers tend to prioritize access to wages over labour conditions (Hallowes& Butler, 2003).This places them in an ambiguous position resulting in them compromising their lives as victims and risking their lives in the workplaces (Hallowes & Butler, 2003). If so it could mean that towards or on pay-days, workers’ behaviour might change and affect the state of safety and health so as to have an impact on workplace safety conditions. It could also mean that the first working days or two after pay-days negatively

affect attitudes on workplace safety conduct, depending on individual ethical moral mind-set (Hayes, Parender, Smecko, & Trask, 1998). This raises a concern as to value; what is valuable to the workers might not coincide with what is valuable to the company. The objectives of the company might be totally different from those of the workers (Magendaz, 2004). This would have a bearing on compliance with rules and regulations put in place by the industry.

## **2.2 Occupational Health and Safety as a Human Right**

the right to safe and healthy working conditions is part of the broader right of everyone to the enjoyment of just and favorable conditions of work, enshrined in article 23 of the Universal Declaration of Human Rights and article 7 of the International Covenant on Economic, Social and Cultural Rights (Stefano, 2007).

The Universal Declaration of Human Rights states that everyone is entitled to the right to work, to free choice of employment, to just and favorable conditions of work and to protection against unemployment.

## **2.3 Occupational Health and Safety and the Environment**

The Kenya constitution enjoins the state to eliminate processes and activities that are likely to endanger the environment. Article 69 (1) (g) is in tandem with the Environmental Management and Coordination Act (EMCA 1999) and the Occupational Safety and Health Act (Kenya, 2007), which require workplaces in Kenya to come up with the necessary institutional frameworks for environmental and occupational health



and safety management. The constitution guarantees every Kenyan the right to a clean and healthy environment (Kenya, 2010 Article 69).

#### **2.4 Occupational Health and Safety in Kenya**

The National Profile on Occupational Health and Safety (2013) recognizes the Constitution of Kenya as the supreme law, and lays the foundation for all other laws. Although it is not specific on OHS, it provides, in the Bill of Rights, the right for every citizen to fair labour practices, reasonable working conditions, and a clean and healthy environment. (Kenya, 2010 Articles 69,)

According to the National Profile on Occupational Safety and Health (2013), the history of OHS in Kenya dates back to 1950, with the introduction of the Factories Act (Kenya, 1951 cap 514). In 1990 this Act was amended to the Factories and Other Places of Work Act, to enlarge its scope. The Occupational Safety and Health Act (OSHA) and the Work Injury Benefits Act (WIBA) were enacted in 2007, and are now the principal laws that govern OSH in the country.

In Kenya, OSH is managed by the Directorate of Occupational Safety and Health Services

(DOSHS). DOSHS is the designated national authority for collection and maintenance of a database, and for the analysis and investigation of occupational accidents and diseases, and dangerous occurrences.

The functions of DOSHS include:

- inspecting workplaces to ensure compliance with OSHA 2007;

- investigating occupational accidents and diseases, with a view to preventing their recurrence;
- measuring workplace pollutants for the purposes of instituting control measures;
- carrying out medical examinations and surveillance of workers' health;
- providing training on OSH;
- disseminating information on OSH to employers, employees and other interested persons;
- approving architectural plans of buildings intended for use as workplaces;
- ensuring that employees who are injured in the course of their employment are compensated in accordance with the provisions of WIBA 2007; and
- Instituting and conducting legal proceedings against those responsible for non-compliance with the provisions of OSHA 2007.

The Directorate's policy and legal mandate are provided by the National Occupational Safety and Health Policy of (Kenya, 2012, 2007a, 2007b). The body responsible for reviewing national OHS legislation, policies and actions is the National Council for Occupational Safety and Health (NACOSH), whose composition includes the Federation of Kenya Employers (FKE) and the Central Organization of Trade Unions (Kenya) (COTU-K).

## **2.5: Laws, Acts and Regulations on OHS in Kenya.**

The OSH services in Kenya are governed by two pieces of legislation: The Occupational Safety and Health Act, 2007 (Kenya, 2007a) and the Work Injury Benefits Act (Kenya, 2007b)

The purpose of OSHA, 2007, is to secure the safety, health and welfare of people at work, and to protect those not at work from risks to their safety and health arising from, or in connection with, the activities of people at work. The purpose of WIBA, 2007, is to provide compensation to employees for work-related injuries and diseases contracted in the course of their employment, and for connected purposes. There are also several regulations and subsidiary laws that deal with OSH issues.

### **2.5.1 The Factories (Woodworking Machinery) Rules, L.N. No. 431/1959**

These rules apply to workplaces in which any circular saw, pendulum saw, plain band saw, band mill, and band re-saw, planing machine, vertical spindle moulding machine, routing machine or chain-mortising machine operating on wood are in use.

The occupier is required to maintain the floors surrounding woodworking machines, and fence

all dangerous parts of saws, mills and planing machines used for thicknessing, molding, matching or tenoning, and all other machines. The occupier is also required to encourage the use of push sticks with circular saws.

Employees are expected to use the guards of the woodworking machines, keep them correctly adjusted, and use the spikes or push-sticks and holder.

### **2.5.2 The Factories (Docks) Rules, L.N. No. 306/1962**

These rules apply to the processes of loading, unloading, moving and handling goods in, on or at any dock, wharf or quay in any port or harbour in Kenya, and to the processes of loading and unloading any ship in any such port or harbour.

The rules ensure the provision of facilities on shore, including lighting, first-aid boxes, stretchers, ambulances, drinking water, sanitary conveniences and washing facilities, and means of access to the ship. They also provide for general safety provisions on board ship, including access from the ship, access to holds and lifting machinery, marking of hatch coverings, hand grips, precautions where dangerous fumes and dust are liable to be present and protective clothing.

### **2.5.3 The Factories (Cellulose Solution) Rules, L.N. No. 87/1964**

These rules apply to workplaces in which cellulose solutions are used or stored.

“Cellulose solution” means any solution in inflammable liquid of cellulose nitrate, cellulose acetate or other cellulose compound, or of celluloid, or any other substance containing cellulose nitrate, cellulose acetate or other cellulose compound, with or without the a mixture of other substances.

The rules require the occupier to give notice to the Director of Occupational Safety and Health

Services of his or her intention to use or store cellulose solutions; to construct cellulose cabinets, cellulose spaces and ventilating ducts; to take precautions against the ignition of cellulose solutions, flammable liquids and solid residues; and to provide fire exits, metal containers for disposal of waste material, and fixed storage facilities.

The rules prohibit smoking, open flames or naked lights in the workplace, and require persons using cellulose solutions to make use of ventilating and other appliances.

#### **2.5.4 The Factories (First Aid) Rules, L.N. No. 160/1977**

These Rules apply to workplaces, and require the occupier to put in place appropriate measures to ensure that those injured at work receive necessary medical attention. The Rules specify the contents of the first-aid box in accordance with the number of workers, and the training of first-aiders.

#### **2.5.5 The Factories (Eye Protection) Rules, L.N. No. 44/1978**

These rules apply to workplaces, and require the occupier to protect their employees against exposure that is injurious to the eyes.

#### **2.5.6 The Factories (Electric Power Special) Rules, L.N. No. 340/1979**

These rules apply to the generation, transformation, conversion, switching, control, regulation, distribution and use of electrical energy in workplaces. They require the occupier to put appropriate measures in place to eliminate electrical hazards within their premises by the insulation of conductors, and by the provision of circuit breakers and personal protection.

#### **2.5.7 The Factories (Building Operations and Works of Engineering Construction) Rules, L.N. No. 40/1984**

These rules cover the construction, structural alteration, repair and maintenance of buildings, including repainting, redecoration and external clearance of the structure; the demolition of a building; and preparing and laying the foundation of an intended building

or work of engineering construction for the purpose of any industrial or commercial use. The rules require the contractors and occupiers to observe good safety standards while performing building operations in the above activities.

#### **2.5.8 The Factories and Other Places of Work (Safety and Health Committees)**

##### **Rules, L.N. No. 31/2004**

These rules apply to workplaces with 20 or more regular employees. They require the occupier to set up safety and health committees with equal representation of management and workers.

The functions of the committee include conducting safety and health inspections, investigating accidents, and making recommendations to the occupier on improvements for the promotion of a safe and healthy working environment.

#### **2.5.9 The Factories and Other Places of Work (Medical Examination) Rules,**

##### **L.N. No. 24/2005**

These rules apply to workplaces where employees are engaged in occupations that expose them to hazards that might harm their health. They specify occupations requiring medical examinations, and the types of examination of employees at the employer's cost.

#### **2.5.10 The Factories and Other Places of Work (Noise Prevention and Control)**

##### **Rules, L.N. No. 25/2005**

These rules apply to workplaces where activities result in noise levels that could impair or damage employees' hearing ability. They specify the permissible levels of noise, and

require the occupier to carry out noise measurements, develop a noise prevention programme to reduce noise levels, and provide hearing protection.

**2.5.11 The Factories and Other Places of Work (Fire Risk Reduction) Rules, L.N. No. 59/2007**

These rules apply to workplaces, and require the occupier to put appropriate measures in place to prevent the occurrence of fires within their premises. They address the safe handling, storage and transportation of flammable substances. They also require the occupier to provide means of evacuation, fire detection systems, firefighting equipment, and firefighting teams.

The rules prescribe annual fire safety audits, the formulation of a fire safety policy, and training of workers on fire safety issues.

**2.5.12 Factories and Other Places of Work (Hazardous Substances) Rules, L.N. No. 60/2007**

These rules apply to workplaces where workers are likely to be exposed to hazardous substances. They require the occupier to prevent employees from exposure to such substances by putting various control measures in place, or, where these are not reasonably practical, to ensure that personal protective equipment (PPE) is provided. They prescribe occupational exposure limits (OEL) for hazardous chemical substances, safe handling, use and disposal of hazardous substances.

### **2.5.13 The Government Financial Management (Occupational Safety and Health Fund) Regulations, 2011**

These regulations establish a levy called the OSH Levy, chargeable to all registered workplaces at a rate of KSh 3, 000 annually. The fund's function is to secure the development, coordination and implementation of an effective OHS system for the prevention of occupational accidents and diseases, ill health and damage to property at workplaces.

### **2.6 Compliance with OHS Measures**

Hawkins (2002) describes compliance as applying measures designed to comply with legal requirements with the regulator being primarily more concerned with improved outcomes than prosecution results. Compliance with Occupational Health and Safety legislations can increase productivity in industries by reducing accidents. Accidents result in decreasing productivity and damage to equipment or property (Hawkins, 2002)

In the process of compliance with OSH measures, awareness of few factors will help in preventing the occurrences of accidents (Charles & James, 1999). These factors are actual physical hazards, human factors, environmental hazards, lack of poorly designed safety standards and failure to communicate within the organization.

There have been accusations that OSH regulations are just symbolic gestures and useless. OHS measures are said not to be effective in improving safety and health conditions in workplace. This has been experienced in the past two decades of existence (Calavita, 1983). However, according to the U.S. Department of Labor, 2004, since the inception of



the regulations, the number of workers employed in the U.S. has doubled while workplace fatalities have declined by 50%, and occupational injuries and illnesses have declined by 40%. (ILO 2009)

## **2.7: Conceptual and Theoretical Framework**

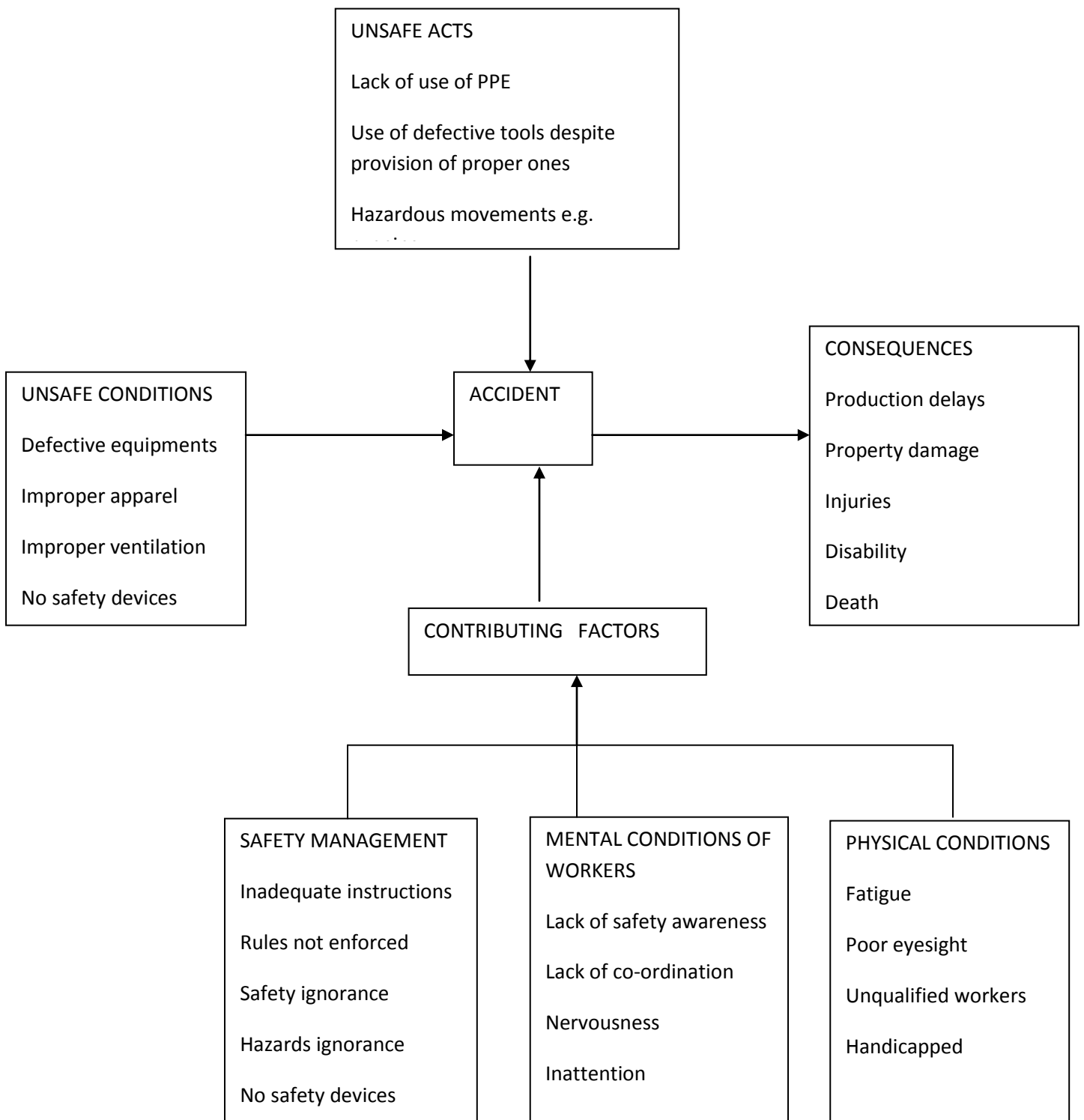
### **2.7.1 Theoretical framework**

Herbert William Heinrich had a formative influence on health and safety practice and his safety program elements have endured to the present day as the foundation of management techniques in health and safety.

Heinrich's theories and techniques on safety management were supported by research he conducted while employed as an engineer for an insurance company. His major research study concerned the causes of accidents and comprised a subjective assessment of the accident cause in 75,000 accident insurance cases. He concluded that 88 per cent of accidents resulted from 'unsafe acts' and 10 per cent from 'unsafe conditions', making a total of 98 per cent judged to be preventable, with the remaining 2 per cent judged as unpreventable. Heinrich advocated a multi-disciplinary approach to safety, focused upon engineering, psychology, management and salesmanship. The emphasis on psychology supported his theory that accidents were caused primarily by the 'unsafe acts' of employees. The minimization of technical fault supported the concept of the culpability of the injured person in accident compensation cases (Hale and Glendon, 1987:31).

The techniques for health and safety management advocated by Heinrich in 1931 are evident today in health and safety programs and systems. Techniques for safety management proposed by Heinrich include close supervision; safety rules; employee education through training, posters and films; hazard identification through analysis of past experience, survey and inspection; accident investigation; job analysis; methods safety analysis; production of accident analysis sheets; approval processes for new construction, installation of new equipment, and changes in work procedures or processes; establishment of safety committees and arrangements for emergency and first aid. Heinrich presented lost time injury frequency rates as the best available measure of effectiveness, complete with the qualification of statistical limitations still common today. Also reminiscent of current approaches is the parallel drawn between the controls in safety and the control of the quality, cost and quantity of production. The causes of accidents and production faults Heinrich viewed as similar and the control methods as equivalent. Safety, he argued, should be managed like any other business function.

**Figure 1 Theoretical Model, source: The Heinrich's Model**



### **2.7.2: Conceptual Framework**

To ensure that the industries in Thika municipality comply with OHS measures, all stakeholders involved will need to work together. The management of industries should invest in implementation of OHS measures in their industries. The management should ensure that their industries comply with all the OHS measures as stipulated by the law. Measures should also be taken by the management to raise awareness among the workers on the importance of OHS. This will help reduce the level of risk of accidents and injuries in the industries.

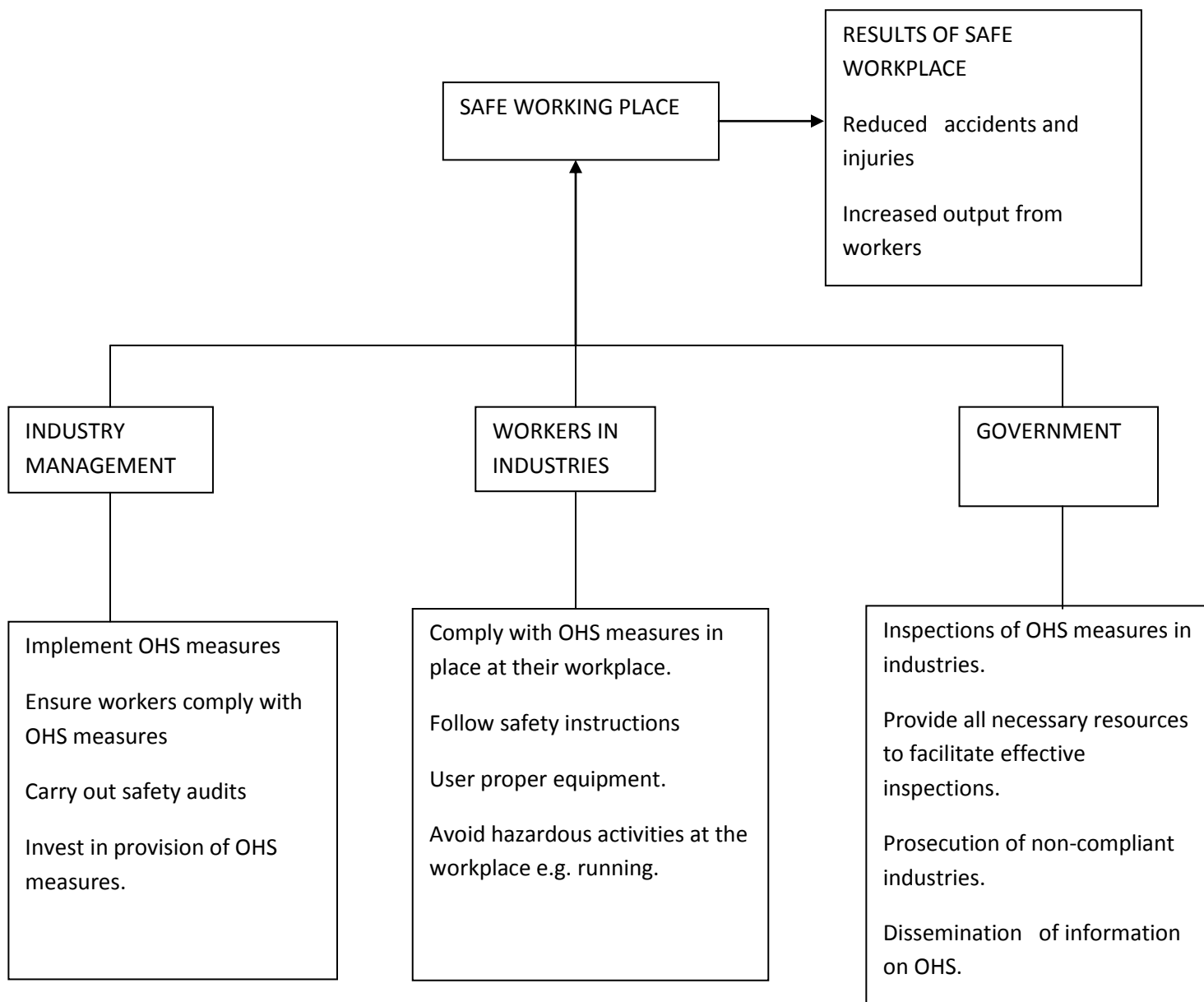
The workers in the industry also have a role in ensuring that OHS measures in their industries are effective. The workers should comply with OHS measures in their industries for instance measures requiring wearing of protective clothing. The workers should also obey all safety instructions at the workplace as well.

The government is responsible for ensuring compliance with OHS measures in industries and other places of work through DOSH office. Therefore, the government should ensure that regular inspections are carried out in the industries to ensure compliance with OHS measures. Adequate staffing and funding should be given to facilitate these inspections. Those industries that do not comply with the OHS measures should be sued and made to comply.

The government should also raise awareness on the importance of OHS measures and disseminate information on OHS to the public to evaluate compliance and effectiveness of OHS.

Involvement of all stakeholders in ensuring implementation and compliance with OHS will result into industries and other places of work being safe workplaces. This will in turn result in increased productivity, prevention of injuries and deaths and prevention of damage to property.

**Figure 2 Conceptual model. Source: Author's construct.**



## **2.8: Conclusion**

Occupational health and safety now has an impact on every worker, in every work place, and those charged with managing health and safety are having more and more tasks added to their portfolio. The most significant responsibility is environmental protection. The skills required to manage occupational health and safety are compatible with environmental protection, which is why these responsibilities are so often bolted onto the workplace health and safety professional. On an international scale, the World Health Organization (WHO) and the International Labour Organization (ILO) have begun focusing attention on the labour environments in developing nations with projects such as Healthy Cities. This focus is well-placed, as many developing countries are caught in a trap: They have fewer resources to invest in OHS, yet because of this, they must also suffer from increased costs of work-related illnesses and accidents.

## CHAPTER THREE

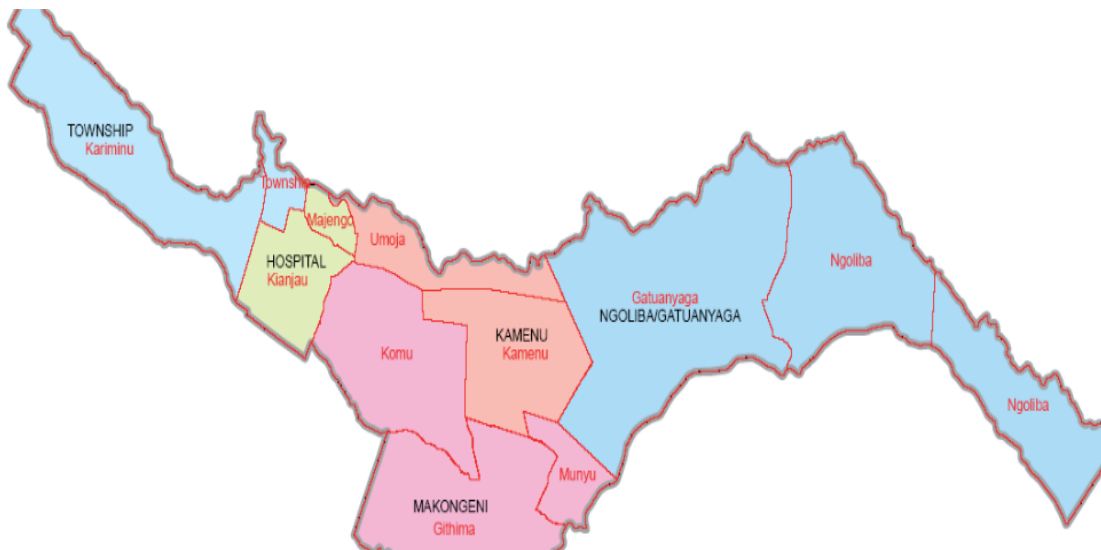
### 3.0 AREA OF STUDY

#### 3.1 Introduction

This chapter gives the physical description of the area of study in terms of position and size, topography, climate and soils.

#### 3.2: Location of Thika

Thika is an industrial town in Kiambu County, Kenya, lying on the A2 road 40 kilometers north east of Nairobi, near the confluence of the Thika and Chania Rivers. Thika lies between latitudes  $3^{\circ}53'$  and  $1^{\circ}45'$  south of Equator and longitudes  $36^{\circ}35'$  and  $37^{\circ}25'$  east.



**Plate 1 Map showing Thika Municipality.** (Source: Wikimapia 2013)

The elevation of Thika is 1531 meters (5026 feet) in altitude. The landscape is generally level save for a few ridges and depressions in wetlands. Part of the study area land is a gentle slope with red clay soil with some sections bearing visible surface rock.

Thika is home to the Chania Falls, 14 falls on river Athi and the Thika Falls, while Ol Donyo Sabuk National Park lies to its southeast. The town has a railway station but there is only limited passenger service with only cargo trains operating, although there are plans to extend the proposed light rail system to Thika.

### **3.3 Population**

The last population and housing census, 2009 estimated the total number of people in Thika town and its environs to be 214,348 with 101,876 female and 112,472 male. This is a rise in population of 29.64% from previous census (1999) which placed the figure at 165,342 people. (KNBS 2009)



**Table1: Population structures of Thika town its environs.** Source: KNBS 2009.

LOCATION	MALE	FEMALE	TOTAL	HOUSEHOLDS	AREA KM2	DENSITY
Gatuanya	9145	8797	17942	5083	126.7	142
Muguga	3183	3064	6247	1642	49.6	126
Munyu	2517	2693	5210	1221	32.9	158
Ngoliba	3445	3040	6485	2220	44.2	147
Thika Town	47091	42141	89232	29270	93.5	954
Biashara	5537	5309	10846	3161	3.2	3389
Karimeni	2096	2482	4578	1265	28.1	163
Komu	30274	25871	56145	19209	29.1	1929
Majengo	9184	8479	17663	5635	33.1	534
TOTAL	112472	101876	214348	68706	4404	7542

### **3.4 Economic Activities**

The main economic activities in Thika include agricultural processing, particularly in horticulture and pineapple, coffee, cooking oil and animal feed processing. Other industries include textile (cotton), macadamia nuts, wheat, tannery, motor vehicle assemblies, cigarette manufacturing, bakeries, packaging and industrial chemicals. About 100 small-scale industries and about 20 major factories exist in and around the town. The

service sector is well represented with the establishment and growth of a number of educational and financial institutions. (Thika district development plan 2002-2008)

### **3.5 Topography and drainage**

Thika municipality is located on a gently sloping land which ascends to the neighboring central highlands. Thika slopes to the northeastern part of town where both Chania and Thika rivers meet. Both Thika and Chania river falls are located to the northeastern. Several streams found around Thika municipality include: Chania (11.8km), Thiririka (18.6km), komo (20.2km), Theta (23.7km) and Kariminu (15.8km).

Water for domestic and industrial use in the town is pumped from the point of convergence of both rivers; this is where the Thika Water Works Company is located. Areas around Thika town have potentially arable land estimated to cover 146,450 Hectares. (Thika development plan 2005-2008)

### **3.6 Climate**

#### **3.6.1 Average Daily Temperatures**

According to Kenya Meteorological Department 2010, average daily temperature throughout the year varies slightly from month to month with average temperatures of around 17 degrees Celsius during the months of July and August to about 20 degrees Celsius in March. But, the daily range is much higher, with the differences between maximum and minimum temperatures each day around 10 degrees in May and up to 15 degrees in February. Between the months of June to September, southeast winds prevail

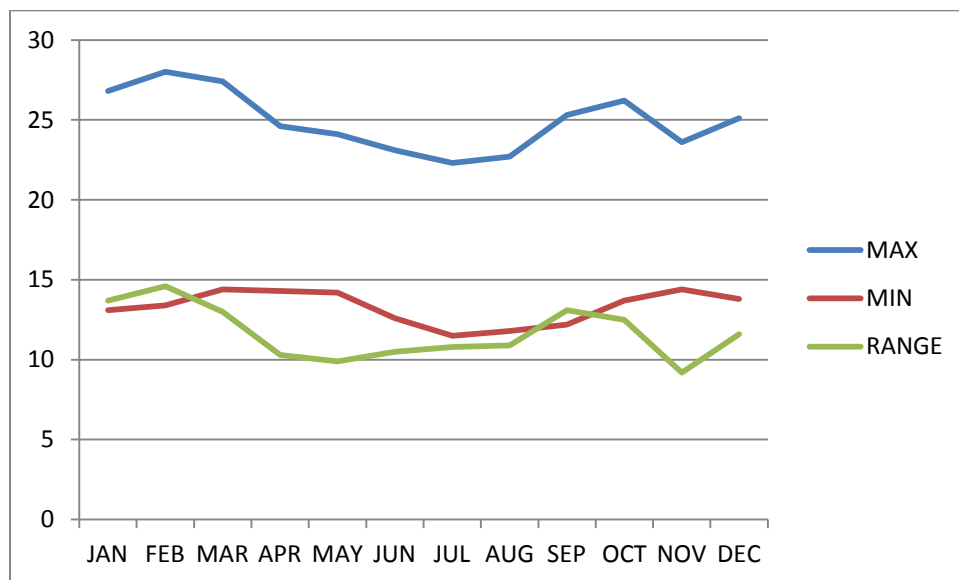
in the coastal parts of Kenya and last up to several days without a break. The clouds cause day temperatures to remain low and most times the maximum temperature stay below 18 degrees Celsius. The minimum temperatures also remain low during cloudy nights, usually hovering around 12 degrees Celsius. Clear skies in January and February also bring colder nights. The highest temperature ever reached in Thika is 22.4 degrees Celsius and the lowest was 3.9 degrees Celsius.

**Table2: Average Daily temperatures in Thika.** (Source: KMD 2010)

Months	Maximum	Minimum	Mean range
January	26.8	13.1	13.7
February	28.0	13.4	14.6
March	27.4	14.4	13.0
April	24.6	14.3	10.3
May	23.1	12.6	10.5
June	22.3	11.5	10.8
July	22.7	11.8	10.9
August	22.7	11.8	13.1
September	25.3	12.2	12.5

October	26.2	13.7	9.2
November	23.6	14.4	11.6
December	25.1	13.8	11.6

**Figure 3: Line graph showing average temperatures in Thika. Source (KMD 2010)**



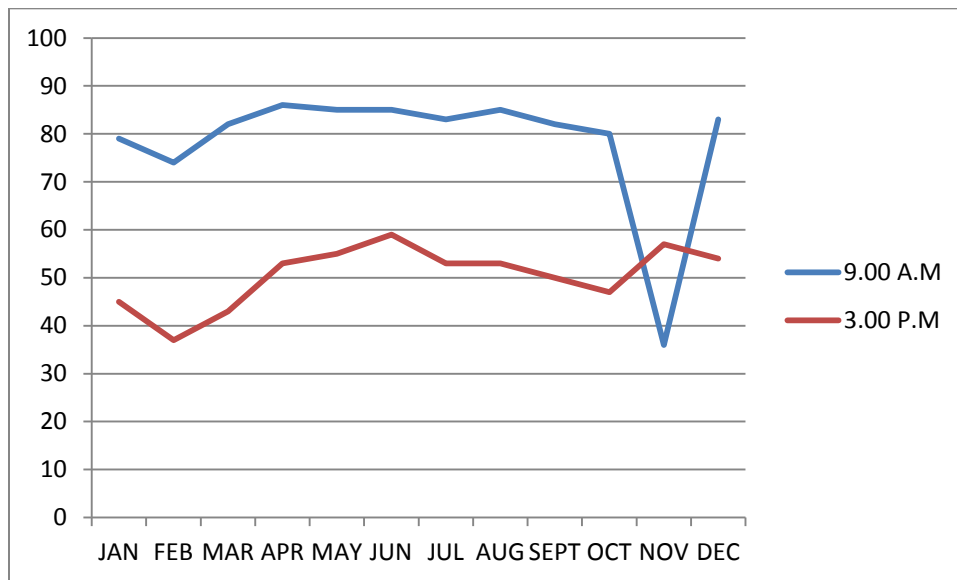
### 3.6.2 Average Humidity Values

Due to Thika's location just south of the equator (between 3°53' and 1°45') in combination with humid from the Indian Ocean, the humidity values for each day are generally high.

Table 4: Mean Relative Humidity Values (%) Source: Kenya meteorological Department

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
9.00 a.m	79	74	82	86	85	85	83	85	82	80	36	83
3.00 p.m	45	37	43	53	55	59	53	53	50	47	57	54

Figure 4: Line graph showing mean relative humidity values (%). (Source: KMD)



This is not to say that values are always high, since the easterly winds coming off the Indian Ocean tend to keep the temperatures standard throughout the country; therefore

the “warm sticky” feeling is usually not associated with Thika as much as one would think. In the months of January to April, relative humidity values have been known to plummet to anywhere from 10% to 20%. The typical day, humidity-wise, starts off with nearly saturated in the morning hours, and steadily decreases throughout the remainder of the day.

### **3.6.3 Average Rain Amounts**

With these routinely high relative humidity figures, it is not surprising that the Thika climate is one that produces average rain annually. In the past 50 years, the expected amount of rain could be between of 500 to 1500 mm, with the average ringing in at 900 mm. The major monsoon season occurs within the months of March to May, the long rain period. The minor monsoon seasons emerges within the October to December Months which is the short rains period.

### **3.6.4 Average Winds**

Winds along the surface are predominantly easterly throughout the entire year. They are shifted to northeast between October and April, and they are shifted southeast between May and September.

Right before the “Long Rains” season, the strongest winds occur, reaching speeds of 20 to 25 miles per hour. During the rest of the year, winds are usually at speeds of 10 to 15 miles per hour. During the night, the winds are generally calm.

### **3.6.5 Average Sunshine**

Early mornings in Thika are often cloudy, but the sun peeks through by early mid-morning.

Throughout the year, there is an average of ten hours of sunshine per day. More sunlight reaches the ground during the afternoon than in the morning. Of course, there is more sunshine during the summer months, when the sun is more overhead in the southern hemisphere. Very rarely during the rainy season the sun never shows through the clouds. Even in August, the cloudiest month, there is a period of some hours of sunshine. (KMD 2012)

### **3.7 Soils and Geology**

In Thika District in general, the rocks exposed consist of horizontal Tertiary lavas, pyroclastics and sediments in the west, and folded Basement System gneisses and schists to the east. The Basement System rocks are metamorphic, and have been in places granitized to a considerable degree, with the production of granitoid gneisses. Soil types in the area are dependent on drainage; black-cotton soils develop in poorly drained regions while sandy soils and murrums form in well drained regions. The proposed project area consists of red soils suitable for farming and brick-making. (Thika District Development Plan 2002-2008)

## **CHAPTER FOUR**

### **4.0 RESEARCH METHODOLOGY**

#### **4.1 Introduction**

This chapter deals with research methodology which focuses on the nature and source of data collected, sampling methods of data collection, data analysis and presentation, and limitations that were experienced while carrying out the study.

#### **4.2 Types and sources of data**

There were two types of data for this study, primary data and secondary data. Primary data obtained from the field collected directly from the respondents using interviews and questionnaires.



Secondary data included: Reports on OHS from ILO, WHO, Government of Kenya, Research thesis and reports by students and desktop research on similar studies and issues.

### **4.3 Methods of Data Collection**

Several methods of data collection were used in collecting data from both primary and secondary sources.

#### **4.3.2 Questionnaires**

Questionnaires were prepared and administered to workers in various industries in the area of study. This helped to find out whether the industries have put in place occupational health and safety measures to protect their workers from accidents and diseases as they carry out their duties. A total of 25 questionnaires were issued to the respondents.

#### **4.3.3 Recording of field information**

Information obtained in the field was recorded in notebooks and by mental notes.

#### **4.3.4 Interviews**

Interviews were conducted with institutions involved in ensuring compliance with OHS measures. The institutions interviewed include, DOSH office, Public Health Office, NEMA and the County Government of Kiambu offices.

#### **4.4 Sample design and sampling**

Sampling is a method of selecting a representative unit from a population under controlled conditions. Systematic random sampling methods were employed to collect information.

#### **4.5 Sampling size**

Questionnaires were administered in 5 industries in Thika industrial area. 5 questionnaires were administered to the employees and one to the management of the industry. Therefore, total questionnaire administered to the employees was 25.

#### **4.6 Data Analysis and Presentation**

The collected data was analyzed through use of additional percentages and averages in order to obtain specific quantity information. Data presentation was done through the use of report writing, bar graphs, pie charts, tables and worded presentation

#### **4.7 Constraints in data collection**

##### **4.7.1 Poor accessibility**

Acquiring entrance to the industries was a huge challenge to my study and had a big impact on the quality of data I collected since in I was forced to leave questionnaires and collect them later. I was allowed access to Bakex Millers but questionnaires were administered by one of the employees and I was not allowed to take pictures showing the state of OHS measures. Industries like Kenblest Bakeries and Nampak Ltd refused to assist me to collect data for the study.

#### **4.7.2 Security problems**

Some of the industries are located far away from the town centre and I had to traverse through some areas famed for muggings and gang crimes according to the locals.

#### **4.7.3 Financial constrain**

A lot of costs were incurred during the preparation of the questionnaires and the transport expenses to the study area. This was a huge challenge to my study since I had to foot all the costs by myself.

#### **4.7.4 Mistrust from respondents**

There was mistrust from some of the respondents who thought I was a government agent doing investigations on their compliance with Occupational Health and Safety measures. Most industries therefore refused to assist me in my data collection.

#### **4.7.5 Time**

Time allocated for data collection for this research was very limited.

To overcome the challenges, the following was done: for accessibility and mistrust I had to show my school ID and a letter from Environmental Planning Department. I solved the security issue by going to the study area in broad daylight and used motorcycles.

## CHAPTER FIVE

### 5.0 DATA ANALYSIS AND DISCUSSION

#### 5.1 The OHS Measures in Industries in Thika Municipality.

The first objective of the study was to find out whether OHS measures existed in the industries in Thika Municipality. This section represents the results of this objective.

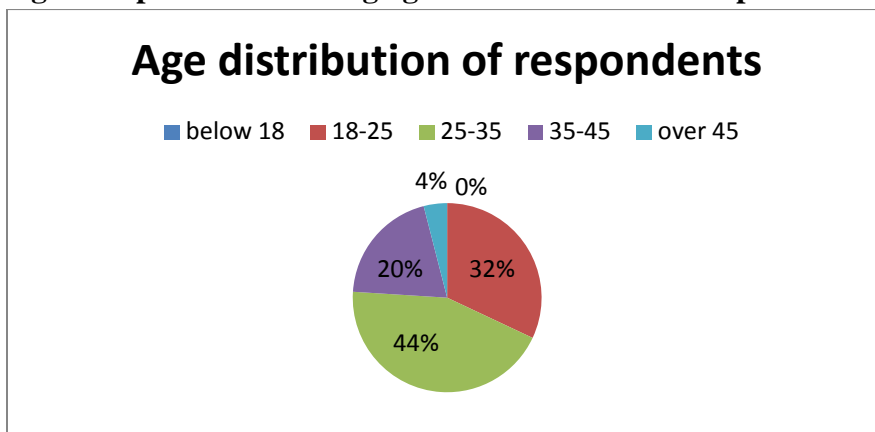
##### 5.1.1 Age distribution of employees

Table 5: showing age distribution of the respondents.

Age	No of employees
-----	-----------------

Below 18 years	0
18-25 years	8
25-35 years	11
35-45 years	5
Over 45 years	1

**Figure 5: pie chart showing age distribution of the respondents**

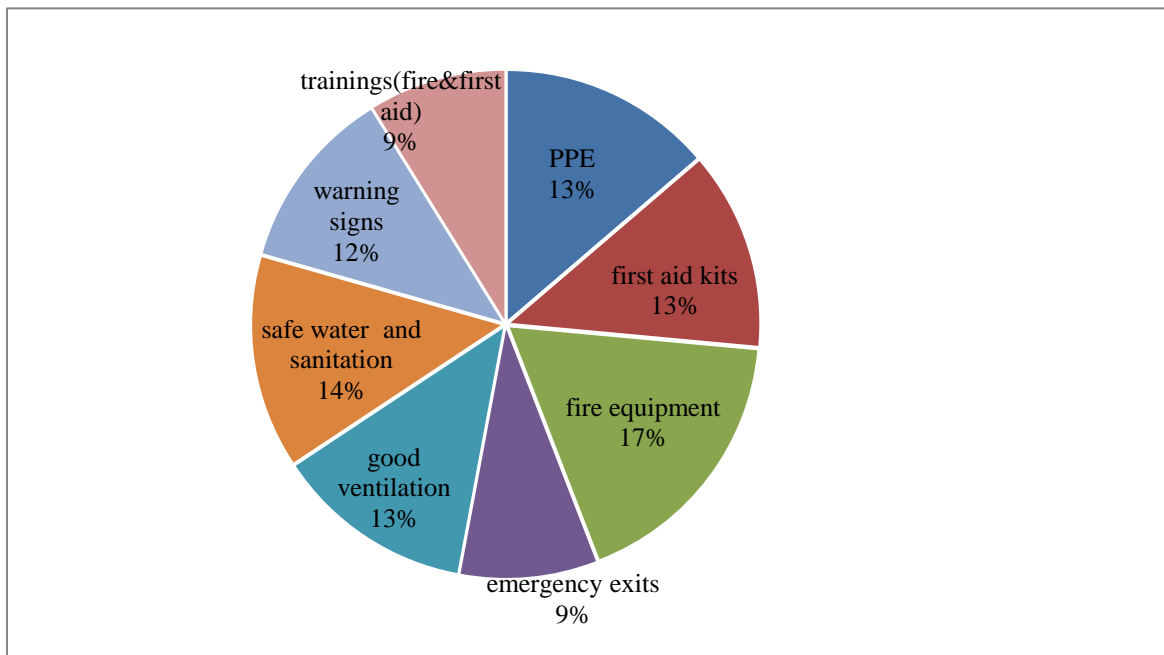


From the age distribution figures above it can be concluded that most of the employees in the industries are young people below the age of 35 years.

About (83%) of the respondents who participated in the survey were aware of OHS Measures whereas (17%) were not. Apparently there are no dominant OHS measures in

place but industries apply a range of measures. The other measures being applied though in limited application are:

- Regular medical check ups
- Fire drills
- Fire assembly points
- Regular safety trainings



**Figure 6: OHS Measures in Industries in Thika Municipality.**

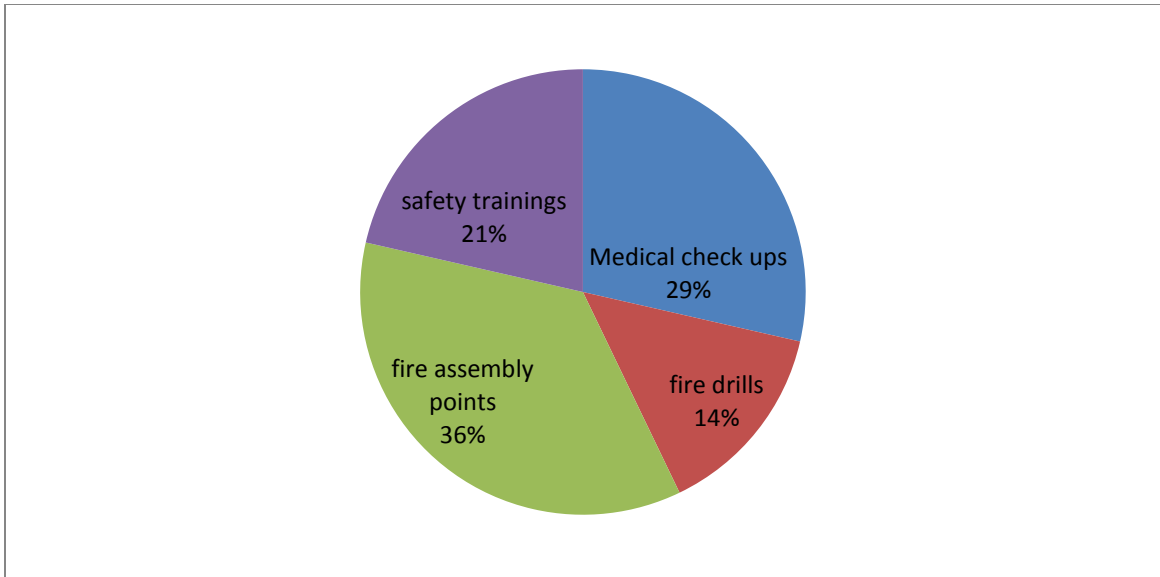


Figure 7: other OHS measures in industries in Thika Municipality.

The respondents involved in the survey helped to rate the overall performance of all OHS measures in their industries and how effective they are. About (70%) rated the effectiveness of OHS in their industries as Good, (22%) as average and (8%) as Poor.

Good	16	70%
Average	5	22%
Poor	2	8%

Table 6: rating of effectiveness of OHS measures in industries in Thika Municipality.

## 5.2 Enforcement and Compliance of OHS Measures in Industries in Thika

### Municipality.

#### 5.2.1 Inspection of OHS measures

About (86%) of respondents said that OHS measures were regularly inspected while (14%) said the measures were not inspected. (Table 7) Weekly inspection was absent, with 56% noting it was being inspected on monthly basis; whereas 28% and 17% noted was inspected on twice and once per year respectively (Table 7)

Table 7: table showing frequency of inspections of OHS measures in industries in Thika Municipality.

Frequency of Inspections	Frequency of Respondents	Percentage (%)
Weekly inspection	0	0
Monthly	10	56
Half yearly	5	28
Yearly	3	17

The office of the DOSHS in Thika is responsible for carrying out inspections in industries in Thika municipality to ensure they comply with OHS measures. Most of the respondents indicated that the OHS measures were inspected monthly. After interviewing the DOSHS Officer, however, it was apparent that the monthly inspections were not possible because the office faced challenges that made it difficult to conduct inspections in the industries. Some of the challenges faced by DOSHS Office include:



- Inadequate transport facilities making it difficult to access the industries. The office has one vehicle that is used to access all workplaces in the Kiambu County. This therefore makes the inspection process to be slow and ineffective since it is likely that some industries are never inspected.
- Inadequate staff- there are only two OHS officers at the Thika office responsible for carrying out inspections in the whole Kiambu County. This is a huge challenge since the officers are overworked meaning that the inspections are not effective. The officers may not have enough time to carry out thorough inspections in the industries making the inspections ineffective.
- Inadequate funding from the government. The DOSHS Officer stated that the office was allocated inadequate funds by the government which made it very difficult to perform their duties since they have to operate on constrained resources.
- Lack of co-operation by management of industries. The DOSHS officer indicated that some of the managements of industries in Thika Municipality were just ignorant of OHS measures and regulations. Some of them even ignored warnings and notices after being found not to have complied with OHS regulations.

A number of measures have been put in place to ensure that industries in Thika Municipality comply with OHS measures by DOSHS, NEMA and Kiambu County Government. Some of the measures include:

- The directorate of OHS aims to carry out inspections more regularly in the industries
- Education and training on OHS have been initiated in workplaces and industries in the county.
- Dissemination of information on OHS to the public on status of OHS
- Prosecution of those industries that have not complied with OHS measures.

### **5.2.2 Employee accidents**

About (36%) of the respondents noted that they have been involved in accidents as they carried out their duties. Some of the common accidents stated include falls, cuts and burns. However, those involved in accidents were few since (64%) of the respondents said they had never been involved in any form of accident. Employees indicated that accidents such as cuts and burns could have been prevented if OHS measures that required workers to put on PPE were enforced and implemented. This is an indication that more has to be done on enforcement of OHS measures in industries in Thika Municipality.

### **5.2.2: Management of Industries and compliance with OHS measures**

Management of the industries in Thika noted what motivated them to establish OHS measures and compliance by employees in their industries attributed to:

- Comply with legal requirements
- Protect workers from injuries
- Enhance quality of work in the industries
- Reduce costs related to accident cases.

The management ensured that employees comply with the OHS measures while at the workplace through:

- Strict supervision to ensure workers in the industry comply with OHS measures
- Making employees understand importance of OHS measures through education programmes on OHS
- Making it a policy in the workplace to comply with OHS measures.
- Punishment of those who do not comply with OHS measures at the workplace.

Interviews with management of industries noted that the main reasons for non-compliance with OHS measures by industries in Thika Municipality are:

- Reluctant safety officers who are supposed to carry out inspections.
- Inactive health and safety committees in the industries.

- Lack of awareness of importance of OHS measures.
- Lack of adequate resources to implement OHS measures by the industries.
- Some of the industry managements are ignorant of OHS measures.

## **CHAPTER SIX**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS.**

#### **6.1 Summary of Findings.**

The aim of the study was to assess the compliance of OHS measures by industries in Thika municipality, Kiambu County. The objectives of the study were to: Examine the OHS measures in industries in Thika, assess the enforcement and compliance OHS regulations in the industries and to give suggestions on how to enhance safety and health of workers in industries in Thika municipality.

The key findings of the study were that most industries have not complied with OHS regulations, with those that have complied put in some measures such as provision of PPE, regular safety trainings, provision of emergency exits and warning signs and medical checkups. However, some employees in the industries in Thika Municipality are unaware of OHS. About (32%) of the employees have had accidents such as falls, cuts and burns. Awareness of OHS measures is limited so is the inspection to monitor compliance due to challenges such as inadequate inspection officers, lack of sufficient funds to facilitate inspections and lack of enough transport facilities to access the industries.

## **6.2 Conclusions**

From the study it can be concluded that the level of compliance with OHS measures by industries in Thika is on average.

Some of the industries have complied with most OHS as stipulated by the law while others have only complied with a few of the OHS measures. Some of the employees in the industries were not aware of what OHS is which make it difficult for such employees to comply with OHS measures in their places of work.

Compliance with OHS has continued to decline due to low levels of inspections by government officers, Public Health and National Environment Management Authority (NEMA) the government officers such as DOSHS and NEMA who are responsible for ensuring that OHS measures are complied with by industries in Thika, faced challenges such as inadequate staff, low funds and inadequate transport facilities, which made enforcement and monitoring of compliance difficult.

### **6.3 Recommendations**

After conducting the study, I came up with some recommendations that if implemented would improve the safety and health of workers in industries in Thika municipality.

The management of industries in Thika Municipality should develop laws and regulations to ensure employees comply with the OHS measures in the industries. For instance, making it mandatory for employees to wear PPE while at their places of work.

There should be a safety and health committee in every industry that will ensure that the industry complies with all the required OHS measures.

The management of industries should put in place measures to raise awareness among the employees about OHS and its importance. The employees should also be given trainings like fire safety training and first Aid training. Personnel working in hazardous areas in the industries should be educated about the prospective hazards and about the safety mechanisms that can help them in dangerous situations.

The government should provide all the necessary resources to facilitate inspections in the industries to ensure that OHS regulations are complied with. Some of the resources that are inadequate according to the study include: Staff, funds and transport facilities.

#### **6.4 Areas for further studies**

The following areas require further studies in order to fully understand the importance of Occupational Health and Safety.

- Research on fire safety in industries in Kenya
- Research on whether poor structural design in industries can lead to accidents and injuries in the industries in Kenya.

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## **APPENDIX A**

### **INSTITUTION QUESTIONNAIRE**

**Kenyatta University  
School of Environmental Studies**

**Department of Planning and Management**

**Institutional questionnaire**

**Dear sir /Madam,**

I am a Kenyatta University fourth year student pursuing a degree in Environmental Planning and Management. I am carrying out a study to evaluate implementation of Occupational Health and Safety regulations in industries in Thika Municipality. I would kindly request that you assist me with the necessary information by filling out the questionnaire provided to make it possible to conduct my study and make appropriate recommendations. Information obtained will be used for academic purposes only.

1. Name of institution

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2. What are the causes of non-compliance with occupational health and safety in industries in Thika municipality?

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3. What challenges do you encounter in the course of carrying out your roles?

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4. What measures have you applied to ensure that industries in Thika municipality comply with occupational health and safety measures?

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5. What actions are taken in cases of non-compliance with OHS measures?

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6. Who are the other stakeholders responsible for making sure that there industries in Thika municipality comply with occupational health and safety measures?

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**APPENDIX B**

**EMPLOYEE QUESTIONNAIRE**

**Kenyatta University**

**School of Environmental Studies  
Department of Planning and Management**

**Employee Questionnaire**

Dear sir /Madam,

I am a Kenyatta University fourth year student pursuing a degree in Environmental Planning and Management. I am carrying out a study to evaluate implementation of Occupational Health and Safety regulations in industries in Thika Municipality. I would kindly request that you assist me with the necessary information by filling out the questionnaire provided to make it possible to conduct my study and make appropriate recommendations. Information obtained will be used for academic purposes only.

NAME OF INDUSTRY

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LOCATION OF INDUSTRY

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.....

**Respondents Socio-Economic characteristics**

	Below 18 years	18-25 years	25-35years	35-45 years	Over 45 years
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Age					
Sex	Male			Female	
How long have you worked here?	0-5 years		5-10 years		Over 10 years
Education level	Primary		Secondary		College/university
What are your duties					

1. Are you aware of Occupational Health and Safety requirements?

YES  NO

2. If yes what Occupational Health and Safety measures are in place at your place of work?

Provision of Personal protective equipment (PPE)

First aid kits

Fire equipment

Emergency exits

Good ventilation

Access to safe drinking water and sanitation

Warning signs

Trainings e.g. fire training, first aid training etc

Other Occupational Health and Safety Measures at your place of work

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3. How would you rate the occupational health and safety standards at your work place

Very good

Good

Average

Poor

Very poor

4. Are the Occupational Health and Safety measures in your workplace regularly inspected?

Yes

No

5. If yes how regular are the inspections and what Occupational Health and Safety measures are inspected?

Weekly

Monthly

Every six months

Yearly

6. Have you ever been involved in any kind of accident in your place of work?

YES

NO

7. If yes what kind of accident and what injuries did you get?

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8. What action did the management take in the event of the accident?

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9. What suggestions would you make to improve occupational health and safety measures at your workplace?



**APPENDIX C**

**INDUSTRY MANAGEMENT QUESTIONNAIRE**

**Kenyatta University  
School of Environmental Studies  
Department of Planning and Management**

**Industry management questionnaire**

**Dear sir /Madam,**

I am a Kenyatta University fourth year student pursuing a degree in Environmental Planning and Management. I am carrying out a study to evaluate implementation of Occupational Health and Safety regulations in industries in Thika Municipality. I would kindly request that you assist me with the necessary information by filling out the questionnaire provided to make it possible to conduct my study and make appropriate recommendations. Information obtained will be used for academic purposes only.

1. Name of institution

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2. What occupational health and safety measures are in place in your institution?

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3. What motivated implementation of the above OHS measures?

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4. How do you ensure that employees comply with OHS measures?

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5. Are the OHS measures in your institution regularly inspected and how often?

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6. Are the employees in your industry insured?

Yes

No

If yes what kind of insurance.

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7. What are the causes of non-compliance with occupational health and safety in industries in Thika municipality?

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8. What suggestions or recommendations would you give to ensure that all industries comply with OHS measures?

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