

**ASSESSMENT OF OCCUPATIONAL HEALTH AND SAFETY IN CONSTRUCTION  
COMPANIES IN SELECTED CONSTRUCTION COMPANIES IN UGANDA**

**A FINAL YEAR PROJECT REPORT SUBMITTED TO KAMPALA INTERNATIONAL  
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SCIENCE IN CIVIL ENGINEERING**

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## **DECLARATION**

I GUMISIRIZA ELIJAH declare that this research is my original work and has never been submitted in any institution for the award of a degree. The Authors of any material which is not my original work has been acknowledged.

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## **APPROVAL**

This final year report on the “assessment occupational health and safety of workers in selected construction companies in Uganda” has been prepared under my supervision and it is ready for submission in partial fulfillment of the requirement of the award of Bachelor of Science in Civil Engineering of Kampala International University.

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**GOD BLESS YOU**

## **ABSTRACT**

Construction is widely regarded as an accident prone industry. The reasons why construction is risky and prone to health and safety risks are because of the physical environment of the work, nature of the construction work operations, construction methods, construction materials, heavy equipment used, and physical properties of the construction project itself.

The human, social and economic costs of occupational accidents, injuries, diseases and major industrial disasters have long been cause for concern at all levels from the individual workplace to the national and international levels.

The main objective is to assess occupational health and safety of workers at Yoson Construction Company ltd and Uganda police construction unit.

The findings are in line with the principles of OHS that state that Occupational health and safety programs and policies must aim at both prevention and protection. Efforts must be focused above all on primary prevention at the workplace level. Workplaces and working environments should be planned and designed to be safe and healthy.

Basing on the findings, it was concluded that the company provides safety communication training to all employees every day before work starts. Safety of employees is a very big issue of concern to the company. The Workers should be provided with equipment's and proper use should be enforced. According to them, company issues protective gears to employees before starting work.

It is recommended that Safety Officers from Uganda Labor office should liaise with the Ministry of Water Resources, Works and Housing and in conjunction with the Association of Civil Engineering and Building Contractors, to conduct regular site visits in order to ensure the enforcement of laws governing the provision of welfare facilities and safety materials, employment, and rights of workers.

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## **ABBREVIATIONS AND ACRONYMS**

OHSA	Occupational Health and Safety Administration
OHS	Occupational Health and Safety
SHEQ	Safety Healthy Environmental and Quality
PPE	Personal Protective Equipment.
ILO	International Labor Organization
WHO	World Health Organization
GNP	Gross Net Product
HSWA	Health and Safety at Work Act

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of the study**

Construction is widely regarded as an accident prone industry. The reasons why construction is risky and prone to health and safety risks are because of the physical environment of the work, nature of the construction work operations, construction methods, construction materials, heavy equipment used, and physical properties of the construction project itself.

There are statutory instruments and legislative frameworks in many developed countries to govern construction operations on site and help in minimizing health and safety hazards, for example, the Construction Design and Management Regulations 2007 (S.I. 2007/No. 320) Regulations on Health and Safety in the UK construction industry. However, the characteristics of construction in developing countries are not the same as characteristics of construction in developed countries.

Hence, Health and Safety policies and procedures may vary and needs to be contextualized. In 2000, the Labor Department (2000: 22) reported that the construction industry in Ghana accounted for the highest rate of occupational deaths in comparison to other industrial sectors.

The main health and safety site requirements in construction relate to tidy sites and decent welfare, falls from height, manual handling, and transport on site. Site operatives are normally required to plan and organize their operations, ensure that they are trained and competent and know the special risks of their trade and raise problems with their site supervisor or safety representative (HSE, 2009). The main personal protective equipment (PPE) in construction (including clothing affording protection against the weather) which is intended to be worn or held by a person at work and which protects him against one or more risks to his health or safety. PPE should be regarded as a 'last resort' when considering control measures. Other methods should be considered and used that will reduce or eliminate risk to injury. However, where PPE is

the only effective means of controlling the risks of injury or ill health, then employers must ensure that PPE is available. PPE should be worn at all construction sites. A typical construction site may require workers to wear a hard hat, coveralls, safety footwear, gloves, eye protection and high visibility vest. These must be provided to all employees.

The latest statistics on work-related health and safety show that 2million people are suffering from an illness they believe was caused or made worse by work, with approximately 30million days (1.3 days per employee) lost per year due to work – related ill health or injury. It is clear from this figure that work –related ill-health, accidents and injury present a significant cost to the Ghanaian economy and employers, as well as to individual employees and their families who experience the personal impact of work related health and safety issues - an impact which may be felt long after the event.

Despite the obvious need to manage health and safety proactively, some organizations do not give it the priority it deserves. This may be due to lack of knowledge, skills and motivation, or to limited staff resources. Cost is also an important issue, with companies feeling that they lack the capital necessary to make proper investment in health and safety and failing to appreciate the importance of this investment. Likewise, few companies measure or understand how investment in health and safety may affect the organization in terms of measurable outcomes is partly due to the challenges inherent in establishing exactly how effective occupational health and safety management is related to organizational performance.

## **1.2 Problem statement.**

The human, social and economic costs of occupational accidents, injuries, diseases and major industrial disasters have long been cause for concern at all levels from the individual workplace to the national and international levels (ILO 2010).

Despite continuous slow improvements, occupational accidents and diseases are still too frequent and their cost in terms of human suffering and economic burden continues to be significant. A recent ILO report estimated that 2million occupational fatalities occur across the world every year (ILO, 2003b), the highest proportions of these deaths being caused by work-related cancers, circulatory and cerebrovascular diseases, and some communicable diseases. The overall annual rate of occupational accidents, fatal and non-fatal, is estimated at 270 million (Hamalainen,Takala and Saarela,2006).

Recent data from the (ILO 2003) and from the World Health Organization (WHO) indicate that the overall occupational accident and disease rates are slowly declining in most industrialized countries (ILO,2003a). In Uganda, occupational health and safety legislation has been inherited from a British legal and institutional framework at the time when Uganda was a British dependency.

According to the European statistics on Accident at Work (ESAW), every year in the 15 Member States of the European Union (EU) before the enlargements of 2004 and 2007 about 5,000 workers were killed in accidents at work and about 5 million workers were victims of accidents at work leading to more than three days absence from work (EU, 2004).

The economic costs of these injuries and death are colossal, at the enterprise, national and global levels. Taking into account compensation, lost working time, interruption of production, training and retraining, medical expenses, and so on, estimates of these losses are routinely put at roughly 4 percent of global GNP every year, and possibly much more(Mitchell,1996).

This project attempts to assess the occupational health and safety of workers in selected construction companies in Uganda.

### **1.3 Objectives of the Study**

#### **1.3.1 General objective**

To assess the occupational health and safety of workers at Yosan Construction Company Ltd and Uganda police construction unit.

#### **1.3.2 Specific objectives**

1. To review the current occupational health and safety system that is used at Yosan Construction Company Ltd and Uganda police construction unit.
2. To establish the main causes of accidents at Yosan Construction Company Ltd and Uganda police construction unit.
3. To identify areas that needs to be improved and suggest necessary improvements.
4. To recommend strategies for improvement and implementation of occupational health and safety policy at Yosan Construction Company Ltd and Uganda police construction unit.

### **1.4 Research questions**

1. What is the current health and safety system that is being used at Yosan Construction Company Ltd and Uganda police construction unit?
2. What are the main causes of accidents at Yosan Construction Company Ltd and Uganda police construction unit?
3. What areas must be improved and how can they be improved?
4. What are the development plans for implementation of occupational health and safety policy at Yosan Construction Company Ltd and Uganda police construction unit?

### **1.5 Scope of the study**

#### **1.5.1 Content scope**

The research project is all about the assessment of occupational health and safety of workers in construction companies in Uganda.

### **1.5.2 Geographical scope**

The study was carried out at Yosan Construction Company Ltd and Uganda police construction unit located in Nagulu, Nakawa division, Uganda.

### **1.5.3 Time scope.**

The project covered a period of ten months from August 2017 to May 2018 during the 2017/2018 academic year.

## **1.6 Justification**

Accidents are all caused by preventable factors which could be eliminated by implementing already known and available measures and methods.

There are several ways that a worker can be injured in the work environment. Injuries can be a result of any one or combination of the following occurrences: falls, being struck by objects in motion, slides and cave ins, structure collapse, being trapped in or by an object, overexertion or strenuous physical actions, exposure to temperature extremes, electrical accidents, radiation exposure, and the inhalation, ingestion, or absorption of harmful substances. These accidents can result in a number of injuries including superficial injury, fractures, sprains and strains, amputation, concussion, internal injury, poisoning, infection, and death.

Occupational health and safety will therefore help workers in construction companies to work in an accident free environment.

## **1.7 Significance of the study**

This study will be useful to Yosan Construction Company Ltd and Uganda Police construction unit in that it will help them in the following;

1. Enable companies to work in improved or accident free environment.
2. The study will also help other organizations with construction companies to implement and observe health and safety procedures as a way of providing safe working environment for their workers.
3. The study will help other scholars and researchers on improving knowledge of occupational health and safety in engineering construction companies.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter focuses on the review of various literatures on occupational health and safety in the construction industry.

#### **2.1 Current Occupation Health and safety systems in companies**

Occupational Health and Safety (OHS) is generally 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.

Anaman and Osei Asamoah (2007) noted in their study that occupational health and safety legislation is a means by which the work environment can be controlled to ensure the safety, health and welfare of employees and persons likely to be adversely affected by the work environment are protected. In Uganda, occupational health and safety legislation has been inherited from a British legal and institutional framework at the time when Uganda was a British dependency.

A recent ILO report estimated that 2 million occupational fatalities occur across the world every year (ILO, 2003), the highest proportions of these deaths being caused by work related cancers, circulatory diseases and some communicable diseases. The overall annual rate of occupational accidents, fatal and non-fatal, is estimated at 270 million (Hamalainen, Takala and Saarela, 2006). Some 160 million workers suffer from work-related diseases and about two-thirds of those are away from work for four working days or longer as a result. After work-related cancers, circulatory diseases and certain - communicable diseases, accidental occupational injuries are the fourth main cause of work related fatalities. The industries which have the highest rate of accidents are the construction companies, mining, production, transportation, and agricultural industries. Production accidents account for fifteen percent of all accidents and thirty percent of all fatalities in industrial work environments. Recent data from the ILO and

from the World Health organization (WHO) indicate that overall occupational accident disease rates are slowly declining in most industrialized countries (ILO, 2003a) but are at high level or increasing in developing and industrializing countries.

The economic costs of these injuries and deaths are colossal, at the enterprise, national and global levels taking into account compensation, lost working time, interruption of production, training and retraining, medical expenses, and so on, estimates of these losses are routinely put at roughly 4 per cent of global GNP every year, and possibly much more.

Almost everyone working in a construction site has at some stage in his or her career suffered an injury requiring some kind of treatment or first aid. It may have been a cut finger or something more serious. The cause may have been carelessness by the victim or a colleague, defective safety equipment, not using the safety equipment provided or inadequate protective clothing. (Bruce S. Black 2010).

And whereas conditions of labor exist involving such injustice, hardship and privation to large numbers of people as to produce unrest so great that the peace and harmony of the world are imperiled; and an improvement of the conditions is urgently required; as for example, by the regulation of the hours of work including the establishment of a maximum working day and week, the protection of the worker against sickness, disease and injury arising out of the employment. (Preamble to the constitution of the International Labor Organization)

A study by Danso (2005) revealed that poor working conditions of any type have the potential to affect a worker's health and safety. Unhealthy or unsafe working conditions are not limited to factories; they can be found anywhere, whether the workplace is indoors or outdoors. For many workers, such as construction workers or miners, the workplace is "outdoors" and can pose many health and safety hazards.

The activities of the construction industry have raised serious health and safety concerns amongst governments, health and safety stakeholders, health and safety professional's and researchers over the past few decades (Enshassi and Mayer 2002,

Gibb 2005, ILO 2005, Kaplinski 2002, Leopold and Leonard 1987, Rowlinson2004). In response, health and safety legislation has been developed to ensure management of construction businesses, and recently many other participants in a project, assume responsibility for managing the risks associated with construction projects.

Health and safety management in the construction industry has evolved from measures adopted in accident prevention to more systematic and proactive approaches to minimizing the risk of hazards in the industry. Past research has shown certain practices can lead to improved health and safety performance and therefore constitute good health and safety practices.

Some health and safety practices are required by health and safety legislation to be implemented on construction sites in some countries. For instance, worker involvement in health and safety, training in health and safety, and health and safety committees, are covered by health and safety regulations in the UK.

### **2.1.1 Health and Safety Management Systems**

A number of construction businesses manage the health and safety function in their businesses by carrying out health and safety activities aimed at minimizing or eliminating the risk of hazards on their sites. A growing number of construction businesses, particularly larger ones, have tended to adopt health and safety management systems which have their origin in Deming's Plan-Do-Check-Act model of continuous quality improvement (Hamid et al. 2004). Essentially, a health and safety management system has four primary elements:

- a. Planning;
- b. Implementing the plan;
- c. Reviewing the plan; and,
- d. Evaluating and taking measures to improve strategy.

Despite the popularity of literature on health and safety management systems, a commonly accepted definition is lacking due to the variable nature of the elements often composing them. Robson et al. (2007) found that health and safety management

lack a common definition and reported on health and safety management systems having up to 27 elements. Helledi (1999) reported on the adoption of a simple, non-bureaucratic health and safety management system by SMEs in the Finnish construction industry which proved effective in bringing down the numbers of site accidents experienced by contractors. The elements of the health and safety management system comprised: a planning phase involving the assessment of risk; an implementation phase involving communication of critical tasks to be carried out on site; a control phase involving monitoring the activities; and, a follow up phase which provides feedback and enables corrective measures to be taken.

Approaches to health and safety management reported in construction hardly qualify as health and safety management systems because they lack one or more of the elements of Deming's Plan-Do-Check-Act (PDCA) cycle. For instance, Agrilla (1999) suggested for achieving high safety performance comprises; safety engineering, safety education and safety rule enforcement. This health and safety management system involves planning as part of the safety engineering process but lacks clear elements or procedures on how to continuously improve health and safety performance. The effectiveness of health and safety management systems in the construction industry has not been assessed. At best, it is only the individual elements that make up the system which have been shown to be associated with improved health and safety performance. The adoption of comprehensive health and safety management systems has been shown to be a difficult task for SMEs (Dawson et al. 1988, Eakin et al. 2000, Mayhew 2000). Some reasons as to why SMEs might find it difficult adopting such systems include lack of adequate resources, the fact that they operate in a competitive environment and operate under relatively informal management procedures (Banfield et al. 1996, Mayhew 1997, Vassie et al. 2000). There is, therefore, reason to doubt the applicability of comprehensive health and safety management systems to construction SMEs.

## **2.2 Causes of accidents on construction sites**

The Construction industry is a very unique industry and unlike fixed workplace like factory. There are reasons believing construction industry are more dangerous than

other industries. Firstly, the construction sites are constantly changing and temporary. Each construction sites involve of many sub-contractors and they perform different types of work in close proximity to each other. Further, several trades and concurrent tasks are present on construction site at the same time, which can bring them the specific hazards of their trade. Certain tasks whereby one trade ends up doing all the tasks usually performed by another trade may result in the workers not being familiar with the hazards involved left by previous trade. The always changing construction site and regular being moved or modified can cause new hazards constantly emerging. Besides, construction workers frequently change worksites and employers over the years. This result in that they might not been trained work in new procedures and equipment. Lastly, due to rush for the dateline and to quickly complete projects, it will increase chances of accident occurs.

The majority of contractors works at construction sites are sub-contractors who have been hired by main contractor. The uncontrolled of safety and health on construction site may cause hazardous conditions go unchecked, which can cause death or serious injuries and sub-contractors who have bad safety records or perform their work in an unsafe manner are very culpable (Reese and Eidons, 1999). A number of people can be held accountable for a construction accident, from the subcontractor and contractor to the owners, architects, insurance companies and equipment manufacturers. Although contractors are required to inspect construction sites with safety engineers and to enforce employee compliance with safety precautions, construction accidents still occur because of inadequate safety regulations or lack supervision.

The major causes of accidents are related to the unique nature of the construction industry, human behavior, difficult work-site conditions, and poor safety management, which result in unsafe work methods, equipment, and procedures. The dynamic nature of construction is one of the major causes for various types of incidents resulting in injuries and fatalities in the construction industry (HSE, 2003). This evidence, together with scores of other statistics and studies, firmly underlines the need for even more rigorous accident prevention regimes. It is a basic human right to return home safely

from work; nobody should be killed or harmed in occupational accidents. Until this position is reached, there will still be work to be done in the field of accident prevention. Part of the problem is that people tend to underestimate long established risks, such as falls, and overestimate workplace violence. Both need to be recognized and controlled.

There are many causes of accidents on site. The broad category of site accidents covers everything from small cuts and bruises to huge disasters that affect a large population of people.

Causes of accidents on site can be broken down into two broad categories: unsafe conditions and unsafe acts. The causes of accidents on sites that pertain to unsafe conditions can include insufficient workspace lighting, excessive noise, slippery or unsafe flooring, extreme temperature exposure, inadequate protection when working with machinery or hazardous materials, unstable structures, electrical problems, machine malfunction or failure, and more. The causes of site accidents that involve unsafe acts can include actions or failures to act which result in injury. This can be a result of employee negligence but employers, organizations, and product manufacturers can also be liable for the causes of accidents on sites (Reese and Eidons, 1999).

The causes of site accidents can occur in the environment around the company premises or within the work environment. External causes of site accidents may include fires, chemical spills, toxic gas emission or radiation. The causes of site accidents in these cases might include organizational errors, human factors, abnormal operational conditions, natural forces, software or component failures, and outside interference. Internal causes of industrial accidents can involve equipment or other work related tangibles, harmful materials, toxic chemicals, and human error (Reese and Eidons, 1999).

There are several ways that a worker can be injured in the work environment. Injuries can be a result of any one or combination of the following occurrences: falls, being struck by objects in motion, slides and cave ins, structure collapse, being trapped in or by an object, overexertion or strenuous physical actions, exposure to temperature

extremes, electrical accidents, radiation exposure, and the inhalation, ingestion, or absorption of harmful substances. These industrial accidents can result in a number of injuries including superficial injury, fractures, sprains and strains, amputation, concussion, internal injury, poisoning, infection, and death (Frank P. Less. 1991).

Anaman and Osei Asamoah (2007) also believe that poor working conditions can affect the environment workers live in, since the working and living environments are the same for many workers. This means that occupational hazards can have harmful effects on workers, their families, and other people in the community, as well as on the physical environment around the workplace. A classic example is the use of heavy machines in construction work.

Workers can be exposed to dust and chemicals in a number of ways when spraying clearing and applying bitumen, they can inhale the chemicals during and after spraying, the chemicals can be absorbed through the skin, and the workers can ingest the chemicals if they eat, drink, or smoke without first washing their hands, or if drinking water that has become contaminated with the chemicals.

Kheni (2008) also noted that workers' families can also be exposed in a number of ways: they can be exposed to residues which may be on the workers' clothes. Other people in the community can all be exposed in the same ways as well. Overall, efforts in occupational health and safety must aim to prevent industrial accidents and diseases, and at the same time recognize the connection between worker health and safety, the workplace, and the environment outside the workplace.

Danso (2005) further stated in his work that workers in every occupation can be faced with a multitude of hazards in the workplace. Occupational health and safety addresses the broad range of workplace hazards from accident prevention to the more insidious hazards including toxic fumes, dust, noise, heat, stress, etc. Preventing work-related diseases and accidents must be the goal of occupational health and safety programs, rather than attempting to solve problems after they have already developed.

Anecdotal evidence suggests the implementation of health and safety standards in the construction industry is problematic because of their particular characteristics. A survey conducted by Baldock et al (2005), revealed marked variations in firms' health and safety practices. External factors found in the study which influenced the businesses' decisions to improve health and safety included; regulatory enforcement activity, use of external assistance on health and safety and membership of trade associations. Internally, the size of construction firms (number of employees and turnover), growth performance and management experience were found to correlate with propensity to adopt health and safety improvement measures.

A study by Champoux and Brun (2002) also suggests small business characteristics are associated with health and management within SMEs. Areas of operation have also been found to relate to adoption of health and safety management practices; even where businesses operate in the same industry, there can be marked variation in their health and safety practices depending on the nature of their products or services they render. Birchall and Finlayson (1996) found that, in the construction sector, the effectiveness of health and safety management systems varies with organizational size and type of business activity. The huge numbers of construction SMEs in the economy of any country makes it difficult for enforcing agencies to reach them. Additionally, most SMEs are "invisible", making it difficult for safety inspectors to locate them.

### **2.3 Occupation health areas that must be improved.**

The health of employees is vital though sometimes employers have put little focus on some issues including employee treatment, exposure to infections. There are several safety gadgets that should be provided to the employees in the construction companies to ensure that the workers' risk occupational hazard is minimized if not totally eliminated.

Construction companies should be supplied with the following equipment; safety helmets, all types of hand Gloves, Apron or shop coats or coveralls, safety shoes, Nose masks, all types of safety goggles, Ear plugs & Ear muffs (sound proof), First aid boxes among others (Roger Timings. 2011)

In order to change the situation, there was made the necessary step- building companies deposits to the budget of social insurance instance ('Sodra 2004'), were bound up in accidents, that is, work safety and health condition in a company, essentially. About effectiveness of this step, we can judge by the data from VDI web page [6].

Inquiries and researches showed that the biggest attention talking about safety and security must be paid in building industry. The most deadly accidents happen here. There are recommendations to organize special classes for workers about safety and health, respect requirements of equipment(Edwards, 2012).

Employee's health is a big problem for USA employers. Fast food, smoking and television make a bad influence in employee's health. Just 3 per cent of Americans lives are healthy. Problems associated with employee's health cause huge amount of detriment to USA economics per day, reduce productivity and wellbeing of employees, also increase expenses of medical treatment (George2005).

In California there is an underweight problem, which will cause 28 \$ milliards detriment per 2005 years. In Washington, the government prepared health plan in order to force workers to follow healthy lifestyle. This program must be in vogue in future in both sectors: private and social. According to the King Country plan, workers of county will get points, if they will follow the healthy lifestyle. Other, who will refuse to fill confidential questionnaire or will get not enough points, will have to pay the most part their medical expenses, which can reach about 1000 \$ additional expenses, starting at 2007 year. In order to reach the best results, employers have to select absolutely complete plan, which involves different techniques (George, 2008)

In California health keepers, reacting to the heat wave, which caused about 10 deaths per 23 days, adjusted extraordinary heat rules, requiring a lot of shade and playtime for thousands of workers, who work in the sunshine (Wasserman, 2005). Extraordinary heat rules, which have to come into force per 10 days and last 4 months, are the first specific detail of Californian employers, which shows the probability to avoid deaths and

illnesses, which developed this summer. Extraordinary heat rules does not show, what temperature is dangerous. They report lessons to prevent illnesses: workers need to get a quarter of the water per hour per shift, also workers need to be encouraged to drink water; employees, suffering from heat must get 5minutes rest in shade; employers have to teach building supervisors and workers to recognize the symptoms of the stress, caused of heat and personal risk factor, such as drinking beer, underweight or taking medicines; employers have to organize ambulance arrival to the accident place, orienting them in working place (Wasserman,2005).

In 2006, January new EU directives took effect. The directive says, that 'risk, caused by noise should be eliminated or reduced up to minimum' (Wood, 2005). Small companies are the most part of construction industry now days. There is a tendency, that organizing processes must be improved in these companies in order to secure worker's safety and health.

For that reason, the financial help is essential. Also there is a suggestion for European countries to take the standard from Great Britain. This standard shows that there are few factors, which are important in dealing with regional safety and health. These factors are: Laws, business association's support, in the national and industrial scale; Employer's support in a working place; Support from control institutions; Support from business associations, which would give a support in resources, trainings and useful information (David Walters, 2009).Taking care of safe life, as one of values, is not easy to achieve. The government of one of the most economically developed countries, such as Australia or Great Britain, issued laws of constructor's safety.

#### **2.4 Strategies for effective implementation of occupational health and safety policy**

Strategic approaches to dealing with OHS are necessary for both employers' as well as employees' wellbeing. For instance, considering the case of hazards, these normally include dangerous behaviors and substances that can lead to injury or even death to workers. According to Taylor (2005), there are many hazards that employees can be

exposed to, such as infectious diseases, poisonous chemicals, and dangerous gases. Hence, organizations across industries, such as construction, that experience these forms of hazards, must design, and follow specific strategies in the event of any occurrence of these hazards. In addition, health and safety plays an important role in ensuring that illness and injury in the workplace and at construction sites are avoided.

Such strategies will assist both employers as well as employees in the understanding of the potential hazards they can be exposed to at work or construction site on a daily basis. It has been asserted by Channing (2003) that when organizations typically comprehend how injuries influence their 'bottom line', they have a tendency to try and execute strategies to make sure of their employees' health and safety. In addition, acts of violence and employee misbehaviors within the organization are cause for concern due to the threat they have on the wellbeing of an entire organization, industry and even the national workforce. OHS strategies are important in preventing violence within the organization and assist in raising employee awareness of the potential dangers they encounter in the workplace.

Furthermore, there are various problems faced by the construction industry in the UK today that underline the significance of a strategic approach to dealing with the issue of OHS in the construction industry. In addition, the aforementioned is an important factor when dealing with procurement methods, legal and financial implications and the scrutiny of a bidder by a contractor when dealing with OHS strategies. This typically could dictate a decision by either party, typically to potentially ignore the relevant health and safety issues and decide to choose a supplier or customer that will result in cost savings, or indeed choosing the highest bidder irrespective of tendering rules or OHS concerns. Hence, there is a risk management concern to be dealt with in such cases. Occupational health and safety is an extensive multidisciplinary field, invariably touching on issues related to scientific areas such as medicine including physiology and toxicology ergonomics, physics and chemistry, as well as technology, economics, law and other areas specific to various companies and activities.

### **2.4.1 Strengthening occupation healthy safety principles**

All workers have rights; Workers, as well as employers and governments must ensure that these rights are protected and must strive to establish and maintain decent working conditions and a decent working environment more specifically; Work should take place in a safe and healthy working environment. Conditions of work should be consistent with workers' wellbeing and human dignity. Work should offer real possibilities for personal achievement, self-fulfillment and service to society (ILO, 2008)

Occupational health and safety policies must be established; such policies must be implemented at both the national (governmental) and organizational levels. They must be effectively communicated to all parties concerned (ILO, 2008). Social partner and other stakeholders must be consulted. This should be done during formulation, implementation and review of all policies, systems and programs. (ILO, 2008).

Occupational health and safety programs and policies must aim at both prevention and protection. Efforts must be focused above all on primary prevention at the workplace level. Workplaces and working environments should be planned and designed to be safe and healthy (ILO, 2008).

Continuous improvement of occupational health and safety must be promoted. This is necessary to ensure that national laws, regulations and technical standards to prevent occupational injuries, diseases and deaths are adapted periodically to social, technical and scientific progress and other changes in the world of work. It is best done by the development and implementation of a national policy, national system and national program (ILO, 2008)

Occupational health services covering all workers should be established. Ideally, all workers in all categories of economic activity should have access to such services, which aim to protect and promote workers' health and improve working conditions. (ILO, 2008)

Education and training are vital components of safe, healthy working environments. Workers and employers must be made aware of the importance of establishing safe

working procedures and of how to do so. Trainers must be trained in areas of special relevance to particular industries, so that they can address the specific occupational safety and health concerns (ILO, 2008)

#### **2.4.2 Strengthening Workers' rights**

It is increasingly recognized that the protection of life and health at work is a fundamental worker's right. (Article 7 of the United Nations International Covenant on Economic, Social and Cultural Rights, 1976, reaffirms this right in the following terms);

The States Parties to the present Covenant recognize the right of everyone to the enjoyment of just and favorable conditions of work, which ensure, in particular ( b) Safe and healthy working conditions .In other words, decent work implies safe work. Furthermore, workers have a duty to take care of their own safety, as well as the safety of anyone who might be affected by what they do or fail to do. This implies a right to adequate knowledge, and a right to stop work in the case of imminent danger to safety or health. In order to take care of their own safety and health, workers need to understand occupational risks and dangers. They should therefore be properly informed of hazards and adequately trained to carry out their tasks safely. To make progress in occupational safety and health within enterprises, workers and their representatives have to cooperate with employers, for example by participating in elaborating and implementing preventive programs.

#### **2.4.3 Employer's responsibilities**

Employers have general duty under the HSWA 'to ensure, so far as is reasonably practicable, the health, safety and welfare at work of their employees'. The HSWA specifies five areas which in particular are covered by the employer's general duty (Bruce S, 2010).

To provide and maintain machinery, equipment and other plant and systems of work that are safe and without risk to health. ('Systems of work means the way in which the work is organized and includes layout of the work place, the order in which jobs are carried out or special precautions to be taken before carrying out certain hazardous

tasks.). Ensure ways in which particular articles and substances (e.g. machinery and chemicals) are used, handled, stored and transported are safe and without risk to health (Bruce S, 2010).

Provide information, instruction, training and supervision necessary to ensure health and safety at work. Information means the background knowledge needed to put the instruction and training into context. Instruction is when someone shows others how to do something by practical demonstration. Training means having employees practice a task to improve their performance. Supervision is needed to oversee and guide in all matters related to the task (Bruce S, 2010). Ensure any place under their control and where their employees' work is kept in a safe condition and does not pose a risk to health. This includes ways into and out of the workplace.

Ensure the health and safety of their employees' working environment (e.g. heating, lighting, ventilation, etc.) They must also provide adequate arrangements for the welfare at work of their employees ('welfare at work' covers facilities such as; seating, washing, toilets etc.)

#### **2.4.4 Governments' duties**

Governments are responsible for drawing up occupational safety and health policies and making sure that they are implemented. Policies will be reflected in legislation, and legislation must be enforced. But legislation cannot cover all workplace risks, and it may also be advisable to address occupational safety and health issues by means of collective agreements reached between the social partners (ILO, 2008).

Policies are more likely to be supported and implemented if employers and workers, through their respective organizations, have had a hand in drawing them up. This is regardless of whether they are in the form of laws, regulations, codes or collective agreements.

The competent authority should issue and periodically review regulations or codes of practice instigate research to identify hazards and to find ways of overcoming them;

provide information and advice to employers and workers; and take specific measures to avoid catastrophes where potential risks are high (ILO,2008).

The occupational safety and health policy should include provisions for the establishment, operation and progressive extension of occupational health services. The competent authority should supervise and advise on the implementation of a workers' health surveillance system, which should be linked with programs to prevent accident and disease and to protect and promote workers' health at both enterprise and national levels (ILO, 2008). The information provided by surveillance will show whether occupational safety and health standards are being implemented, and where more needs to be done to safeguard workers (ILO, 2008).

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0. Introduction.**

This chapter presents the methodology for the research. This includes the research design, study population, sampling, methods for data collection and analysis among others

#### **3.1. Research Design.**

The research employed a descriptive survey design which describes the phenomena as seen from the field (Amin 2005). Quantitative data collection was used. Quantitative research is explaining phenomena by collecting numerical data that is analyzed using mathematically based methods (Aliaga and Gunderson, 2000).

#### **3.2 Population of the study**

The study population was comprised of 45 staff of Yosan Construction Company Ltd and Uganda police construction unit. This population was mainly consisting of the company managers and staff in the construction department who provided the most vital information

#### **3.3 Sample Size and Selection**

According to Mugenda (1999), a sample is a subset of a population .Therefore, sampling is the process of selecting a number of subjects for a study in such a way that those selected represents the large group from which they are drawn. The study involved a sample of 40 respondents selected basing on Krajcie and Morgan (1970) Sampling table in appendix II.

**Table 1: Categories of respondents**

	<b>Population</b>	<b>Sample size</b>	<b>Sampling method</b>
Directors	02	02	Purposive sampling
Clerk of works	03	03	Purposive sampling
Engineers	03	03	Purposive sampling
Site engineers	08	08	Convenience/purposive
Fore men	05	05	Purposive sampling
Subcontractors	03	03	Purposive sampling
Masons	03	03	Purposive sampling
Security officers	03	03	Convenience/purposive
Porters	15	10	Purposive sampling
Total	45	40	

**Source primary data****3.4 Sampling Techniques**

The researcher used purposive sampling technique to all population groups of the study. Purposive sampling means that the research selects the respondents with the knowledge based on the research objectives. This technique allows the researcher to have required information basing on the set objectives of the study according to Mugenda (1999).

**3.5 Data collection instruments**

These are methods the researcher used in obtaining raw data from the field. The researcher used both the primary and secondary sources.

**Primary data collection**

Primary sources involved collecting data directly from clients using questionnaires.

**Questionnaires**

A questionnaire is a carefully designed instrument for collecting data in accordance with the specifications of the research questions (Amin 2005). The questionnaires were

formulated and distributed to Management and staff of Yosan Construction Company Ltd and Uganda police construction unit. Questionnaires help respondents to express their view and are relatively easy to analyze.

### **Secondary data sources**

Secondary data was collected from existing information for example Business journals, audit reports, text books, internet, and other relevant organization documents. Secondary data sources will be used because information is readily available and cheap to acquire.

### **3.6 Procedure for Data Collection**

The researcher used questionnaires which were administered to carefully chosen respondents. Oral interviews with Managers, Accountants, supervisors and other employees were also carried out. The researcher took the questionnaires to respondents proceed by briefing them about the purpose of the questionnaires and asks them to fill them on their convenience to allow them more time and flexibility. Later the researcher made a follow-up and collects the filled questionnaires.

### **3.7 Reliability and validity**

#### **3.7.1 Reliability**

Reliability refers to the consistence, stability, or dependability of the data. The reliability of an instrument is increased by identifying the precise data needed and repeated use of the instrument in field testing. In order to ascertain reliability of this study a pilot study was conducted to administrators the bank whereby questionnaire was distributed to respondents. This was done in order to identify questions that might be unclear to them. The questions that give ambiguous answers were revised and formatted again so that they could give reliable answers during the final process of data collection.

#### **3.7.2 Validity**

Validity refers to the extent to which a measurement does what it supposed to do (Kothari, 2003). Data need not only to be reliable but also true and accurate. If a

measurement is valid, it is also reliable but if is reliable, it may or may not be valid. In this study data were computerized and checked for its accuracy to make sure that they give valid results. Questionnaire that won't be correctly filled were dropped out so that they won't give wrong conclusion

### **3.8 Data analysis and Presentation**

The data filled in the questionnaires were copied and analyzed by tallying it and tabling it in frequency tables, identifying how often certain responses occurred and later evaluation was done. The information was later presented in terms of percentages, and frequency for presentation. The collected data in form of questionnaires was entered in a computer package called MS- Excel for analysis.

### **3.8 Ethical considerations**

It is important during the process of research for the researcher to understand that participation is voluntary; participants were free to refuse to answer any question and may withdraw any time.

Another important consideration, involves getting the informed consent of those going to be met during the research process, which involved interviews and observations bearing in mind that the area bears conflict.

Accuracy and honesty during the research process is very important for academic research to proceed. The researcher should treat the project with utmost care, in that there should be no temptation to cheat and generate research results, since it jeopardizes the conception of research.

Personal confidentiality and privacy are very important since the thesis was public. If individuals have been used to provide information, it is important for their privacy to be respected. If private information has been accessed then confidentiality has to be maintained.

### **3.9 Limitations**

The researcher was affected by the following challenges during the study.

1.It was hard to find the right respondents willing to provide accurate required information concerning their company since the study involves the need for some vital information concerning the company. This however was solved by being persistent and use of the best approach to respondents.

2.The research was tiresome because it was hard to fix the researchers plans in to the plans of respondents who were always busy doing their work.

## CHAPTER FOUR

### DATA PRESENTATION

#### 4.0 Introduction

This chapter presents the findings of the data gathered and interpretation. It gives the demographic characteristics of respondents and description of the objectives of the study and variables used.

#### 4.1 Demographic background of respondents

This section determines the demographic characteristics of respondents in terms of gender, age, education level and work experience. To achieve it, questions were asked to capture these responses. Frequencies and percentage distributions were employed to summarize the demographic characteristics of respondents as shown in tables below.

##### 4.1.1 Gender of the Respondents

The findings on the gender of the respondents are presented in table 2 below

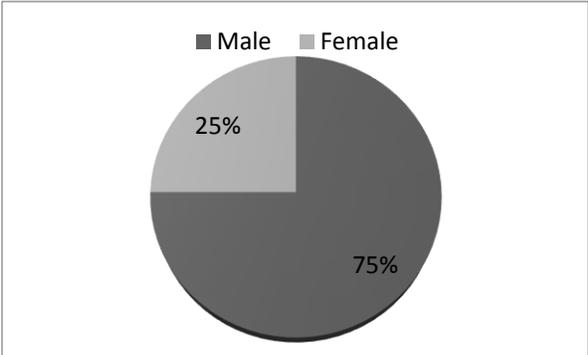
Table 2: Gender of the Respondents.

Description	Frequency	Percentage
Male	30	75
Female	10	25
<b>Total</b>	<b>40</b>	<b>100</b>

Source: Primary Data, 2018

The information in Table 2 shows that (75%) of the respondents were male while (25%) respondents were female. This suggests that the male are dominant in this organization compared to their female counterparts. This could be attributed to the multitasking capacity of the male people. The females also participated meaning that both genders were represented in the study.

**Gender of the Respondents**



**Figure 1: Showing gender of respondents**

**4.1.2 Age Range of the Respondents**

The respondents were required to indicate their age range. The responses are presented in Table

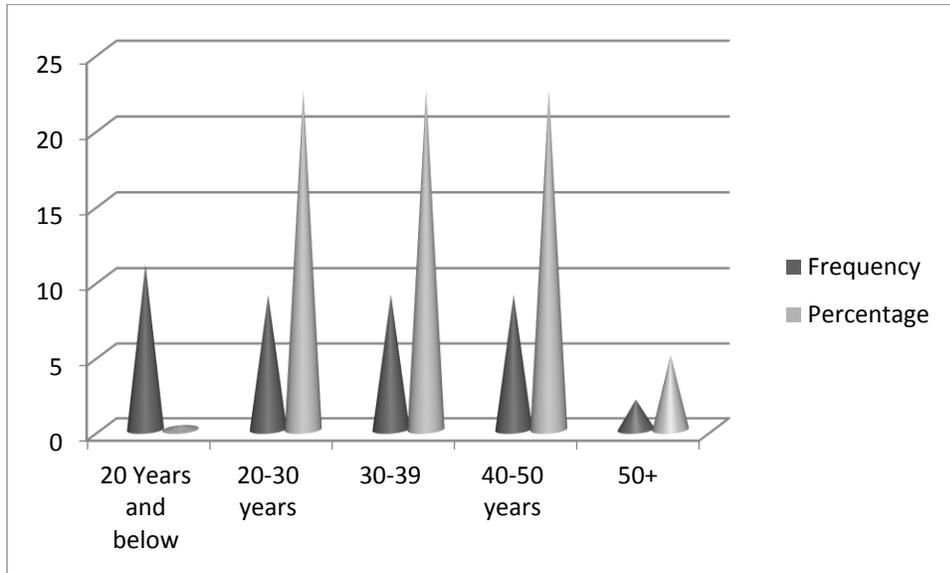
**Table 3: Age Range of the Respondents**

Description	Frequency	Percentage (%)
18-20	11	27.5
20-30 years	9	22.5
30-39	9	22.5
40-50 years	9	22.5
50+	2	5
<b>Total</b>	<b>40</b>	<b>100</b>

Source: Primary Data, 2018

Table 3 shows that (27.5%) respondents were aged between 18-20 years, (22.5%) respondents were aged between 20 and 30 years, the same percentage (22.5%) respondents were aged between 30 and 39 years, the same percentage (22.5%) of the respondents were aged 40-50 years while the minority (5%) were 50 years and above. As shown in Table 3, the majority of respondents were aged 20, 30 years and 39 years. The findings showed that the Company employs more of the young people because they prove to be very innovative and enthusiastic, their older counterparts

however are very essential during decision making and managing due to their experience.



Source primary data 2018

**Figure 2: Showing the age range of respondents**

#### 4.1.3 Marital Status of the Respondents

Information on the marital status of the respondents is presented in Table 4.

**Table 4 Marital Status of the Respondents.(N=40)**

Description	Frequency	Percentage (%)
Married	17	42.5
Single	15	37.5
widow	5	12.5
Divorced	3	7.5
<b>Total</b>	<b>40</b>	<b>100</b>

**Source: Primary Data, 2018**

Table 4 shows that (42.5%) respondents were married, (37.5%) respondents were single, (12.5%) were widow while (7.5%) respondents were divorced. This indicates that majority of the respondents were married respondents.

#### 4.1.4 Highest Educational Qualification of the Respondents

The study also sought from the respondents about their educational level. The findings are presented in Table 5.

**Table 5: Highest Level of Education (N=40)**

<b>Description</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Secondary	8	20
Diploma	24	60
Degree	6	15
Masters	2	5
<b>Total</b>	<b>40</b>	<b>100</b>

**Source: Primary Data, 2018**

Table 5 shows that (20%) respondents had a secondary certificate, (60%) respondents had Diploma, (15%) respondents had Degree, while (5%) respondents had masters. As shown in Table 5, majority of respondents were educated, as their educational level of most respondents ranged from master's level. This implies that respondents seem to have an understanding of the issues under study.

#### 4.1.5 Duration in Employment

**Table 6: Duration in Employment**

<b>Description</b>	<b>Frequency</b>	<b>Percentage</b>
Less than 2 years	8	20
2-5years	10	25
Above 5 years	22	55
<b>Total</b>	<b>40</b>	<b>100</b>

Source: Primary Data, 2018

Table 6 shows that 8 (20%) respondents indicated that they were in employment for less than 2 years, 10 (25%) respondents for between 2 and 5 years, while (55%) respondents had been in employment for more than 5 years. As shown in Table 6, the majority of respondents had been in employment for more than 5 years. This can be

attributed to the fact that staffs are normally employed on permanent terms or on contract terms that is renewed after a specified period of time, usually two years. They are also more secure at their job.

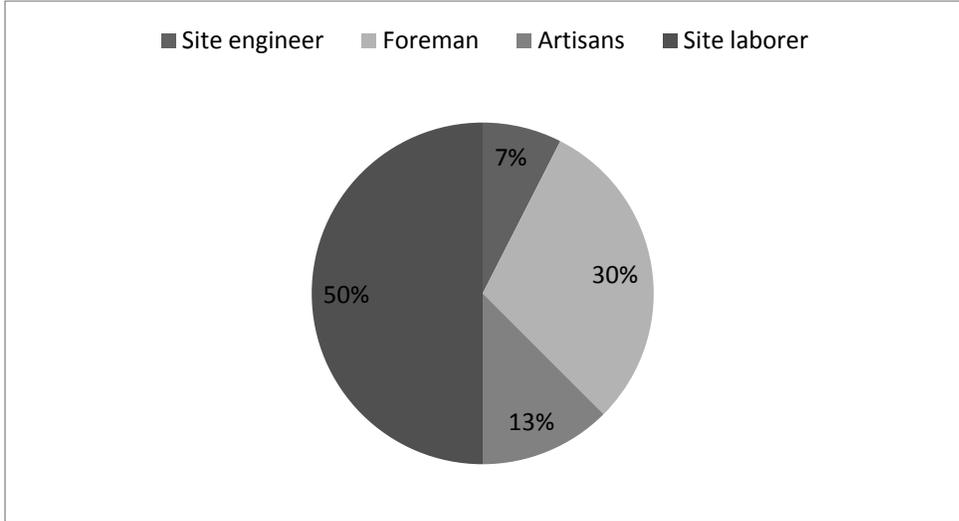
**4.1.6 Working department / designation**

**Table 7 Working department / designation**

Description	Frequency	Percentage
Site engineer	3	7.5%
Foreman	12	30%
Artisans	5	12.5%
Site laborer	20	50%
<b>Total</b>	<b>40</b>	<b>100</b>

**Source primary data 2018**

Majority of the respondents 50% were normal working staff for the company. 30% of the respondents were foremen while 7.5% of the respondents were site engineers and 12.5% of the respondents were Artisans.



**Source: Primary data 2018**

**Figure 3: showing the working department/designation**

## 4.2 Current occupational health and safety system

In relation to the first research objective, the researcher sought information regarding the occupation health system in the organization. The findings were tabulated for better interpretation.

**Table 4.2 Showing Current occupational health and safety system**

Description	Strongly Agree		Agree		Not sure		Disagree		Strongly disagree	
	F	%	F	%	F	%	F	%	F	%
The company provides safety communication training to all employees every day before work starts	10	25	20	50	4	10	6	15	0	0
Workers use safety equipment issued to them	25	62.5	0	0	10	25	5	12.5	0	0
First aid promptly administered when accident occurs	12	30	20	50	6	15	2	5	0	0
We have safety warning signs at the workplace	15	37.5	20	50	5	12.5	0	0	0	0
The company has got first aid programs and equipment at workplace.	32	80	0	0	5	12.5	0	0	3	7.5
There special safety training programs at the company every month.	0	0	18	45	12	30	10	25	0	0
Company conducts project or work site safety inspections	25	62.5	0	0	12	30	0	0	3	7.5
Employees are taught all the dangers involved in the equipment used during work.	20	50	10	25	10	25	0	0	0	0
Employees are often taken for health checkups to ensure that the are health and have no complications.	18	45	0	0	12	30	10	25	0	0
There is repair and maintenance of personal protective equipment carried out by the company without any charge	0	0	18	45	12	30	10	25	0	0
There are emergency exist ways for employees in case of emergency	25	62.5	0	0	12	30	0	0	3	7.5

### Source primary data 2018

Majority of the respondents 50% agreed that the company provides safety communication training to all employees every day before work starts. 25% of the

respondents also strongly agreed reporting that the fact that the company knows the nature of its activities, it always trains its employees about the safety measures. Some of the respondents 10% were not sure while the minority 15% disagreed.

According to the findings, majority of the respondents 62.5% strongly agreed that Workers use safety equipment issued to them by the company. According to them company issues protective gears to employees before starting work. Some of the respondents 25% were not sure and the minority disagreed.

According to the findings, majority of the respondents 50% agreed that first aid promptly administered when accident occurs. 30% further strongly agreed to his stating that quick first aid is promptly provided to any injured person and later taken for treatment. Some of the respondents 15% were not sure and therefore provided no response at this point. This may be because they had never had any accident and so first aid had never been applied to them.

Respondents 50 % agreed that they have safety warning signs at the workplace at the company. 37.5% strongly agreed reporting that these warning signs help in avoiding happenings of accidents since employees become careful while doing work. The rest of the respondents 12.5% showed no response because they were not sure.

Most of respondents 45% agreed that there special safety training programs at the company every month. However a big number of respondents 25% disagreed to this stating that there no special training programs in the company. 30% the respondents were not sure and therefore showed no response.

Majority of the respondents 62.5% strongly agreed that Company conducts project or work site safety inspections. This is carried out to ensure that project is safe for people to work in it and to avoid future accidents. 50% of the respondents further strongly agreed that employees are taught all the dangers involved in the equipment used during work. 45% of the respondents strongly agreed that employees are often taken for health checkups to ensure that they are healthy and have no complications. 30% of the respondents were not sure and therefore showed no response.

Majority of the respondents 45% agreed that there is repair and maintenance of personal protective equipment carried out by the company without any charge. Some of the respondents 30% were not sure while others disagreed. Majority of the respondents 62.5% further strongly agreed that there are emergency exist ways for employees in case of emergency. 30% of the respondents were not sure and therefore showed no response.

### 4.3 The main causes of accidents at work place

The researcher sought information regarding the main causes of accidents at workplace. The findings were tabulated for better interpretation.

**Table 4.3 showing the main causes of accidents at work place**

Description	Strongly Agree		Agree		Not sure		Disagree		Strongly disagree	
	F	%	F	%	F	%	F	%	F	%
Weather conditions like rainy seasons cause accidents during work	32	80	0	0	5	12.5	0	0	3	7.5
Walking surfaces like the ground floors, and stairs, steps and escalators can be dangerous especially on construction sites	25	62.5	0	0	10	25	5	12.5	0	0
Falls to a lower level cause accidents in most of the company projects	12	30	20	50	6	15	2	5	0	0
Highway vehicles like freight hauling trucks and pickups were some of the major sources of accident injuries on company construction sites.	15	37.5	20	50	5	12.5	0	0	0	0
Machinery tools such as excavating equipment cause accidents	32	80	0	0	5	12.5	0	0	3	7.5
Construction tools are among the major causes of accidents in most construction projects.	18	45	0	0	12	30	10	25	0	0
Accidents can also be cases where a person is struck by object	25	62.5	0	0	12	30	0	0	3	7.5
Ladder accident is one of the leading causes of injury and long-term disability.	20	50	10	25	10	25	0	0	0	0
Electrocution an accident caused when a person, tool or piece of equipment comes into contact with power lines or exposed electrical sources	32	80	0	0	5	12.5	0	0	3	7.5

**Source primary data 2018**

Respondents were asked to give their opinion on the causes of accidents at work place. According to the findings, majority of the respondents 80% strongly agreed that Weather conditions like rainy seasons cause accidents during work. Rainy seasons spoil work causing high rates of slippery flows causing accidents. 12.5% of the respondents showed no response because they were not sure.

Majority of the respondents 62.5% strongly agreed that walking surfaces like the ground floors, and stairs, steps and escalators can be dangerous especially on construction sites. They reported that if one is not careful while working, the floor and steps can make someone fall and also knock other materials causing accident. Some of the respondents 12.5% disagreed while 20% showed no response.

The Majority of the respondents 50% agreed that Falls to a lower level cause accidents in most of the company projects. 30% of the respondents strongly agreed to this reporting that while on sites, there some falling debris that causes accidents at the site. 5% of the respondents disagreed and others weren't sure.

The respondents 50% agreed that Highway vehicles like freight hauling trucks and pickups were some of the major sources of accident injuries on company construction sites. 37.5 % further strongly agreed that vehicles can bump into the site causing accidents and destruction of site materials and killing employees. 12.5% of the respondents were not sure and therefore showed no response.

Majority of the respondents 80% strongly agreed that Machinery tools such as excavating equipment cause accidents. This can happen if they are not effectively used because of incompetency. Such machinery requires servicing and to be used by competent employees. The rest of the respondents weren't sure and therefore showed no response. 45% of the respondents strongly agreed that Construction tools are among the major causes of accidents in most construction projects. 30% of the respondents and 25% of the respondents disagreed to this opinion.

Majority of the respondents 50% strongly agreed that Ladder accident **is** one of the leading causes of injury and long-term disability. 20% agreed that the process of using

long ladders while at the site has caused a lot of accidents as staff o employees trying to climb and deliver materials while construction. 80% further strongly agreed that electrocution an accident caused when a person, tool or piece of equipment comes into contact with power lines or exposed electrical sources.

#### 4.3 Areas that needs to be improved and suggest necessary improvements

The researcher sought information regarding the areas that need to be improved.

**Table 4.3 Areas that needs to be improved and suggest necessary improvements**

Description	Strongly Agree		Agree		Not sure		Disagree		Strongly disagree	
	F	%	F	%	F	%	F	%	F	%
Employee sensitization on the health safety measures need to be highly emphasized	32	80	0	0	5	12.5	0	0	3	7.5
Increasing awareness through putting precautions in all the risky areas	25	62.5	0	0	10	25	5	12.5	0	0
First Aid programs for those injured at work need to be improved	12	30	20	50	6	15	2	5	0	0
There is need for improvement on the quality of protective gears for the employees especially the eyes, ears, nose etc	15	37.5	20	50	5	12.5	0	0	0	0
Improvement of the sanitation and hygiene in the workplace	32	80	0	0	5	12.5	0	0	3	7.5
There is need to undertake formal health and safety induction training for all new employees.	18	45	0	0	12	30	10	25	0	0
There is need for recording of injuries occurred in the company to avoid such cases next time	25	62.5	0	0	12	30	0	0	3	7.5
Monitoring the health of the employees while working should be carried out.	20	50	10	25	10	25	0	0	0	0

#### Source primary data 2018

When respondents were asked to give their opinions on the areas that need improvement to ensure occupation health and safety, majority of the respondents 80%

strongly agreed that Employee sensitization on the health safety measures need to be highly emphasized. The respondents believed that creation of awareness to employees is a good strategy to ensuring safety. 62.5% of the respondents strongly agreed that Increasing awareness through putting precautions in all the risky areas has to be improved to reduce health accidents. 12.5% were not sure and the disagreed reporting that it's not enough to accidents.

Majority of the respondents 50% agreed that First Aid programs for those injured at work need to be improved. 30% strongly agreed to this reporting that to manage to many injuries at construction site, there is need to strengthen first aid department to support the staff. Some of the respondents weren't sure while other disagreed. 50% of the respondents further agreed that there is need for improvement on the quality of protective gears for the employees especially the eyes, ears, nose etc. 37.5% strongly agreed to reporting that there work is very sensitive and therefore requires having strong protective gears.

The respondents 80% strongly agreed that Improvement of the sanitation and hygiene in the workplace should be carried out as this is essential to the lives of people. Some of the respondents were not sure and therefore showed no response. 45% of the respondents further strongly agreed that there is need to undertake formal health and safety induction training for all new employees. 25% of the respondents however disagreed to this reporting that training should not only be done on new employees but to all employees.

The respondents 50% strongly agreed that there is need for recording of injuries occurred in the company to avoid such cases next time. 62.5% of the respondents strongly agreed that monitoring the health of the employees while working should be carried out. This will be carried out to ensure all the health of employees is stable and allows them to work.

## **CHAPTER FIVE**

### **DISCUSSION FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.0 Introduction**

This chapter provides a summary of the research findings discussed following research objectives. Conclusions are later presented by the researcher providing his final view on the concepts under study. The chapter finalizes with recommendations and areas of further research.

#### **5.1 Discussion of major findings**

##### **Current occupational health and safety system**

In relation to the first research objective, the study collected information on occupation health and safety and according to the findings, Majority of the respondents 50% agreed that the company provides safety communication training to all employees every day before work starts. 25% of the respondents also strongly agreed reporting that the fact that the company knows the nature of its activities, it always trains its employees about the safety measures. According to the findings, majority of the respondents 62.5% strongly agreed that Workers use safety equipment issued to them by the company. According to them company issues protective gears to employees before starting work.

The findings are in line with the principles of OHS that state that Occupational health and safety programs and policies must aim at both prevention and protection. Efforts must be focused above all on primary prevention at the workplace level. Workplaces and working environments should be planned and designed to be safe and healthy (ILO, 2008).

According to the findings, majority of the respondents 50% agreed that first aid promptly administered when accident occurs. 30% further strongly agreed to this stating that quick first aid is promptly provided to any injured person and later taken for treatment. Respondents 50 % agreed that they have safety warning signs at the

workplace at the company. 37.5% strongly agreed reporting that these warning signs help in avoiding happenings of accidents since employees become careful while doing work. Most of respondents 45% agreed that there special safety training programs at the company every month. However a big number of respondents 25% disagreed to this stating that there no special training programs in the company. Majority of the respondents 62.5% strongly agreed that Company conducts project or work site safety inspections. This is carried out to ensure that project is safe for people to work in it and to avoid future accidents. 50% of the respondents further strongly agreed that employees are taught all the dangers involved in the equipment used during work. 45% of the respondents strongly agreed that employees are often taken for health checkups to ensure that the are health and have no complications. 30% of the respondents were not sure and therefore showed no response.

Majority of the respondents 45% agreed that there is repair and maintenance of personal protective equipment carried out by the company without any charge. Some of the respondents 30% were not sure while others disagreed. Majority of the respondents 62.5% further strongly agreed that there are emergency exist ways for employees in case of emergency.

The findings connect with the expected occupation health principles mentioned in OHS, 2008 that state that the occupational safety and health policy should include provisions for the establishment, operation and progressive extension of occupational health services. The competent authority should supervise and advise on the implementation of a workers' health surveillance system, which should be linked with programs to prevent accident and disease and to protect and promote workers' health at both enterprise and national levels (ILO, 2008). The information provided by surveillance will show whether occupational safety and health standards are being implemented, and where more needs to be done to safeguard workers (ILO, 2008)

### 5.1.2 The main causes of accidents at work place

Respondents were asked to give their opinion on the causes of accidents at work place. According to the findings, majority of the respondents 80% strongly agreed that Weather conditions like rainy seasons cause accidents during work. Rainy seasons spoil work causing high rates of slippery flows causing accidents. 12.5% of the respondents showed no response because they were not sure. Majority of the respondents 62.5% strongly agreed that walking surfaces like the ground floors, and stairs, steps and escalators can be dangerous especially on construction sites. They reported that if one is not careful while working, the floor and steps can make someone fall and also knock other materials causing accident.

The Majority of the respondents 50% agreed that Falls to a lower level cause accidents in most of the company projects. 30% of the respondents strongly agreed to this reporting that while on sites, there some falling debris that causes accidents at the site. 5% of the respondents disagreed and others weren't sure. The respondents 50% agreed that Highway vehicles like freight hauling trucks and pickups were some of the major sources of accident injuries on company construction sites. 37.5 % further strongly agreed that vehicles can bump into the site causing accidents and destruction of site materials and killing employees. 12.5% of the respondents were not sure and therefore showed no response.

Majority of the respondents 80% strongly agreed that Machinery tools such as excavating equipment cause accidents. This can happen if they are not effectively used because of incompetency. Such machinery requires servicing and to be used by competent employees. The rest of the respondents weren't sure and therefore showed no response. 45% of the respondents strongly agreed that Construction tools are among the major causes of accidents in most construction projects.

Majority of the respondents 50% strongly agreed that Ladder accident **is** one of the leading causes of injury and long-term disability. 20% agreed that the process of using long ladders while at the site has caused a lot of accidents as staff o employees trying

to climb and deliver materials while construction. 80% further strongly agreed that electrocution an accident caused when a person, tool or piece of equipment comes into contact with power lines or exposed electrical sources.

The findings are matching with the study by Reese, 2009 where he asserted that the uncontrolled of safety and health on construction site may cause hazardous conditions go unchecked, which can cause death or serious injuries and sub-contractors who have bad safety records or perform their work in an unsafe manner are very culpable (Reese and Eidons, 2009).

The major causes of accidents are related to the unique nature of the construction industry, human behaviour, difficult work-site conditions, and poor safety management, which result in unsafe work methods, equipment, and procedures. The dynamic nature of construction is one of the major causes for various types of incidents resulting in injuries and fatalities in the construction industry (HSE, 2003).

### **5.1.3 Areas that needs to be improved and suggest necessary improvements**

When respondents were asked to give their opinions on the areas that there is need for improvement to ensure occupation health and safety, majority of the respondents 80% strongly agreed that Employee sensitization on the health safety measures need to be highly emphasized. The respondents believed that creation of awareness to employees is a good strategy to ensuring safety. 62.5% of the respondents strongly agreed that Increasing awareness through putting precautions in all the risky areas has to be improved to reduce health accidents. 12.5% were not sure and the disagreed reporting that it's not enough to accidents.

Majority of the respondents 50% agreed that First Aid programs for those injured at work need to be improved. 30% strongly agreed to this reporting that to manage to many injuries at construction site, there is need to strengthen first aid department to support the staff. Some of the respondents weren't sure while other disagreed. 50% of the respondents further agreed that there is need for improvement on the quality of protective gears for the employees especially the eyes, ears, nose etc. 37.5% strongly

agreed to reporting that their work is very sensitive and therefore requires having strong protective gears. The respondents 80% strongly agreed that Improvement of the sanitation and hygiene in the workplace should be carried out as this is essential to the lives of people. Some of the respondents were not sure and therefore showed no response. 45% of the respondents further strongly agreed that there is need to undertake formal health and safety induction training for all new employees. 25% of the respondents however disagreed to this reporting that training should not only be done on new employees but to all employees.

The respondents 50% strongly agreed that there is need for recording of injuries occurred in the company to avoid such cases next time. 62.5% of the respondents strongly agreed that monitoring the health of the employees while working should be carried out. This will be carried out to ensure all the health of employees is stable and allows them to work.

The findings are in line with the study by Roger Timings, (2011) who reported that there are several safety gadgets that should be provided to the employees in the construction companies to ensure that the workers' risk occupational hazard is minimized if not totally eliminated. Construction companies should be supplied with the following equipment's; safety helmets, all types of hand Gloves, Apron or shop coats or coveralls, safety shoes, Nose masks, all types of safety goggles, Ear plugs & Ear muffs (sound proof), First aid boxes among others (Roger Timings. 2011)

David Walters, (2009) recommends that there should be standard shows that there are factors, which are important in dealing with regional safety and health. These factors are: Laws, business associations support, in the national and industrial scale; Employer's support in a working place; Support from control institutions; Support from business associations, which would give a support in resources, trainings and useful information (David Walters,2009). Taking care of safe life, as one of values, is not easy to achieve. The government of one of the most economically developed countries, such as Australia or Great Britain, issued laws of constructor's safety.

## **5.2 Conclusions**

Basing on the findings, it was concluded that the company provides safety communication training to all employees every day before work starts. Safety of employees is a very big issue of concern to the company. The Workers are given safety equipment and they use the safety equipment as they are directed to. According to them, company issues protective gears to employees before starting work.

The company has got first aid department to provide the first treatment to a person in case an accident occurs. First aid promptly administered when accident occurs. After First Aid, victims are later transferred to hospitals for full treatment.

The company has got safety warning signs at the workplace at the company as a way of avoiding accidents. They also offer special safety training programs at the company every month. There is also conduction of project or work site safety inspections. This is carried out to ensure that project is safe for people to work in it and to avoid future accidents.

Employees are taught all the dangers involved in the equipment used during work. Employees are often taken for health checkups to ensure that they are health and have no complications. There is repair and maintenance of personal protective equipment carried out by the company without any charge. There are emergency exist ways for employees in case of emergency.

The employees reported that that Weather conditions like rainy seasons cause accidents during work. Rainy seasons spoil work causing high rates of slippery flows causing accidents. Most of the accidents in the company were reported to be coming from that walking surfaces like the ground floors, and stairs, steps and escalators can be dangerous especially on construction sites. They reported that if one is not careful while working, the floor and steps can make someone fall and also knock other materials causing accident. Machinery tools such as excavating equipment cause accidents. This can happen if they are not effectively used because of incompetency. Such machinery requires servicing.

### **5.3 Recommendations**

Basing on the findings the study came out with the following recommendations.

Employee sensitization on the health safety measures need to be highly emphasized. The respondents believed that creation of awareness to employees is a good strategy to ensuring safety.

First Aid programs for those injured at work need to be improved and strengthened. A first Aid department needs to be equipped with all the medical services in construction companies. There is also need for recording of injuries that occurred in the company to avoid such cases next time

The need to improve on the sanitation and hygiene in the workplace should be carried out as this is essential to the lives of people. There is need to undertake formal health and safety induction training for all new employees

Monitoring the health of the employees while working should be carried out. This will be carried out to ensure all the health of employees is stable and allows them to work.

Contractors of the various construction firms should be encouraged to provide PPE to workers and set up Human Resource and Safety Departments for the purpose of executing safety education campaigns and training programmes for all levels of management and workers. The training can be film shows on slides to deliver the content of how important these welfare facilities and safety materials are to the firms and the health of the workers including those living in the community.

It is recommended that Safety Officers from Uganda Labor office should liaise with the Ministry of Water Resources, Works and Housing and in conjunction with the Association of Civil Engineering and Building Contractors regularly visit construction sites to ensure the enforcement of laws governing the provision of welfare facilities and safety materials, employment, and rights of workers. It is also recommended that contractors should be encouraged to set up Human Resource and Safety Departments for the purpose of executing safety education campaigns and training programs to all categories of workers.

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**APPENDIX 1: QUESTIONNAIRES**  
**Department of civil engineering**

Dear respondent,

I am **Gumisiriza Elijah** pursuing a bachelor of science in civil engineering at Kampala international university. I kindly request you to fill in this questionnaire which will help in obtaining information regarding “assessment of occupational health and safety of workers in construction companies”.

The information given will be treated with high confidentiality and mainly for academic purposes

**Section A: profile of respondents**

1. Gender

Male  Female

2. Age

18-30  31-40  41-50  above 50

3. Educational qualification

Certificate  Diploma  Bachelor`s Degree  Master`s Degree

Other

4. Category of respondent

Site Engineer  Foreman  Artisans  Site Laborer   
Other

5. Your work experience in construction.

Years  Month

## Section B

### Current occupational health and safety system

For the statements below, please rate the extent of your agreement or disagreement with each statement by ticking one of the options provided.

Score	Response Mode	Description
5	Strongly Agree	You agree with no doubt at all
4	Agree	you agree with no doubt
3	Not sure	You are not sure
2	Disagree	you disagree with no doubt
1	Strongly Disagree	You disagree with no doubt at all

Statement	1	2	3	4	5
The company provides safety communication training to all employees every day before work starts					
Workers use safety equipment issued them					
First aid promptly administered when accident occurs					
We have safety warning signs at the workplace					
The company has got first aid programs and equipment at workplace.					
There special safety training programs at the company every month.					
Company conducts project or work site safety inspections?					
Employees are taught all the dangers involved in the equipment used during work.					
Employees are often taken for health checkups to ensure that the are health and have no complications.					
There is repair and maintenance of personal protective equipment carried out by the company without any charge					
There are emergency exist ways for employees in case of emergency					

**The main causes of accidents at work place**

Statement	1	2	3	4	5
Weather conditions like rainy seasons cause accidents during work					
Walking surfaces like the ground floors, and stairs, steps and escalators can be dangerous especially on construction sites					
Falls to a lower level cause accidents in most of the company projects					
Highway vehicles like freight hauling trucks and pickups were some of the major sources of accident injuries on company construction sites.					
Machinery tools such as excavating equipment cause accidents					
Construction tools are among the major causes of accidents in most construction projects.					
Accidents can also be cases where a person is struck by object					
Ladder accident is one of the leading causes of injury and long-term disability.					
Electrocution an accident caused when a person, tool or piece of equipment comes into contact with power lines or exposed electrical sources					

**Areas that needs to be improved and suggest necessary improvements**

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Employee sensitization on the health safety measures need to be highly emphasized					
Increasing awareness through putting precautions in all the risky areas					
First Aid programs for those injured at work need to be improved					
There is need for improvement on the quality of protective gears for the employees especially the eyes, ears, nose etc					
Improvement of the sanitation and hygiene in the workplace					
There is need to undertake formal health and safety induction training for all new employees.					
There is need for recording of injuries occurred in the company to avoid such cases next time					
Monitoring the health of the employees while working should be carried out.					

THANK YOU