



**Addis Ababa University
College of Business and Economics
School of Commerce**

**Practice and Challenges of Application of Health and Safety
Rules in Selected three Construction Companies
in Addis Ababa**

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Fulfillment of the Requirements for the Master of Arts in
Human Resource Management**

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ACRONYMS

HRM	Human Resource Management
OSHA	Organizational Safety and Health Act
MLSA	Ministry of Labor and Social Affairs
ILO	International Labor Organization
WHO	World Health Organization
MoC	Ministry of Construction
AACFERA	Addis Ababa City Fire, Emergency Prevention and Rescue Agency

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ABSTRACT

This research paper work aims to find out the practices and challenges of Health and Safety application in selected three construction companies in Addis Ababa. Data was gathered through questionnaires from these selected construction company workers and safety and health professionals and in addition to that company managers and/or human resource managers were also interviewed. The major findings are summarized as 1. There is a lack of creating awareness in the safety and health policies and strategies among the 3 selected and studied construction companies. 2. Providing safety and health related equipment's are very limited or not available for the construction workers. 3. Construction workers themselves do not understand the danger in their daily work. Recommendations are also listed based on the above findings to enhance the health and safety of construction workers. The researcher believes this research paper contributes it's part to understand the practice and challenges of health and safety application issues in the construction companies and inspire other researchers for further study on the topic.

Key Words

PCHSA –Practice and Challenges of Health and Safety Application in Construction Companies

OSHA – Organizational Safety and Health Act

CHAPTER ONE

INTRODUCTION

1.1 - BACKGROUND OF THE STUDY

"Tena Yistilign" translated as "God gives your health" is used widely as a greeting in Ethiopians' culture as a good a wish. It shows us health is vital in one life. World Health Organization (WHO) in its 1948 constitution define "Health" as it is a "State of complete physical, mental, and social well being, and not merely the absence of disease or infirmity."When it's come to "Safety", as Abraham Maslow's Hierarchy of needs, Safety comes next to the first human need "Physiological".Safety is beingfree from danger or risk whether caused deliberately or by accident. So, health and safety are two interrelated issues which needs special attention for the wellbeing of a person or society in general.

In Human Resources Management (HRM), Occupational Health and Safety is one subdivision of the discipline. It is a key element for one company to attract potential and right personnel and also to retain the existed one. According to the International Labour Organization (2003), occupational health and safety is defined as a discipline with a broad scope involving many specialized fields such as the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention amongst workers of adverse effects on health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of workers in an occupational environment adapted to their physical and mental needs; and the adaptation of work.

Because of the attention which occupational health and safety needs, in most countries there is separate regulation implemented to handle the case. Though it is recent, our country has also developed her own "National Occupational Safety and Health Policy and Strategy" in 2014. According to The Ethiopian National Occupational Safety and Health Policy and Strategy, "Occupational safety and health is an organized, systematic and preventive oriented development activity aiming at realizing safe and healthy work places with a view to create healthy and productive labour force and to enhance productivity". Work places have to be safe, healthy and free from any hazard to the well being of employees as well as employers and both employers and employees has to be aware and responsible about their work place and its environment. Both has to work together to make sure their work place is free from any potential risk. The way companies apply these safety and health policies and strategies will make them competitive in the market.

Construction; due to the nature of the work, number and type of employees involved, there is a high risk in the area of occupational health and safety. As per Kyle W. Morrison May 22, 2016, among the 7 common workplace safety and health hazards, 5 of them are related to Construction. These are working at height, poor housekeeping, electrical-extension cords, chemicals and also confined spaces. Construction is one of the sectors which is in its booming stage in Ethiopia. Building construction, Road construction, Hydro construction, Railway construction, etcare some branches of construction. This leads to the establishment of construction companies in the country and attracts construction companies from abroad. It also creates employment opportunities to many.

As per Ministry of Construction, up to Hidar 18, 2010 Ethiopian Calendar (E.C), there are 2,788 /two thousand seven hundred eighty-eight/ construction companies which ranges from grade 1 up to grade 10 are renewed their licenses for the 2010 E.C. fiscal year (www.mudco.gov.et). There is a separate document which is prepared by Ministry of Labour and Social Affairs in 2014 that only covers basic rules and general good practices of construction safety and health. Safety and health issues of the employees have to be the major concern and it needs special attention.

In the USA, there is a commonly and well known and used act, it is called "Occupational Health and Safety Act (OSHA)". Under the OSH Act, employers are responsible for providing a safe and healthful workplace. OSHA's mission is to assure safe and healthful workplaces by setting and enforcing standards, and by providing training, outreach, education and assistance (United States, Department of Labor website, 2011).

The researcher of this study believes, every employee should carry out their assignment without any fear from danger and it is also their responsibility to inform their employers when there is any potential endangers in their working area. On the other hand, every employer has to make sure to create a healthy and safe work environment for its employees and they should be cautious about the safety and health of their working place. There should be a prevention mechanism and if any accident happen, employees and employers both have to know what to do and where to go. Compensation plan and insurance coverage should also be well organized.

Therefore, the researcher is going to study the practices and challenges of Health and Safety Applications in some selected construction companies in Addis Ababa.

1.2 STATEMENT OF THE PROBLEM

The researcher of this study made preliminary study in the beginning and communicated with responsible persons from Ministry of Labour and Social Affairs and Ministry of Construction. The researcher found that there is high risk during work and there is also a gap in the health and safety practices of construction places.

Regardless of the National Occupational Safety and Health Policy and strategy is in place, according to the Addis Ababa City Fire, Emergency Prevention and Rescue Agency's 2017 nine-month report, there have been 410 accidents. Among them 119 accidents happened at or near construction sites due to different construction related accidents. As per the report, fire accidents used to be the deadliest in the past, but construction-related accidents are now fast catching up. This indicates that safety and health rules are not implemented and followed properly at the rising number of construction sites, resulting in many injuries and deaths.

Accordingly, the researcher of this study selected and assessed the "Practices and Challenges of Health and Safety applications in Selected Construction companies". The purpose of this research study is the practice and challenges of health and safety applications in some selected construction companies in Addis Ababa.

1.3 RESEARCH QUESTIONS:

Based on the problem stated above and the reviewed literature, the basic research question of this study is to assess the "How is the Practice and Challenges of Safety and Health Applications? It is limited to selected construction companies in Addis Ababa".

1.3.1 The specific questions of the research are:

- How is safety and health practiced in the construction companies?
- What are the challenges to apply safety and health in the construction companies?
- How do the construction companies manage safety and health issues?

1.4 RESEARCH OBJECTIVE:

1.4.1 The general objective of this research is to assess the practices and challenges of health and safety applications and to find out the actual practices and problems raised in the construction area.

1.4.2 The Specific Research Objectives are:

- To assess the practices of health and safety in construction
- To identify the challenges of health and safety in construction
- To identify the gaps in implementing health and safety policy and strategy

1.5 SIGNIFICANCE OF THE STUDY

Occupational health and safety is a major concern and a must know when one established a company. Though it is not conclusive, the findings of this research implied that safety and health trainings are mandatory, and companies should avail safety and health equipments and put controlling mechanism for the proper usage. In general, there is a gap in application of occupational health and safety and people who knows about the occupational safety and health policy and strategy are very limited in number. When the researcher tries to find out how many people really know the phone number (hotline) which is 939 for the Addis Ababa City Fire, Emergency Prevention and Rescue Agency, at the preliminary stage of this research, the answer is really

surprising. But most people the researcher approached know exactly what the United States of America's hotline number, which is 911. So, awareness, training, availing safety equipments and controlling work should be done and this research could be an initial point for further study.

Therefore, the researcher believes this study has the following significances:

- It gives highlight about what occupational health and safety means
- It enriches the knowledge of the reader about the practices and challenges of occupational health and safety specially in construction areas
- It enables managers and employees to be aware of what is expected from each of them
- It creates initiation and encourage other researchers to do further investigation and research in the occupational health and safety area
- It contributes its part to be as an addition to the existing literature and it may also serve as a source of reference in the field

1.6 SCOPE OF THE STUDY

Though health and safety is a broad concept and field of study, this research paper is only focused on the occupational health and safety in construction area and limited to building constructions. Among 51 grade 1 construction companies who renewed their license for the 2010 E.C. fiscal year, 3 of them namely, Yotek Construction, Sunshine Construction and BGM Construction have selected based on their convenience for the researcher. The research is focused on the practices and challenges of occupational health and safety. The research is delimited to this grade 1 construction companies who participate in building construction and their head office is in Addis Ababa. Therefore, the result of the study should not be used to generalize the occupational health and safety practice and challenges of all construction companies in the country.

1.7 LIMITATION OF THE STUDY

The major challenge faced in conducting this research was to find out similar researches conducted in the area and also the limited literatures written to be reviewed in the subject matter. The other challenge was finding construction companies who are willing to disclose their practices and challenges in the area of occupational safety and health. Getting timely responses from respondents and the very limited time the researcher has also contributed their part in the limitation of the study.

1.8 DEFINATION OF USED TERMS

Health:It is a "State of complete physical, mental, and social well being, and not merely the absence of disease or infirmity." Health is a dynamic condition resulting from a body's constant adjustment and adaptation in response to stresses and changes in the environment for maintaining an inner equilibrium called homeostasis. defined by World Health Organization (WHO),

Safety: Relative freedom from danger, risk, or threat of harm, injury, or loss to personnel and/or property, whether caused deliberately or by accident.

OSHA Organizational safety and health act: It is an act designed to reduce occupational diseases and on the job injuries. Its mission is to ensure safe and healthful workplaces.

Construction: Clearing, dredging, excavating, and grading of land and other activity associated with buildings, structures, or other types of real property such as bridges, dams and roads. Businessdirectory
@<http://www.businessdirectory.com/definition/construction.html>

1.9 ORGANIZATION OF THE STUDY

This study is organized in five chapters. The first chapter deals with the introduction, which includes the background of the study; Statement of the problem; research question; research objective; significance of the study; Scope of the study; limitation of the study; definition of used terms and organization of the study. Chapter two is all about the review of related literature. The third chapter deals with the research methodology. It includes,description of the study area; research approach; research design; population and sample; data sources and types; data collection procedures; ethical consideration and data analysis.The fourth chapter presents data collected through the instruments and analyzed and provides interpretations of the outcomes. Summary, conclusion and recommendations are comprised in the last chapter, chapter five. Reference and data collection instrument are attached at the end.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Chapter Introduction

Feeling safe is one of the major motives to step ahead and to make any decision in our daily life. According to Abraham Maslow's needs hierarchy, safety comes next to the first most important need physiological need. Being healthy and feeling safe makes our life better and it motivates to strive for more. Now a days, employee health and safety in workplaces is one of the major concerns in human resource management.

2.1 HEALTH

"Tena Yistilign" translated as "God gives your health" is used as greeting in Ethiopian's culture as a good a wish. It shows as health is vital in one life. Health is a "State of complete physical, mental, and social well being, and not merely the absence of disease or infirmity."As per World Health Organization (WHO):"Health is a dynamic condition resulting from a body's constant adjustment and adaptation in response to stresses and changes in the environment for maintaining an inner equilibrium called homeostasis."

2.2 SAFETY

It is relatively a freedom from any danger and risk or threat of harm, injury, or loss to personnel and/or property, whether caused deliberately or by accident.

2.3 WORKPLACE HEALTH AND SAFETY

There are three basic causes of accidents; chance occurrences, unsafe conditions and also unsafe acts. Though Ethiopia has been a member state of International Labor Organization "ILO" since 1923, the country has no national

occupational safety and health policy (OSHA) separately which deals with, how occupational health and safety is handled at national level. However, in the Ethiopian Labor Proclamation number 377/2003 Section three, sub sections 12-14 - there are points which put under the subject of safety and health as the obligation of employer, obligation of workers and also unlawful activities. Workplace health and safety mainly deals with effectively managing and reducing the number of job-related accidents and injuries. First let us see how the occupational safety and health put in the Ethiopian Labor Law

Article 92- Clearly spells out the fundamental obligations of an employer with regard to putting in place of all the necessary measures in order to ensure, workplaces are safe, healthy and free of any danger to the well being of workers. in the same article the employer is obliged to take, in particular the following measures to safeguard the health and safety to the workers:

- To comply with the occupational safety and health requirements provided for in the proclamation; take appropriate steps to ensure that workers are properly instructed and notified concerning the hazards of their respective occupations and the precautions necessary to avoid accident and injury to health. Ensure that directives are given and also assign safety officer, establishes an occupational, safety and health committee, provides workers with protective equipments, clothing and other materials and instruct them of its use, obliged to register and notify to the nearest labor inspection services occupational accidents and diseases. are range according to the nature of the work at his/her own expenses, for the medical examination of newly employed workers and for those workers engaged in hazardous works as may be deemed nearly, take appropriate pre-executions to ensure that all processes of work shall not be a source or cause of physical, chemical, biological, agronomical and psychological hazards to the health and safety of the workers.

Article 93 - In this article the law provides the obligation of workers pertaining to the required co-operation and putting in to practice of the regulation and

instruction given by the employer in order to ensure safety health working conditions at workplaces. The following are the major obligation set by the law for workers to abide with

- To cooperate in the formation of work rules to safe-guard the workers health and safety and implement this
- To inform the employers of any defects related to the appliances used and injury to the health and safety of workers, he/she discovers within the company
- Report to the employer any situation, which he/she may have reason, to believe could present a hazard and which cannot avoid his/her own any accident or injury to health which arise in the course or in connecting with work
- To make proper use of all safe guards, safety devices and other appliances furnished for the protection of the health of safety of others
- To obey all the health and safety instruction issued by the employer or by competent authorities

In the same law it is clearly stipulated that the workers may interfere with remove, displace, damage or destroy any safety devices and appliances furnished for his/her protection or the protection of others and may not obstructs and method or process adopted with a view to minimizing occupational hazard.

Occupational injuries

The law has clearly stipulated about occupational injuries in its article 95 - 112 as follows:

- The provisions are started by defining occupational injury, accident and occupational diseases. The law also stipulated that an employer shall be liable for, all occupational injuries on workers except those that are caused intentionally by workers in case of non obedience to safety instructions, none observance of accident prevention regulation and

injuries caused being intoxicated. For the sake of handling the benefits of and injured worker in compensation of occupational accident and diseases, the law has clearly defined type of disablement as follow effects;

- a) Temporary disablement
- b) Permanent partial disablement
- c) Permanent total disablement
- d) Death or fatal injuries (article 97 -100)

The law in its article 102 clearly stated that the assessment for degree of permanent disablement and partial temporary disablement will be fixed in accordance with assessment by directives issued by the minister. In addition, the provision stated, a competent medical board shall use the assessment table, to determine the extent of the degree of disablement as far as possible within twelve months from the date of injury.

Per the provision of article 104-105 details of special obligations, types of benefits and duration of benefits liability are put on the employer. It is also stated that this medical benefit of the injured workers shall be withdrawn in accordance with the decision of the medical board.

Articles 107-110 has also cleared put that the cash benefit the worker ought to be provided i.e. periodic payment during temporary disablement; the disabled person compensation in case of permanent disablement in survivors' pension gratify or compensation to the dependent when the workers dies. The law has also clearly indicated that the maximum compensation upon the death of the worker due to fetal accident is to be five times his annual wage. The employees' liability could be handled by pension scheme for state owned enterprises or insurance scheme arranged by the enterprises for private owned enterprises. And employer shall pay a lamp sum of disablement compensation to workers who are neither covered by pension law or insurance scheme. In articles 110-112 clearly included who are entitled to the survivors benefit for easing the implementation of the law.

However, in the Ethiopian Labor Proclamation number 377/2003 Section three, sub sections 12-14 - there are points which put under the subject of safety and health as the obligation of employer, obligation of workers and also unlawful activities, the country has no national occupational safety and health policy (OSHA) separately which deals with, how occupational health and safety is handled at national level.

2.4 OCCUPATIONAL SAFETY AND HEALTH STRATEGY

Though it is recent, Ethiopia has her own occupational safety and health policy and strategy separately, it is not widely known and used strategy in other countries. When we see the occupational safety and health act (OSHA) of USA, the act requires employers to provide a safe and healthy work environment, comply with specific occupational safety and health standards, and keep records of occupational injuries and illnesses. Gomez-Mejia, Balkin and Cardy, Managing Human Resources third edition.

2.5 SAFETY

According to OSHA, there are three basic causes of accident

- Chance occurrence
- Unsafe conditions
- Unsafe acts

2.6 UNSAFE CONDITIONS

- Improperly guarded equipment
- Defective equipment
- Hazardous procedures in, on, or around machines or equipment
- Unsafe storage - congestion, overloading
- Improper illumination - glare, insufficient light

- Improper ventilation - insufficient air change, impure air source

Most serious industrial accidents occur near in construction sites; falls on stairs, ladders, walkways and scaffoldings.

In addition to unsafe conditions, three other work-related factors contribute to accidents

- The job itself
- The work schedules
- psychological climate of the work place

UNSAFE ACTS

The unsafe acts are done by employees themselves. Some people are accident prone people who attract accidents.

To prevent accidents there are two methods:

1. Reducing unsafe acts
2. Reducing unsafe conditions

1. Reducing unsafe acts - workplace accidents can be minimized through screening, training or incentive programs. The following should be considered as acts to reduce accidents

- Reducing unsafe acts by emphasizing safety
- Reducing unsafe acts through selection and placement
- Reducing unsafe acts through training
- Reducing unsafe acts through motivation: posters, incentive programs and positive reinforcement

Behavior based safety

Use employee participation

Conduct safety and health audits and inspection

HEALTH

Typical workplace exposure hazards may include

- Chemicals and other hazardous materials
- Excessive noise and vibrations
- Temperature extremes
- Biohazards including those that are normally occurring (such as mold) and manmade (such as anthrax)
- Ergonomic hazards (such as poorly designed equipment that forces workers to do their job while controlled in unnatural positions)
- The more familiar safety related hazards such as slippery floors and blocked passageways.

And there are four major sources of occupational respiratory diseases

- Asbestos
- Silica
- Lead and
- Carbon Dioxide

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This chapter discusses about the description of the study area, research approaches and designed used, population and sampling techniques, data sources and types, data collection procedures and ethical consideration and data analysis techniques used and the rationale as to why the specific methods, approaches and instruments are used.

3.1 DESCRIPTION OF THE STUDY AREA

Human Resource Management is a wide field of study and as HRM student, the researcher selected one of the area Occupational Health and safety for this research. Workers are at high risk for occupational injuries and illness, such as psychological stress, and biological, chemical, physical, and ergonomically related hazards (Kitt 2006).The International Labour Organization (ILO) recommends that occupational health and safety services should protect the health and safety of employees against potential hazards at work as well as mitigation of associated risks (Tudor 2014).

This research study is focused on the health and safety practices and challenges of selected construction companies. Sunshine construction PLC which was established in 1984 G.C., Yotek construction PLC which was established in 2001 G.C. and BGM construction PLC which was established in 2008 G.C.have participated in this research.

3.2 RESEARCH APPROACHES

The researcher used qualitative and quantitative (mixed) design approach in order to collect the data. One of the qualitative approach used is interview, which was used to gather information from key respondents. Another qualitative approach used is uncontrolled observation of the companies selected

sites. Quantitative approach is used through structures questionnaires in order to gather data from the construction workers.

3.3 RESEARCH DESIGN

Research design is needed because it facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible yielding maximal information with minimum expenditure (Kothari, 2004)

The researcher used quantitative and qualitative (mixed) design of data collection techniques to this study. Mixed designs provides researchers with an in-depth look at the context, processes, interactions and precise measurement of attitudes and overcomes. Within the mixed design, convergent parallel design is used to analyze data collected through qualitative and quantitative designs. The purpose of a convergent parallel mixed methods design is to simultaneously collect both quantitative and qualitative data, merge the data, and use the results to understand a research problem (Creswell, 2012). Qualitative design to research is concerned with subjective assessment of attitudes, opinions and behavior (Kothari, 2004). Interview and observation is used as the qualitative approach to gather information from respondents at the construction companies in order to identify the practice and challenges of health and safety application. Quantitative design is applied to gather data from the construction workers and their supervisors through structured questionnaire. Data collected through these three methods is compared and related and interpreted in this research study.

3.4 POPULATION SAMPLE, SIZE AND SMAPLING TECHNIQUE

3.4.1 POPULATION

Somekh and Lewin (2006) refer to a research population as all the people and phenomena that are relevant to the study, from which a circumscribed sample will be selected for research. Among the population of construction companies, three grade 1 construction companies are selected for this study. The grading

system of these construction companies are based on their equipment, man power, and yearly turnover according to Ministry of Construction. The rationale to select construction companies from this grade is because the researcher believes these are the once who can afforded to implement the health and safety rules and practices.

3.4.2 SAMPLE AND SAMPLING TECHNIQUE

Sampling technique deals with the method of selecting items to be observed for the given study (Kothari, 2004). Convenient sampling method from Random sampling was used in order to select construction companies from grade 1.

The population from these three construction companies are further divided in to a sampling frame of three; company management, site supervisors and daily construction workers. Sampling frame is a source list from which sample is to be drawn (Kothari, 2004:56).

As a sample size, all the 243 population of the 6 construction site workers from the selected 3 construction companies are used. 10 interviews are also conducted with Human Resource Managers, Supervisors and Safety Officer when applicable.

3.5 DATA SOURCES AND TYPES

In this research study, primary and secondary data sources are used. Primary data sources and types the researcher used to collect data are structured interviews, uncontrolled and structured site observations and also structured questionnaires. Secondary data sources used are official publications and already existed related documents.

3.6 DATA COLLECTION PROCEDURES

In this research study, primary data has been collected through structured interview, uncontrolled structured site observation and structured distributed

questionnaires. Surveys generally take one of three forms, interviews, observations and questionnaires. When it comes to primary data sources or collection, both qualitative and quantitative data are used. With regard to secondary data sources, already existed related documents have analyzed.

The questionnaire consisted of 2 sections. Section 1 dealt with the demographic data, whilst Section 2 dealt with 3 sections consisted of 14 questions derived from the application of safety and health practices and challenges in construction companies.

Questionnaires: A questionnaire is a written collection of survey questions to be answered by selected group of research participants (Creswell, 2009). Questionnaires were developed on a five point Likert-Scale comprising of 14 questions grouped into 3 categories. Accordingly, the researcher distributed 243 questionnaires to all population in 6 different sites to the daily laborers and supervisors.

Interview: Personal interview is applied for this research. Personal interview method requires a person known as the interviewer asking questions generally in a face to face contact to the other person or persons (C.R. Kothari 2004). The researcher applied purposive sampling and selected respondents and conducted interview. 10 interview sessions have made and those respondents are Human Resource Managers, site supervisors and Safety Officer, when there is applicable of the selected companies.

Observation: An observation is a scientific tool and the method of data collection for the researcher, when it serves a formulated research purpose, is systematically planned and recorded and is subjected to checks and controls the validity and reliability. (C.R. Kothari 2004). The researcher used this observation method and observed 6 construction sites, 2 from each construction companies. The researcher observed the site as a walk in person without introducing who the researcher is and for what purpose he/she is in.

Data from all these three sources were collected by conducting interviews, by distributing questionnaires and by observing sites by the researcher personally and by additional two hired collectors for the questionnaires.

3.7 DATA ANALYSIS METHODS

Statistical design concerns with the question of how the information and data gathered to be analyzed (C.R. Kothari, 2004). Data after collection has to be processed and analyzed. Data processing implies editing, coding, classification and tabulation of collected data so as to simply analyzed. The term analysis refers to the computation of certain measures along with searching for patterns of relationship that exist among data groups (C.R. Kothari, 2004). In this study data is analyzed qualitatively and quantitatively.

Qualitative data is organized and grouped for analysis on a question by question basis. After collecting the data; data cleaning, entry and analysis has done. Ethics was taken into consideration in all data collection, entry and analysis process.

3.8 ETHICAL CONSIDERATIONS

The requirement for researchers to strike a balance between the demands placed on them as professional scientists in pursuit of truth, and their subjects' rights and values potentially threatened by the research (Cohen, Manion, & Morrison, 2007). Accordingly, the researcher clearly explained the purpose of the research to the participants. In order to ensure this, a consent statement is written at the beginning of the questionnaire and their consent will be asked at the beginning of the interview too. Data collection was anonymous for the individual and for the companies; company secret kept confidentially. The researcher's personal interest and opinion are not included in the data collection, observation and interview process and also in the research finding as a whole. Individual names will not be disclosed without their consent.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

CHAPTER INTRODUCTION

This chapter presents data collected using qualitative and quantitative techniques and within the techniques different types of instruments are presented and analyzed. Data collected from quantitative techniques through questionnaires and data collected from qualitative techniques through interviews and uncontrolled observation will be presented for analysis. Data analysis involves organizing, editing, coding, classifying and tabulating of collected data from different methods. Data analysis will be followed by data interpretation. Interpretation in research means that the researcher steps back and forms some larger meaning about the phenomenon based on personal views, comparisons with past studies, or both (Creswell, 2012).

Three primary data collection techniques were deployed to gather data for this research; structured questionnaires, interviews and uncontrolled observation. A questionnaire comprising of 14 questions grouped in to 3 categories were distributed to 243 respondents. Those 243 respondents are the whole population of the 6 construction sites. Out of the distributed 243 questionnaires, 227 were returned. 10 interviews were conducted with 6 site supervisors, 2 from each construction companies; with 3 Human Resource Managers from the selected three construction companies, and with one safety officer from 1 construction company.

4.2 CHARACTERISTICS OF RESPONDENTS

Demographic information of respondents is very important component of the data collection. Their gender, age, educational qualification, and years of experience are invaluable information when it comes to analyzing the data

collected. A total of 243 questionnaires were distributed and 227 were collected back. Out of which 78% are male and the remaining 22% are female.

Table 1 - Characteristics of respondents

Description	Characteristics	Respondents in %
Gender	Male	78
	Female	22
Age	Below 18	2
	From 18 to 25	74
	From 26 to 35	21
	Above 35	3
Educational Qualification	Less than grade 5	7
	From grade 5 to grade 10	58
	10 complete	24
	12 complete	9
	Diploma and above	2
Years of experience in construction work	Less than a year	8
	1 to 2 years	21
	3 to 5 years	43
	6 to 10 years	23
	Above 10 years	5

Source: own survey 2018

Out of 227 respondents, 2% of them are below 18 years of old. As it can be seen on the table 74% of the respondents are aged between the age of 18 to 25 and 21% are from age 26 to 35. Only 3% of the respondents are above 35 years of age. Another characteristic of construction workers' observed is their educational qualification. This is important information for this research as it can lead us to their level of educational qualification which has a huge impact on the awareness of safety and health. Only 2 % of the respondents hold diploma or above. This raises a critical question of the qualification of construction workers and their application of health and safety. 7% of the respondents are less than grade 5 and the majority, i.e. 58% laid from grade 5 to grade 10. 24% completed grade 10 and the remaining 9% respondents are completed grade 12. When we come to their work experience, only 5% of them have more than 10 years work experience. 23% of the respondents have 6 to 10 years of experience and as it shows in the table the majority, i.e. 43% have 3 to

5 years of experience. 21% of them have 1 to 2 years of experience. Only 8% of the respondents have less than 1 year of experience.

In general, among the respondent construction workers or daily laborers; the majority of them are young workers with less educational qualification and less than 6 years of work experience.

4.3 COMPANY SAFETY AND HEALTH POLICY AND STRATEGY

In order to assess the companies occupational safety and health policy and strategy, 4 questions were formulated and presented to respondents, requesting whether 1 - the company provides awareness training on the occupational safety and health policy and strategy for them, 2 - whether the company encourage them to follow health and safety policy and procedure, 3 - Information related insurance coverage to work related accidents and 4 - on the company's effort in making work place free from any danger. The table below summarizes these four questions and shows the responses given by the construction workers. Below is the table that summarizes these four questions and shows the responses given by the construction site workers.

Table 2 -Workers awareness on occupational safety and health policy and strategy

Questions	Responses	Agree	Neutral	Disagree	Total
Company provides awareness training on safety and health policy and strategy on hiring	Number of respondents	61	21	145	227
	Percent	27	9	64	100.0
Company encourage workers to follow health and safety policy and procedure	Number of respondents	95	11	121	227
	Percent	42	5	53	100.0
Company provides information related to insurance coverage on work related accidents	Number of respondents	34	11	182	227
	Percent	15	5	80	100.0
Company make the work place free from any potential danger	Number of respondents	82	7	138	227
	Percent	36	3	61	100.0

Source: own survey, 2018

At it is clearly shown in the table above, 64% of the respondents disagree on the providing of awareness training on the companies' safety and health policy and strategy. As per the majority of the respondents their respected companies don't provide awareness training in the safety and health policy and strategy when they joined the company. However 27% of the respondents agree with the awareness training on the safety and health policy and strategy which the company provides. This shows that two third of the companies don't communicate and give awareness training on their health policy and strategy. When it comes to encouraging the workers to follow health and safety policy and procedure, 42% of the respondents agree, whereas 53% of the respondents expressed their disagreement on the companies encouragement to follow health and safety policy and procedure.

Thirdly, 80% of the respondents disagree with on information provided by thier respected companies in related to insurance coverage on work related accidents. Only 15% of the respondents agree on the issue. This shows that there is a very huge gap in providing information related to insurance between the companies and workers. The other point was making the work place free from any danger by the companies. In this point again 61% of the respondents shows their disagreement and 36% of the respondents are agree with making the work place free from any potential danger. 9%, 5%, 5% and 3% of the respondents remained neutral to the four questions related to occupation safety and health policy and strategy.

Parallel to this, the researcher interviewed these selected companies Human Resource Managers, supervisors and also safety officer, where it is applicable. The first part of the interview was about the companies policy and strategy on occupational safety and health, their challenge, their enforcing mechanism to implement the policy and strategy. All the respondents are well aware of the safety and health issues and the necessity of having strategy and policy in their respected organizations. However, among the three approached companies, only one company has a written policy and strategy and assigned one qualified

person as a safety officer. The remaining two companies raised as a challenge not to having a safety and health policy and strategy is because it is expensive and also not forced by government though there is a written occupational safety and health policy and strategy at a national level. As the respondents, the one company who has a policy gives training on the company safety and health policy and strategy as well as enforced its workers to strictly follow the rules.

Overall, the data collected from both the questionnaire and interview shows that there is a gap in having and communicating the safety and health policy and strategy. Creating awareness on safety and health issues through training and also the efforts made to make work places free from hazards are very limited.

4.4 APPLYING SAFETY AND HEALTH POLICIES AND PROCEDURES IN CONSTRUCTION SITES

Assessing the application of occupational safety and health policies and procedures is the key objective of this research. Having a certain written policy or not by itself cannot achieve its goals and objectives without proper application. In this research, the conditions taken into consideration are; providing of enough and required safety and health equipment, enforcing workers to wear provided safety and health equipments, keeping workers informed on safety and health hazards, taking actions on those who don't respect safety and health rules, quickly investigating safety and health problems and responding for the safety and health concerns of workers. Not applying or implementing these six conditions will lead to the occurrence of occupational safety and health related accidents. As it is clearly shown in the below table, six occupational safety and health application related questions were presented for the respondents.

Table. 3 Applications of occupational safety and health on the sites

Questions	Response	Agree	Neutral	Disagree	Total
Company provide enough safety and health equipments	Number of respondents	61	5	161	227
	Percent	27	2	71	100.0
Enforce workers to wear safety and health equipments in and around construction site	Number of respondents	82	16	129	227
	Percent	36	7	57	100.0
Keeps workers informed on safety and health hazards	Number of respondents	96	11	120	227
	Percent	42	5	53	100.0
Take action for those who don't wear safety and health equipments	Number of respondents	61	5	161	227
	Percent	27	2	71	100.0
Investigate safety and health problems quickly	Number of respondents	88	5	134	227
	Percent	39	2	59	100.0
Responds quickly to safety and health concerns	Number of respondents	98	5	124	227
	Percent	43	2	55	100.0

Source: own survey, 2018

27% of respondents have agreed on the companies providing enough safety and health equipments and 71% disagree with the fact of providing these safety and health equipments. Another element to assess the application of the policy and strategy was enforcing workers to wear safety and equipments in and around construction site. 36% agree of the respondents agreed on the question whereas 57% of them disagreed. In related to the question keeping workers informed on safety and health hazards, 53% of the respondents disagreed and 42% agreed. The other question to assess the application was on taking action for those workers who don't wear provided safety and health equipments. Only 27% of the respondents are agreed and 71% of them disagreed with 2% neutral respond. The majority, 59% of the respondents are disagree on the question companies application on investigating safety and health problem quickly and 39% agreed on the statement. The sixth question was to assess how quickly the responds of the company to safety and health concerns and 43% agree but the other 55% disagree on the responds of the company.

Similarly, interview was also used to identify the application and management of work places safety and health. With regard to making workplaces free from accidents and hazards, all the participants in the interview responded that they tried their best to make their construction sites free from accidents and hazards even if they don't provide safety and health equipments. Trainings on safety and health has given in one of the company who has the safety officer and also a refresh training also given daily and safety and health equipments distributed to all pilot site construction workers in this company. In one of the three companies, safety and health equipments distributed partially but not training. On the third construction company, neither training nor safety equipments applied. The construction companies who provide safety and health equipments, they enforce their workers to wear these equipments and take measures up to firing on those who don't respect the policy. In all the three companies, all their workers are covered by occupational accident insurance.

According to the interview participants, challenges on applying safety and health equipments are because they are very expensive and due to the nature of the work, construction is labour intensive and also giving training and retaining all those trained construction workers is not possible.

4.5 RATING WORK AREA SAFETY AND HEALTH ON THE VIEW OF WORKERS

This study assessed how the construction workers rate their work place in their view. In order to get their view, four questions were prepared and distributed; these are if they view their work place as dangerous, safe, risky and unhealthy. This table 4below, shows how they respond for these questions.

Table 4 - Site workers rating their work site

Questions	Responses	Agree	Neutral	Disagree	Total
Dangerous	Number of respondents	52	18	157	227
	Percent	23	8	69	100.0
Safe	Number of respondents	84	9	134	227
	Percent	37	4	59	100.0
Risky	Number of respondents	138	5	84	227
	Percent	61	2	37	100.0
Unhealthy	Number of respondents	91	5	131	227
	Percent	40	2	58	100.0

Source: own survey, 2018

As it is shown in the above table, unexpectedly 69% of the respondents disagree on the danger of their work place whereas 23% agree with its danger. when it comes to safety, 37% of the respondents view their work place as safe but 59% of the respondents are disagree. The third point was about the risk their work place in their view and 61% agree that, in their view their work place is risky and unlike to them 37% of the respondents disagree. The last variable to rate the view of the workers in their work place is it's healthiness. Once again 58% of the respondents disagree on the unhealthiness of their work place on their view whereas 40% of the respondents agree on its unhealthiness.

The researcher used un controlled observation method parallel to questionnaire and interview to check the safety and health of construction sites and their workers. The observed elements were; usage of metal or wood scaffoldings, covering the site on net, providing safety and health equipments to their construction workers, availability of first aid kit in the construction site and whether they posted any awareness creating signs or boards or not.

Among the six observed sites, only one construction site is fully using metal scaffolding. Three sites are using both metal and wood scaffoldings parallelly. The remaining two sites are using only wood scaffolding. Similarly, from the six observed site, only one site's workers are fully equipped with safety and health

materials whereas some of the three construction sites workers' are partially wear safety and health equipment. Only few workers wear safety and health equipment in the remaining two sites. First aid kits are available in all six sites but awareness creating signs are posted in only two sites.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

INTRODUCTION

This chapter presents summary of the findings of the research with reference to the basic research questions, provides conclusion drawn from the findings and finally suggests recommendations and future research direction.

5.1 SUMMARY

The objective of this research was to assess the practices and challenges of safety and health application in selected construction companies. This study helps to see the actual practice and the challenges by selecting three grade 1 construction companies. The research is limited to building constructions. Three basic research questions were identified that could help to assess the practice and challenges of safety and health. 1 - How is safety and health practiced in the construction companies? 2- What are the challenges to apply safety and health in the construction companies? and 3 - How does the construction companies managing the practices and challenges of safety and health issues.

Primary data was collected through qualitative and quantitative techniques. 243 questionnaires were distributed to these three selected companies construction sites' and 227 questionnaires were collected back. 10 interviews were also conducted with key respondents parallelly with 6 site supervisors, 2 from each construction companies; with 3 Human Resource Managers from the selected three construction companies, and with one safety officer from 1 Construction Company. Uncontrolled site observation has also made in the 6 construction sites from these selected companies. Secondary data were also collected through document analysis that includes from ILO reports, Ministry of Social and Labour Affairs reports, from the 9 month reports of Addis Ababa City Fire, Emergency Prevention and Rescue Agency, from different new papers

and so on. Data collected from quantitative technique through interview and qualitative data collected through interviews and observation were cleaned and analyzed and presented in findings.

Data collected through the techniques mentioned above were grouped in to three, 1 - Company safety and health policy and strategies, 2 - Applying safety and health policies and procedures in construction area, 3- Rating working area's safety and health.

The findings of this research with regards basic research question number 1- the companies effort in related to making awareness through training about the safety and health policies and strategies can be summarized as, communicating and providing training on policy and strategy is not available in the majority of the construction companies. The data collected revealed that there a lack of creating awareness in the safety and health policies and strategies and the companies effort to make the work place free any health and safety hazards are insignificant. In relation to that, their awareness level about insurances to work related accidents is almost none.

The other huge finding of the research is related to research question number - 2 the application of safety and health policies and procedures. The research revealed that the provided number of safety and health equipments is very small. Enforcing workers to wear safety and health equipments where applicable is very good but the availability of the equipments is very limited. According to the collected data, there is a problem in investigating safety hazards, in responding for concerns and in tacking actions. The reluctant of concerned government body and the price of the safety and health equipments plays their roles.

The third finding of this research study is related to basic research question number 3 - rating the safety and health issues of work places in the view of workers. For the surprise of the researcher of this study, unlike the

unsatisfactory findings of the previous two, most of the construction workers view their work place as it is not dangerous and unhealthy.

Lastly, one of the selected and assessed construction companies exceeds the researcher's expectation and experienced with other similarly approached companies in related to this subject. This one company has a well documented and separately written safety and health policy and strategy which is in line with the national and international occupational safety and health strategy since 2016. The company has separately assigned safety officer as it is stated in the previous interview analysis. They are implementing pilot program to their selected construction sites and enforce the safety and health rules and procedures, give daily refresher trainings, provides safety and health equipments to all workers, enforce workers to wear these provided equipments, takes measure on those who don't respect the safety and health rules and procedures and for those who don't wear provided safety equipments, use metal scaffoldings, hire nurses for first aid and simple medical treatments in these piloted construction sites.

5.2 CONCLUSION

The data collected and analyzed from primary and secondary source revealed that that there is a huge gap in application of safety and health policies and strategies in these selected and assessed construction companies. The prices of safety and health equipments and the controlling mechanism of the concerned government body has contributed the major role for the challenges and for not to apply these safety and health policies and strategies.

To conclude, though there is a written national safety and health strategy and basic rules and good practices of safety and health in construction, the implementation is very limited. Enforcing the policy has to be done and serious measures should be taken in order to keep the construction work places free from work related accidents.

5.3 RECOMMENDATIONS

Based on the findings derived from the analysis, the researcher of this study recommends the followings have to be done to improve the safety and health of construction workers.

The national occupational safety and health policy and strategy have to be circulated to all construction companies. In relation to that, construction companies have to adopt this strategy and communicate and make awareness training to all their workers. It has to be not only to construction site workers but also for those who work in the office and facilitate and coordinate the implementation of the projects.

The second recommendation of the researcher is, when existed construction companies renew their licenses and when new construction companies are established, the government body who is responsible to renew and issue their licenses should ask for and authenticate their occupational safety and health policies and strategies and also the employment contract of separately assigned safety officer as a precondition.

The third recommendation is, continuous and surprise visit of construction sites should be done by assigned government officials. Availing safety and health equipments with fair price can be put as a last recommendation.

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Appendix: Questionnaire Sample

Addis Ababa University, School of Commerce MA-HRM Program

The purpose of this questionnaire is only to do a research, as a master's degree requirement, and to collect data on the practice and challenges of occupational health and safety applications and challenges grade 1 construction companies in particular building contractions. Your responses will be confidential and only used for this purpose

The researcher kindly request the respondents' to complete all the questions carefully and return it back at your earliest convenience. Please put a check mark () on the space provided to indicate your responses. Thank you for your valuable time and cooperation in advance.

Section 1 - Demographic Information

1 - Sex Male Female

2 - Age Below 18 Between 18 to 25
 From 26 - 35 Above 35

3 - Education status Less than grade 5 From grade 5 - 10

10 complete 12 complete

Diploma Degree

Above

4 - How long have you worked in construction companies/ this site?

Less than a year 1 - 2 years

3 - 5 years 6-10 years Above 10 years

Section 2 - Occupational Health and Safety related questions

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly agree

No.	Safety and Health Policy and Procedure	1	2	3	4	5
1	Company provides training on safety and health policy and procedure on hiring					
2	Encourage workers to follow health and safety policy and procedure					
3	Have an information on the coverage of insurance in work related accident					
4	Make the work place safe and healthy					
Implementing Safety and Health policies and procedures in construction area		1	2	3	4	5
1	Provide enough safety and health equipments					
2	Enforce workers to wear safety equipments in and around construction area					
3	Keeps workers informed of safety and health hazards					
4	Take action for those who don't wear safety and health materials					
5	Investigate health and safety problems quickly					
6	Responds quickly to safety and health concerns					
How do you rate the working area in related to safety and health issues		1	2	3	4	5
1	Dangerous					
2	Safe					
3	Risky					
4	Unhealthy					

Interview Questions for Company Managers or Human Resource Managers

1. Company Policy and Strategy on Occupational Health and Safety
 - 1.1 - Does the company has occupational health and safety policy?
 - 1.2 - Do the employees clearly know about the policy?
 - 1.3 - Is there a qualified and responsible person who is in charge in implementing and controlling the proper application of the policy?
 - 1.4 - What are the challenges in implementing the policy?
 - 1.5 - Does the company enforce workers to follow health and safety policy and procedure?
 - 1.6 - Does the company make action on those who don't respect the policy and procedure?
2. Work places and sites health and safety management
 - 2.1 - What does the company do to make work places free from accidents and hazards?
 - 2.2 - Does the company provide enough safety and health training programs?
 - 2.3 - Does the company provide enough health and safety equipments?
 - 2.4 - Does the company enforce workers to wear safety materials while they are in and around work places?
 - 2.5 - Is there any measure on those who don't wear the provided safety equipments?
 - 2.6 - Does the company has insurance coverage for their employees?
 - 2.7 - What are the challenges faced in related to workplace safety and health issues?
3. Do you have any other idea and opinion in relation to occupational health and safety policy and strategy implementations? And what do you recommend to overcome the challenges in this area?

Observation Check list

No.	Description	Yes	No
1	Company use metal scaffolding for the site work		
2	Company use wood scaffolding for the site work		
3	Company use both metal and wood scaffolding		
4	Company workers wear safety equipments		
5	Safety and health awareness signs are posted in the site		