



***The Practices and Challenges of Occupational
Safety and Health in Meta Abo Brewery Sc. Co***

**By
EsayasAssefa**

Advisor: ABRARAW C. (PhD)

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The Practices and Challenges of Occupational Safety and Health in Meta Abo Brewery Sc. Co

By EsayasAssefa

Approved by Board of Examiners

Chairman, Dept. Graduate Committee

Signature

Advisor

Signature

Internal examiner

Signature

External examiner

Signature

DECLARATION

I, the undersigned declare that this thesis is my original work, and has not been presented for degree in this or any other university and all sources of material used for thesis have been fully acknowledged

EsayasAssefa

Name

.....

Signature

Addis Ababa, Ethiopia

Place

October, 2018

Date of submission

STATEMENT OF CERTIFICATION

This is to certify that Esayas Assefa has carried out his research work entitled “The Practices and Challenges of Occupational Safety and Health in Meta Abo Brewery Sc. Co”. This work is original in nature and is suitable for submission for the award of Master of Arts Degree in Human Resource Management.

ABRARAW C. (PhD)

.....

.....

Advisor Name

Signature

Date

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LIST OF ACRONYMS

PPE	=	Personal Protective Equipment
ILO	=	International Labour Organization
MOLSA	=	Ministry of Labour and Social Affairs
OI	=	Occupational Injuries
OSH	=	Occupational Safety and Health
WHO	=	World Health Organization
NIC	=	Negative Immediate Consequences
PIC	=	Positive Immediate Consequences
SHE	=	Safety Health Environment
KPI	=	Key performance indicators

ABSTRACT

Occupational accidents and diseases not only entail an appalling human toll, but also account for a significant economic burden on national economies and on enterprises. The general objective of the study was to investigate the practice and challenges of OSH in Meta Abo Brewery share Company. This study applied descriptive research study and used quantitative and qualitative research methods. Primary data was collected using a questionnaire from 98 randomly selected workers from production departments. Though the company had an international based OSH policy and procedure, the study revealed that workers and supervisors in these areas had low commitment to obey the policy: lack of awareness, carelessness or ignorance of safety requirements, Shortage of PPEs, PPE are not comfortable, no strong follow-up and enforcement non-enforcement and lack of motivation. Most of occupational injuries reported during the last 2 years and the overall prevalence during the last 2 years was reported 1-2 times. Hand finger was reported as the highest frequency of occupational injuries and Toe, Eye and Ear were stated as less frequently injuries. The major challenges is lack of awareness among workers and employers about work site safety and health and lack of Workers positive response to wear personal protective equipment (PPEs) in the organization and lack of government audits and/or inspections preferred were considered as a least challenge. Meta Abo should improve safety and health at work through a Decent Work Agenda – it helps to better address occupational safety and health as a vital component of decent work. The company should promote a preventive safety and health culture and progressively achieving a safe and healthy working environment.

Key words: *Brewery Industry, Occupational Safety and Health Management, Practices and Challenges*

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

According to ILO estimation (2014) globally, poor occupational health and safety results every day, people die as a result of occupational accidents or work-related diseases – more than 2.78 million deaths per year. Additionally, there are some 374 million non-fatal work-related injuries and illnesses each year, many of these resulting in extended absences from work. In developing countries the risk of having work-related injury is 10 to 20 times higher than that of developed countries. This is because in developing countries, majority of the workforce is employed in small and medium scale industries that do not meet the minimum standards and guidelines set by the WHO and the ILO for occupational health, safety and social protection.

Muchiri, (2009) stated that decent living and working conditions are a basic right for workers, whereas occupational accidents and diseases can cause economic devastation to families, businesses and communities. Safeguarding workers' safety and health is paramount and an integral part of our social and economic development. Despite the improved economic outlook for Africa, many challenges compromise real growth. Poor economies have poor working conditions and environment, which are also a symptom of poor occupational safety and health services.

While many African countries have established occupational safety and health services, operational and organizational challenges remain and impede improvements in workplace safety and health. Declining formal employment and increasing informal and rural employment has led to expanding populations without service coverage. With the political will in place, the challenge lies with professionals, agencies, employers, workers and other stakeholders to implement multi-faceted strategies integrated with the public health care system and development programmes to promote an occupational safety and health culture.

The continent continues to experience high incidents of occupational injuries and fatalities. Globally, sub-Saharan Africa alone has one of the highest work-related mortality rates, yet most of the occupational injuries are never diagnosed or reported. The ILO estimates that of the 2 million annual global work-related fatalities, about 20% occur in sub-Saharan Africa with only

about 12% of the global workforce. This is clearly an obstacle to development, to working out of poverty and to improving the quality of working life. Currently in Africa, the Labour inspection 1947, Convention No. 81 is one of the most ratified conventions (37 countries); while only six countries have ratified ILO Convention 1981 No. 155 on Occupational Safety and Health (OSH). According to a paper published by the ministry of labour and social affairs of Ethiopia, 2006, manufacturing industry has the most hazardous work place. That is mainly due to lack of safety leadership, nature of the industry, & lack of enforcement of labour proclamation No 377/06 article 92. In Ethiopia one of the manufacturing industries that visibly booming is the beverage industry. More and more international companies, like Heineken, Diageo, sub-miller & Bavarian, are investing in Ethiopia as the country has a good potential for development. According to Tomoda (1993) the beverage industry has bad records of OSH related issue.

Meta Abo Brewery is one of the beverage industry has been selected by the researcher to investigate where things are going wrong in safeguarding employees in work related safety and health problems. The principal aim of Meta Abo Brewery is meeting the customers' requirements for quality beer and to offer customers more choice in the market without affecting the environment. Thus, the Brewery is highly committed to waste reduction, waste management and satisfying customers' needs and expectations. The Brewery has been a pioneer in customer satisfaction, which is confirmed by being awarded two internationally, recognized certifications, ISO: 9001 and ISO: 14001. At a later stage of this research paper the details of the findings are presented and the expected next steps of the company are also indicates. Thus, the purpose of this study is to assess the current work related practices and challenges at Meta Abo Brewery and forward the necessary recommendation based on the result of the study.

1.2. STATEMENT OF THE PROBLEM

Manufacturing industries make significant contributions to the socio-economic development of most countries. The industry has a direct contribution to the nation's economy. That is why Federal Democratic Republic of Ethiopia gave due attention for manufacturing industries in the second GTP period. The due attention for manufacturing industry and the development of manufacturing sector attracts thousands of investors to the sector. The government also considers this sector as a means for unemployment reduction. The development of heavy manufacturing industry results in major impact of OSH workers on site. The high level technology used in

manufacturing industry requires special precautions to protect the workers. Workers are not aware of the immediate and long term effect of exposure to hazards.

In Ethiopia context, the report from HR department of Meta Abo Brewery in 2016/2017 revealed that work related illnesses increased by 25 % and additional work injuries were reported. In addition, workers in these areas had high injury rates. In the last two years, 85 minor injuries reported with 75% of them being hospitalized with a 1 to more than 5 days of sick leave. According to the HR report of 2015/16 and 2016/17, Meta Abo Brewery has been allocating a relatively high amount of budget for the provision of OSH materials (PPE) for the employees to safeguard the health of workers. However, workers complained about knockout by exploding bottles, cut when handling broken bottles, getting caught in a moving part of a machine like conveyors, back sprains during manual handling of raw materials and finished products, hit by a forklift, slips and trips due to wet floor and disordered items. It is an alarmed situation that the company could not able to improve its occupational health and safety practices in a relatively advanced beverage industries as Meta Abo Brewery Company has relatively longer experience in the Ethiopian market and leads by an international company Diageo plc - a global leader in beverage alcohol.

In the twenty-first century, public health practice is in a state of significant flux. Several macro trends are impacting the current practice of governmental public health. Thus, most of the studies that related to health and safety are focused on the community and its public health system operates. Further, the studies focused on selective workplace such as construction industry, mining and similar areas (Olutuase, 2014, Olatunji et al., 2007; Orji, Nwachukwu and Enebe 2016). However, health and safety is relevant to all branches of industry, it is particularly important for middle level industries like food and beverage industries. These industries have been identified with the highest occurrence rate of accidents compared to any other industry (Enebe 2016). In the recent past, death tolls, permanent disability, partial disability and some other severe environmental threat had increasingly been on the rise through collapse (Orji, Nwachukwu and Enebe 2016). Due to the nature of work, beverage sector is considered very complex and dynamic at enterprise level. Although an analysis of the patterns and causation of accidents provides the basic information for safety planning. It is not sufficient for predicting when and where they will occur. Such prediction needs coordination with other branches of food

and beverage management (Yi and Langford, 2006). The fact that an industry job or work environment is considered as highly risky and hazardous does not mean that its susceptibility to accident is not controllable – this largely depends on work situation which is humanly controllable. Hence, this research attempts to identify the health and safety challenges on practices of beverage industry at enterprise level that could be employed to produce the best practice guide for health and safety. Specifically, the purpose of this study is to assess the current work related practices and challenges at Meta Abo Brewery and forward the necessary recommendation based on the result of the study.

1.3 RESEARCH QUESTION

To investigate more about occupational safety and health practices and challenges, in this beverage industry the research answers the following questions:

- What are the existing occupational safety and health practices in Meta Abo Brewery Company?
- What challenges does the company face in managing occupational safety and health?

1.4. OBJECTIVE OF THE STUDY

1.4.1. General Objective

The general objective of the study is to investigate the practices and challenges of OSH in Meta Abo Brewery share Company.

1.4.2. Specific objectives

- To assess the existing occupational safety and health practice.
- To identify the key challenges of occupational safety and health.

1.5. SIGNIFICANCE OF THE STUDY

This study helps to improve work place safety and health, as well as directly benefiting business productivity, cost-saving and competitiveness at enterprise levels. It also gives a clue to guide health and safety considerations and the provisions of the Promotional Frame work for Occupational Safety and Health legislation and procedure at national level. In addition, this study helps to identify risks are key steps to improving safety and health at the enterprise level.

Moreover , this study aids to identify safety hazards as those aspects of the work environment that have the potential of immediate and sometimes violent harm to an employee; for example, loss of hearing, eye sight, or body parts, cuts, sprains, bruises, broken bones, burns and electric

shock. It discourses employees responsibilities which include taking reasonable care to protect their own health and safety and, in most cases, that of their co-workers. These specific requirements include wearing protective clothing and equipment and reporting any contravention of the law of reputation. Further, this study shows effective safety management techniques that require an organizational commitment to safe working conditions.

The research finding may be used as a source of reference by creating awareness regarding the current ongoing OSH by identifying the key challenge and practice of OSH. In addition, the research helps the researcher to have new plans for his future career as a stepping stone and also it may be used as a base for other researchers who are interested in the area to investigate further studies. And also, it gives a suggestion for the concerned policy makers to examine the challenge and practice of OSH.

1.6. SCOPE OF THE STUDY

In order to make the research manageable the study is focused on the level of employee awareness on Occupational Safety and Health. It is considered occupational safety and health in terms of training, work shop and seminar organized by the company, safety and health policy and rights and obligations related to OSH and awareness on work related injury compensation. In addition, this study is dedicated to assess the practice of Occupational Safety and Health in the company in terms of Personal Protective Equipment's (PPEs) which are important at brewery industry and safe employee working place. It is enclosed the handling of equipment, material and clothing for occupational safety and Health, the practice of wearing essential personal protective equipment while working and level of supervisors' involvement on checking as wearing the necessary protective devices while working. This study is also focused on the practices of providing notices on all health and safety measures and safety induction and orientation are conducted by the organization at the workplace. This study is also tried to find out possible reasons not always use all essential personal protective equipment while working such as carelessness and ignorance, shortage of PPEs, PPEs are not comfortable, lack of awareness, motivation and no strong follow-up and enforcement.

This study is also bounded to the challenges associated with the promotion of health and safety. These area lack of management attendance to safety program, lack of awareness among workers and employers about work site safety and health, lack of employee involvement to occupational

safety and health management system (OSHMS), insufficient government regulations and guidelines, lack of government audits and/or inspections, inadequate resources (for example, inadequate training of workers, and job tools and/or facilities) and lack of Workers positive response to wear personal protective equipment (PPEs) in the organization. It is focused on work related injuries and illness, the condition of sick leave as result of work related injury and illness and body were affected as result of work related injuries. Further, this study is framed to assess the sources of the accidents.

1.7 LIMITATIONS OF THE STUDY

The main limitation of the study was that detailed and comparative study with other similar breweries and beverage industries were not included in the study. Likewise, this research was based on the segment of people who willing and decide to answer the questionnaire. There is a chance that people who did not respond to their favorites would have different preferences. This study is not used **WISH Assessment developed by investigators from the Harvard Chan School Center for Work, Health and Wellbeing, a TWH Center for Excellence** representing multiple institutions in the Boston area. This instrument measures workplace-level implementation of policies, programs and practices that protect and promote worker safety, health and wellbeing. Development of the WISH Assessment relied on an iterative process involving a modified Delphi method, extensive literature reviews, and systematic cognitive testing. To solve these problems, the study adopted descriptive case study research design. The design has been selected for this study because it provides numeric descriptions of the population and describes events as they are, as they were or as they will be.

1.8. OPERATIONAL DEFINITION OF TERMS

- **Accident:** An unfortunate incident that happens unexpectedly and unintentionally, typically resulting in damage or injury Asfahi and Rieske (2010).
- **Disablement:** means any employment injury as consequence of which there is a decrease or loss of capacity to work Asfahi and Rieske (2010).
- **Employment accident:** any organic injury or functional disorder sustained by a worker as a result of any cause extraneous to the injured worker or any effort he makes during or in connection with the performance of his work Asfahi and Rieske (2010).
- **Fatal:** capable of causing death Asfahi and Rieske (2010).

- **Hazard:** a Physical situation with a potential for human injury, damage to property, damage to the environment or a combination of these (Lucas, 2001).
- **Health:** Health is the art and science of preventing disease, prolonging life, promoting physical and mental health, sanitation and personal hygiene, control of infections and organization of health services (Lucas, 2001).
- **Non-fatal:** not resulting in or capable of causing death (Lucas, 2001).
- **Occupational accident:** an occurrence arising out of or in the course of work which results in fatal occupational injury or non-fatal occupational injury (Lucas, 2001).
- **Occupational disease:** Any pathological condition where caused by Physical, chemical, Biological agents which arises as consequence of the type of work for a certain period prior to the date in which the disease became evident; provided, however, that it does not include endemic or epidemic disease which are prevalent and contracted in the area where the work is done (Lucas, 2001).
- **Occupational injury** means employment accident or occupational disease(Lucas, 2001).
- **Personal Protective Equipment /PPE/:** Utilization of the worker specialized clothing or equipment or worn by employees for protection against health and safety hazards. Personal Protective Equipment is designed to protect many parts of the body like eyes, faces, head, hands, feet and ears. PPE refers to protective clothing, helmets, goggles, or other garments or equipment designed to protect the wearer's body from injury or infection (Lucas, 2001).
- **Risk:** is a combination of the probability that a particular outcome will occur and the severity of the harm involved (Lucas, 2001).
- **Safety:** Relative freedom from danger, risk, or threat of harm, injury, or loss to personnel and/or property, whether caused deliberately or by accident (Lucas, 2001).
- **Sickness:** an illness or a disease Asfahi and Rieske (2010).

1.9. ORGANIZATION OF THE STUDY

The research paper organized into five chapters. The first chapter deals with the introduction part which includes background of the study, statement of the problem and research questions, objective of the study, significance of the study, scope of the study, limitation of the study and definition of terms. The second chapter focuses on the review of related literatures which deals

with the secondary data that provides different detail information about the topic. The third chapter presents research methodology and design which encompasses the description of the study, research approach, research design, population and sample, data sources and types, data collection procedures, ethical consideration and data analysis. Chapter four presents data analysis and interpretation. Finally, chapter five expresses about summary, conclusions and recommendations that will be forwarded on the basis of the findings.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. THEORETICAL LITERATURE

Health and Safety is an inevitable aspect of manufacturing and this is so because the only time an employee will perform his duties is when the employee is in good health and is sure of a safe working condition. This boils to the fact that a worker will perform his duties to the fullest only when he is sure that even when an accident occurs he will be taken good care of. One of the most important things that an employer should provide to his employees is safety even at a low risk site. At sites where heavy machinery is being used; it is certain that the level is higher because of the mechanical movement of parts of such machinery and therefore for the employee that will be monitoring or operating such machinery will be exposed to accidents. In a case like this, it should be known that the level of safety that will be provided will be much more than that of a site where ordinary hand tools are been used. Based on the above, we now understand that the level of Safety and Health protection will be higher nowadays because of the rapid mechanization of the manufacturing industry and the accidents that may occur will definitely be more fatal.

Health concerns of an employee ought to be valued more than any other thing in an organization; there is a proverb that says “health is wealth.” All other factors involved in the running of an organization all depends on man, both money, material and machines are to be spent, utilized and controlled by man. It is of great importance to note that the state of health of an employee is directly related to his level of performance, therefore a healthy worker is a productive worker. According to Goetzel (1999), improving employees Health and Safety practice at work, is directly related to their productivity and profitability of organizations.

Asfahi and Rieske (2010), gave a meaning about safety and health, safety deals with acute effect of hazard, whereas health deals with chronic effect of hazards. An acute effect is a sudden reaction to a sever condition; a chronic effect is a long term deterioration due to prolonged exposure to adverse condition. For example industrial noise is for instance, is usually a health hazard because it is usually the long term exposure to noise. Where as many chemical exposures have both acute and chronic effect and thus are both safety and health hazards.

2.1.1 CONCEPTS OF OCCUPATIONAL SAFETY AND HEALTH

Since 1950, the International Labour Organization (ILO) and the World Health Organization (WHO) have shared a common definition of occupational health. It was adopted by the Joint ILO/WHO Committee on Occupational Health at its first session in 1950 and revised at its twelfth session in 1995. The definition reads: "the main focus in occupational health is on three different objectives, the maintenance and promotion of workers' health and working capacity, the improvement of working environment and work to become conducive to safety and health, and development of work organizations and working cultures in a direction which supports health and safety at work and in doing so also promotes a positive social climate and smooth operation and may enhance productivity of the undertakings.

The literal meaning of safety and health of people implies the wellbeing of people at a certain setting. World health organization (WHO, 1999) define occupational health as "state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity", to achieve this it need preventing ill-health, controlling risks, and generally creating high quality work environment for the workers. The above WHO definition consistent with the international labour organization (ILO, 1996) definition which stated as: this definition in according to ILO includes, promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations, prevention among workers of adverse effects on health caused by their working conditions, protection of workers in their employment from risks resulting from factors adverse to health, placing and maintenance of workers in an occupational environment adapted to physical and mental needs and adaptation of work to humans.

In other words, occupational health and safety encompasses the social, mental and physical well-being of workers, that is the "whole person".

In general safety means freedom from the occurrence or risk of injury or loss. According to Lucas, (2001) work place safety is the protection of workers from the danger of industrial accidents and also referred to as the absence of injuries due to the interaction of the employee and the work environment. In a general perspective, safety means a condition of being safe from undergoing or causing hurt, injuries or loss.

The term health means a state of complete physical, emotional, mental, and social ability of an individual to cope with his environment, and not merely the absence of disease or infirmity

(Hippocrate, 1981). Lucas, (2001) also define health is the art and science of preventing disease,prolonging life, promoting physical and mental health, sanitation and personal hygiene, control of infections and organization of health services. A healthy workplace also defined by WHO, (1999), it is one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of workers and the sustainability of the workplace by considering the following identified needs such as safety and health concerns in the physical work environment, in the psychosocial work environment including organization of work and workplace culture, personal health resources in the workplace, and ways of participating in the community to improve the health of workers, their families and other members of the community.

2.1.2 DEFINITION OF HAZARD AND RISK

Although work provides many economic and other benefits, a wide array of workplace hazards also present risks to the health and safety of people at work. There are an unlimited number of hazards that can be found in almost any workplace and are caused by obvious unsafe working conditions, such as unguarded machinery, slippery floors or inadequate fire precautions. These dangerous hazards may be classified as follows: "chemicals, biological agents, physical factors, adverse ergonomic conditions, allergens, a complex network of safety risks," and a broad range of psychosocial risk factors. Personal protective equipment can help protect against many of these hazards.

Classification of dangerous hazards as follows:

- i. **Chemical hazards**- There are many classifications of hazardous chemicals, including neurotoxins, immune agents, dermatologic agents, carcinogens, reproductive toxins, systemic toxins, asthma gens, pneumoconiotic agents, and sensitizers. (Hazards arising from liquids, solids, dusts, fumes, vapors and gases);
- ii. **Physical hazards** affect many people in the workplace. (Includes hazards such as noise, vibration, fire, poor sanitation radiation and extreme temperatures); Occupational hearing loss is the most common work-related injury.
- iii. **Biological hazards** (biohazards) include infectious microorganisms such as viruses and toxins produced by those organisms such as anthrax (hazards such as bacteria, viruses, and infectious waste);

- iv. **Psychological hazards** include risks to the mental and emotional well-being of workers, such as feelings of job insecurity, long work hours, and poor work-life balance. (hazards that resulting from stress and strain);
- v. **Ergonomic hazards** are hazards associated with the non-application of ergonomic principles, for example badly designed machinery, mechanical devices and tools used by workers, improper seating and workstation design, or poorly designed work practices (MOLSA, 1997).

Generally, occupational health and safety risks common to the industrial sectors may be categorized as physical, chemical, ergonomic, and biological risks. Slips, trips, falls, noise, and vibration are examples of physical risks. Fires, explosions, leaks, spills, and exposure to gases, vapors, mists, dust, and fumes are common chemical risks. Muscular-skeletal problems resulting from repetitive activities such as lifting and carrying, or from spending long periods in one single position such as sitting at desks and working with computers, are typical ergonomic risks. Lastly, exposure to bacteria, viruses, biogenic toxins, and allergens is characteristic of biological risks.

2.1.3 ILO STANDARD AND GUIDANCE ON EMPLOYEES' HEALTH AND SAFETY

The International Labour Organization ILO Conventions and Recommendations on occupational safety and health define the rights of the workers and allocate duties and responsibilities to appropriate authorities to the employers, and to the workers in the field of occupational safety and health. The ILO Conventions and Recommendations adopted by the International Labour Conference, taken as a whole constitute the International Labour Code which defines minimum standards in the labour field.

The ILO policy on occupational health and safety is essentially contained in two international Conventions and their accompanying Recommendations. The ILO Occupational Safety and Health Convention (No. 155) and its Recommendation (No. 164), 1981, provide for the adoption of a national occupational safety and health policy at the national level and describe the actions needed at the national and at the enterprise levels to promote occupational safety and health and to improve the working environment. The ILO Occupational Health Services Convention (No. 161) and its Recommendation (No. 171), 1985, provide for the establishment of occupational health services which will contribute to the implementation of the occupational safety and health policy and will perform their functions at the enterprise level.

2.1.4 ACCIDENT IN THE WORKPLACE AND ITS CONTROL

1. How Accidents are caused

Accidents are disasters which are unplanned and unfortunate events that result into damage, injury or upset of some kind. Accidents in the manufacturing industry cannot be over emphasized; it could happen as a result of a mistake or lack of concentration or even natural disaster. Accidents can occur even when the job to be done is minimal and could be very disastrous.

More is attached to employees' health and safety than what we see with the naked eye alone, but accident is the number one danger that should be guarded against at all cost because its outcome tells a lot on the employee. ILO (1983) explains in every sphere of human activity there is the possibility of an accident, and work is no exception. Industrial accidents are the end products of unsafe act and unsafe condition of work. However accidents are preventable, they usually occur as a result of the combination of a number of factors of which the three main ones are technical equipment, the working environment and the worker.

2. Concept of Hazard Avoidance

When an accident occurs, it only shows that something has gone wrong with one or more processes of the job or some elements of carelessness on the part of the workers or an employer has created an unsafe condition of work. Therefore an employer or site supervisor should put in place all necessary prevention or control measures and take control of contributory causes of the accident. The employer or site supervisor should also know the physical and mental state of the workers to be sure of the safety level of the site. In ascertaining a reasonable safety control level, the site supervisor should put into consideration the following approaches explained by Asfahi, & Rieseke (2010).

(i) The Enforcement Approach

This is an approach initially taken by OSHA. The enforcement approach is simple and direct. The enforcement must be swift and sure and the penalties sufficiently severe. If these conditions are met, people will follow rules to some extent.

(ii) The Psychological Approach

Contrast with the enforcement approach is an approach that attempts to reward safe behaviors. The familiar elements of Psychological Approach are posters and signs reminding employee to work safely.

(iii)The Engineering Approach

This is safety engineers are attributed most on unsafe condition not on injuries to unsafe worker act. To give increasing emphasis to the work place machinery, environment, guards, and protective systems (i.e. the condition of work place). Thus, engineering controls receives first preference in what might be called three lines of defense against health hazards, the Engineering control, the Administrative or work practice control and PPE

3. Accident Control

Measures of accident control as explained by Ray&Rieske (2010) are highlighted below:

(i) THE WORK ENVIRONMENT

All floors should be clean, not slippery and free from debris, Stairs, gangways and loading bays should be adequately guarded and maintained, Adequate illumination for workspace, Holes, edges and opening should be adequately protected, Display of standard warning signs where hazard exists, Materials and components should be stacked correctly, Projecting objects or obstacles should be adequately protected.

(ii) PROTECTIVE CLOTHING

Provision of protective clothing and equipment are as well important. For safety purpose, workers in a manufacturing industry should be adequately protected using by, safety helmets, safety boots, welding shields, vision goggles, waist safety belts for ladders, Industrial gloves, green welder's gauntlet, dust mask, Ear defenders E.t.c.

(iii) FIRST AID

Microsoft Encarta Dictionary, (2008) defines First aid as an immediate skilled treatment given to a victim of an injury or accident before the service of an expert is at hand. For the safety purposes in a manufacturing industry a first aid box with all required materials must be present.

A well enlightened person about safety should be place in charge of the first aid box to administer treatment in case of accident. A record of accidents and causes should be kept by the

person in charge of the box to ensure such does not re-occur and materials administered should be recorded as well.

2.1.5 HISTORY OF OCCUPATIONAL SAFETY AND HEALTH

Ontario Occupational Health & Safety Act (OH&S Act) was originally modeled after the British Factory Act from the 17th century. Ontario introduced the Factory Act of 1884 which was the first OH&S Act. This Act was important in that it suggested prohibitions on the work activities of children and women and suggested work hour restrictions for all employees. However, it was extremely vague in definition and totally unenforceable. It was a beginning, but in reality, the Factory Act of 1884 did little to protect the worker. Employers favoured the Act as it did not clearly intend to limit production, yet made production safer or so it seemed. Eighty long years passed by with this little safe guard in place.

In 1960, a disastrous accident that caused the deaths of five workers changed the face of safety regulations forever. A new definition – SAFETY was introduced to the Factory Act of 1884 and the name changed to the Industrial Safety Act of 1964. This new definition was a major step forward and changed the thinking and the protection of workers. In the late sixties, workers began to openly criticize the lack of safety regulations and revolutionary movements in the workplace began to occur, forcing the Government of Ontario to update the province's health and safety laws. A turning point came in 1974. Uranium miners in Elliot Lake became alarmed about the high incidence of lung cancer and silicosis, and they went on strike over health and safety conditions. The government appointed a Royal Commission to investigate health and safety in mines. Chaired by Dr. James Ham, it became known as the Ham Commission.

The Ham Commission Report included more than 100 recommendations concerning mine health and safety. Ham also introduced the idea of an internal responsibility system, which would require government, employers and workers to work together to improve health and safety. To implement this system, he advocated for the creation of joint labour-management health and safety committees. This was the starting point for Joint Health & Safety Committees (JHSC) and a turning point for workers as they would now have the right to participate in health and safety recommendations. The below table shows the summary of major OSH events (WHO, 2001).

Table 2.1 Major events in history of OSH

Major OSH events	Major effects
<i>Health and Morals of Apprentices act, 1802</i>	Covered textiles mills with ‘Poor Law’ apprentices only
British Factory Act 1833	It were intended to provide compensation for accidents rather than to control their causes.
Factory Act of 1884.	The first industrial safety legislation that fit the definition of “factory” were included. Health care organizations, however, were not covered by OH&S legislation until 1980.
OSHA Act 1970	OSHA develops and sets mandatory occupational safety and health requirements
Industrial Safety Act of 1964	For the first time, the safety of the worker was its focus. Safety was defined as “freedom from injury to the body or freedom from damage to health”. Despite the focus on workers’ safety, workers were not given any opportunity to participate in developing or enforcing the law until 14 years later.
<i>Occupational Health & safety Act of 1980</i>	In brief, the passage of the Occupational Safety and Health Act (OHSa) in 1980 gave workers <ul style="list-style-type: none"> • “the right to participate” in occupational safety and health, • “the right to know” about on-the-job hazards and • “the right to refuse” work that they believe to be unsafe
Workplace Safety & Insurance Act 1997 (Bill 99)	this legislation still includes provisions for compensation to workers whose injuries or illnesses are caused by their work

Source (WHO, 2001)

2.1.6 HISTORY OF OCCUPATIONAL SAFETY AND HEALTH PRACTICE IN ETHIOPIA

The attentions to occupational safety and health have been given legal basis in Ethiopia since 1940s when the first legal instrument Proclamation No. 58/1945 was promulgated. The base of this legislation was a result of the introduction of industrialization that took place in the country. This legislation was framed itself on the basic principles underlined by the two notable ILO conventions on Labour Inspection. A more comprehensive legislation on occupational Safety and Health management replaced this in 1964 i.e. Proclamation 232/1964 in order to address the change occurred. All the laws of that period were adopted from most of the European countries especially of the British taking in to account of the prevailed condition of the country’s industrialization and the pre maturity of the development of Labour administration system, recently the country has specific OSH related rules under the Labour proclamation number 377/03 article 92 which clearly stated

fundamental obligations of an employer with regard to putting in place of all the necessary measures in order to ensure, work places are safe, healthy and free of any danger to the wellbeing of workers. In addition Ethiopia has been a member state of the ILO since 1923 and has ratified 19 conventions which stated in below Table 2.2. According to labor proclamation No. 377/2003, the Ministry of Labor and Social Affairs of Ethiopia is the organ charged with the responsibility to inspect labor administration, labor conditions, occupational safety and health (Takele and Ademasu ,2006).

Ratification of ILO Conventions.

Ethiopia has been a member state of the ILO since 1923 and has ratified 19 conventions to date as follows;

Table 2.2 Showing List of Conventions Ratified by Ethiopia (Source MOLSA 2006)

No.	Convention	Date of Ratification
1	Unemployment convention No.2/1919	11.06. 1966
2	Rights of Association (agriculture) conv11/1921	11.06.1966
3	Weekly rest (Industrial) Convention No.14/1921	28.01.1991
4	Freedom of Association and protection of the right to organize conv. 87/1948	04.06.1963
5	Employment service conv. No 88/1948	04.06.1963
6	Fee-charging employment agencies Conv. No. 96/1948	30.04.1991
7	The right to organize and bargain Collectively Convention No. 98/1948No.	04.06.1963
8	Equal remuneration Convention No. 100/1951	24.03.1999
9	Abolition of forced labour No.105/1957	24.03.1999
10	Weekly rest commerce Convention No. 106/1957	28.01.1999
11	Discrimination(employment) Convention No. 111/1958	11.06.1966
12	Minimum age convention No. 138/1973	27.05.1999
13	Occupational safety and health and working environment Convention No 155/1981	28.01.1991

14	Workers with family responsibilities /equal opportunity & treatment/ Convention No. 156/1981	28.01.1991
15	Termination of employment /employers initiative / Convention No158/1982	28.01.1991
16	Vocational rehabilitation and employment /disabled persons/ Convention No 159/1983	28.01.1991
17	Private employment agencies convention No. 181/1997	24.03.1999
18	Forced labour convention No. 29/1990	02.09.2003
19	Worst forms of child labour No. 182/1999	02.09.2003

2.1.7 OSH POLICY AND REGULATORY FRAMEWORKS IN ETHIOPIA

There is no national OSH policy which deals with how occupational safety and health is handled at a national level and undertaking level as per the principle stated by the Occupation Safety and Health and Working Environment Convention No. 155/1981 for which Ethiopia is a signatory. But there are other policies which have some relevant aspects pertaining to the promotion and necessity of occupational safety and health services development. The following are among others;

1.The Economic Policy of 1992 .The policy indicate the need for a labour law that determines fair and applicable labour relation, occupational safety and health and working conditions in the spirit of market economy. According to the policy, the labour law to be issued this way will facilitate the development of private ownership as prime and sole actor in the economic development of the nation.

2. The national health policy of 1993. The policy has clearly indicated principles that directly deal with the issues of occupational safety and health as follows:

a. Article 2.2. That emphasis will be made in order to the promotion of occupational health and safety in industries and production sectors.

b. Article 2.3. The development of environmental health which also include occupational health.

c. Article 3.9. Under strategies to implement the policy it is clearly stated that inter sectorial collaboration shall be made in order to develop facilities and mechanisms for workers health and safety in production sectors.

Like many countries there are no particular policies of any aspect of labour administration system which can directly and reflect about the issues of occupational safety, health and working environment.(MOLSA,2006)

The work force in Ethiopia is generally administered under two laws: government employees governed by Federal Civil Servant Proclamation No.515/2006 now amended to 1064/2010 and production related employees governed by MOLSA of the labor proclamation No.377/03. An estimated half million workers are engaged in the scope of labor proclamation, while 1.3 million belonged to the civil service sector. The country's economy is greatly liberalized towards privatization with the exception of strategic industries such as banking for foreign investors and telecommunication. Ethiopia is a primarily an agrarian country with only about 1% of the total employed workforce engaged in the manufacturing, construction, and mining sectors (personal communication).

The Ethiopian Constitution (1994), Article 42.2 and Article 89.8 is the foundation for the governance of OSH. Article 42.2 said "Workers have the right to reasonable limitation of working hours, to rest, to leisure, to periodic leaves with pay, to remuneration for public holidays as well as healthy and safe work environment", And Article 89.8 said "Government shall endeavor to protect and promote the health, welfare and living standards of the working population of the country."

It has numerous articles derived from this Constitution that ensure the protection of citizens and workers from environmental and work related hazards. The Ethiopian Labor proclamation has established the provisions of OSH in work places. The proclamation clearly indicates the duties and responsibilities of the three parties: employer, employee and the government inspectors as stakeholders, (FDRE, 2004). There are OSH directives and guidelines used by OSH inspectors and safety officers to ensure the protection of workers, (MOLSA, 2008).

Collective agreement made between an employer and a Trade Union is mandatory for a factory that operates under the Labour Proclamation. The agreement document is a cornerstone that explicitly indicates the provision of OSH at respective workplaces. OSH-related agreements include responsibilities of partners, safety measures, leave (annual, sick, study, etc.), working duration and hours, fire safety, provisions of personal protective devices, sanitary facilities, and health services.

Ethiopia has committed herself to exercising ILO Conventions. Twenty conventions are ratified and addressed in the labor proclamation, (MOLSA, 2006). Selected examples of these ILO conventions include:

- Elimination of forced labor: convention 29/1930 and 105/1957.
- Freedom of association and the right to collective bargaining: convention 87/1948 and 98/1949.
- Abolition of child Labor: convention 138/1973 and 182/1999.
- Elimination of discrimination in employment: convention 100/1951 and 111/1958.
- Weekly rest (Industry): convention 14/1921 and 106/1957.
- Occupational safety and health: convention 155/1981.

The Federal Government has recently approved national OSH policy. However, a lack of local policy statements at the enterprise level and the existence of inadequate awareness of the existing regulatory provisions are challenges that still require immediate attention to reflect the National level of OSH Policy.

2.1.8 IMPORTANCE OF OCCUPATIONAL SAFETY AND HEALTH

Economically, morally, and legally, Occupational safety and health have become important issue in society today. Companies are attempting to remain profitable in an ever-more-competitive, global economy. For these companies addressing safety, health and environmental issues may mean more than good business (Friend, 2001).

Work plays a central role in people's lives, since most workers spend at least eight hours a day in the workplace, whether it is on a plantation, in an office, factory, etc. Therefore, work environments should be safe and healthy. Yet this is not the case for many workers. Every day workers all over the world face with a multitude of health hazards, such as: dusts, gases, noise, vibration and extreme temperatures. Unfortunately some employers assume little responsibility for the protection of workers' health and safety. In fact, some employers do not even know that they have the moral and often legal responsibility to protect workers. As a result of the hazards and a lack of attention given to health and safety, work-related accidents and diseases are common in all parts of the world. Due to these and other facts the need of occupational safety and health and its implementation at work place is necessary.

There are sound economic, legal, moral and ethical reasons for having effective safety and health management system. Organizations devote considerable resources in protecting workers safety and ensuring healthy workplaces. For both business and financial reasons, many go beyond the minimum requirements set by occupational health and safety laws. OSH management system provides organizations with the framework to develop a solution to the increasing challenges facing them at the workplace today, from high injury and illness, lost work days, increasing occupational health and safety regulations, large citations/ penalties, rising worker's compensation costs, costly medical claims, worker retention and employee satisfaction (Asfahian and Resnik, 2010). Rieske (2010) explained further that Organizations with effective OSH management system earn positive returns and benefits on their health and safety investment by:

- a. Operational cost savings through OSH management system.
- b. Reducing work-related accidents and ill health and the costs associated with them.
- c. Improving performance through heightened employee morale and adherence to policies and procedures.
- d. Increased control of regulator issue.
- e. Reinforcing a responsible and well-managed reputation with customers, stakeholders and communities.
- f. Clear demonstration of legal and regulatory compliance to regulatory authorities, customers and employees.
- g. Better management of health and safety risks on a planned and on-going basis.
- h. Increased access to new customers and business partners through an improved corporate image.

According to Asfahi and Rieske (2010), everyone wants a safe and healthful work place, but what each person willing to do to achieve this worthwhile objective can vary a great deal. Some manager deny the responsibility and attempt to leave the decision to employees, this result in a decision by default and usually the result is a relatively low level of safety and health in the work place. So without the commitment on the part of management the worker usually is unable to build health but the behavior of the worker is the most important determinant for his or her safety. Willie & Dennis (2001), supports this idea without management support the safety engineer and an employee unable to build health.

Doumbia, (2012) argues that behavior-based safety (BBS) is an approach used to reduce workplace accidents and fatalities. It is set on the premise that safety in the workplace is a combination of three measurable components: personality, environment, and behavior. Only when these three elements are combined can the workplace be “accident free.” BBS argues that by observing and analyzing the interactions between people's behavior and the work environment, it is possible to identify factors that support safe or unsafe behavior. BBS also maintains that by changing the environment to support safe behavior and implementing proven behavioral safety processes, a business can dramatically reduce the number of lost-time and minor injuries.

Any safety and health manager is an indisputable goal is naïve. In the real world we must choose among the following.

- Hazard that are physically infeasible to correct
- Hazard that are physically feasible but are economically infeasible to correct.
- Hazard that are both physically and economically feasible to correct. (Asfahi and Rieske, 2010).

Occupational Safety and Health management system is applicable to any organization that wishes to establish safe working conditions. Occupational Safety and Health management system (OSHMS) is an integral part of the overall management system of the organization. It facilitates the management of the OSH risks associated with the business of the organization. This includes the organization structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the organization's OSH policy.

The ILO Occupational Safety and Health management system (OSHMS) Guidelines (ILO-OSH 2001) encourage the integration of (OSHMS) with other management system and state that OSH should be an integral part of business management. While integration is desirable, flexible arrangements are required depending on the size and type of operation. Ensuring good OSH performance is more important than formality of integration. ILO emphasizes that OSH should be a line or staff management responsibility at the organization. The Guidelines stress that the OSH management systems in the organization has the following main sections. These sections

are namely Policy, Organizational structure, Planning and implementation, Workers participation, Employee training and monitoring and Evaluation.

International Labor Office(ILO-2001)Guide lines on occupational safety and health management system states that the employer, in consultation with workers and their representatives, should set out in writing an OSH policy, which should be: (a) Specific to the organization and appropriate to its size and the nature of its activities; (b) Concise, clearly written, dated and made effective by the signature or endorsement of the employer or the most senior accountable person in the organization; (c) Communicated and readily accessible to all persons at their place of work; (d) Reviewed for continuing suitability; and (e) Made available to relevant external interested parties, as appropriate. The guideline further states that OSH policy should include, as a minimum, the following key principles and objectives to which the organization is committed: (a) protecting the safety and health of all members of the organization by preventing work-related injuries, ill health, diseases and incidents; (b) complying with relevant OSH national laws and regulations, voluntary programmes, collective agreements on OSH and other requirements to which the organization subscribes; (c) ensuring that workers and their representatives are consulted and encouraged to participate actively in all elements of the OSH management system; and (d) continually improving the performance of the OSH management system. Requirements of the safety and health policy reflect the workers and management commitment towards good organization's safety and health. Policy contains the elements of OSH policy and worker participation. It is the basis of the OSH management system as it sets the direction for the organization to follow.

ILO Guidelines state that the employer should have overall responsibility for the protection of workers' safety and health, and provide leadership for OSH activities in the organization. The employer and senior management should allocate responsibility, accountability and authority for the development, implementation and performance of the OSH management system and the achievement of the relevant OSH objectives. Structures and processes should be established which: (a) ensure that OSH is a line-management responsibility which is known and accepted at all levels; (b) define and communicate to the members of the organization the responsibility, accountability and authority of persons who identify, evaluate or control OSH hazards and risks; (c) provide effective supervision, as necessary, to ensure the protection of workers' safety and

health; (d) promote cooperation and communication among members of the organization, including workers and their representatives, to implement the elements of the organization's OSH management system; (e) fulfill the principles of OSH management systems contained in relevant national guidelines, tailored guidelines or voluntary programmes, as appropriate, to which the organization subscribes;

The Guidelines states on Planning and Implementation activities as :- (a) Identify the current applicable national laws and regulations, national guidelines, tailored guidelines, voluntary programmes and other requirements to which the organization subscribes; (b) Identify, anticipate and assess hazards and risks to safety and health arising from the existing or proposed work environment and work organization; and (c) Determine whether planned or existing controls are adequate to eliminate hazards or control risks; and (d) Analyses the data provided from workers' health surveillance.

ILO Guidelines describe on employee participation and consultation as:- a) workers participation is an essential element of the OSH management system in the organization. b) the employer should ensure that workers and their safety and health representatives are consulted, informed and trained on all aspects of OSH, including emergency arrangements, associated with their work. c) the employer should make arrangements for workers and their safety and health representatives to have the time and resources to participate actively in the processes of organizing, planning and implementation, valuation and action for improvement of the OSH management system. d) the employer should ensure, as appropriate, the establishment and efficient functioning of a safety and health committee and the recognition of workers safety and health representatives, in accordance with national laws and practice. The Guidelines on occupational safety and health training states as: - a) cover all members of the organization, as appropriate; b) provide effective and timely initial and refresher training at appropriate intervals; c) include participants evaluation of their comprehension and retention of the training; d) be reviewed periodically and e) be documents as appropriate and according to the size and nature of activity of the organization. The guideline on monitoring and evaluation described as be used as a means of determining the extent to which OSH policy and objectives are being implemented and risks are controlled; feedback on OSH performance; information to determine whether the day-to-day arrangements for hazard and risk identification, prevention and control are in place and

operating effectively and the bases for decisions about improvement in hazard identification and risk control, and the OSH management system.

2.1.9 CHALLENGES IN GLOBAL OCCUPATIONAL HEALTH

Occupational health and safety should have higher priority on the international agenda, but improvement of OHS infrastructures and systematic preventive approaches in industrializing countries are extremely slow. Although many countries have developed laws and enforcement activities, working conditions for the majority of the world's workers do not meet the minimum standards and guidelines set by the World Health Organization (WHO) and the International Labor Organization (ILO). Until now, only 24 countries have ratified the ILO Employment Injury Benefits Convention (No. 121), adopted in 1964, which lists occupational diseases for which compensation should be paid and only 31 have ratified the Convention on Occupational Health Services (No. 161). The adoption of these conventions should be the first step toward the implementation of an OHS system. OSH regulations cover only about 10% of the population in developing countries. These laws omit many major hazardous sectors like agricultural and domestic work, typically not considered "industries." The informal sectors typically include more sensitive subpopulations in the workforce like child labor, pregnant women, and the elderly, with limited access to health care.

Only 5% to 10% of workers in developing countries and 20% to 50% of those in industrialized countries have access to adequate occupational health services.

Although in a survey among International Commission on Occupational Health members from 47 industrialized and industrializing countries, 70% reported OHS being in place and 80% noted the existence of a national institute for OSH, the estimated coverage of workers with OSH services was only 18%. The WHO and the ILO have elaborated programs to foster the development of international occupational health, but the real effect of this effort is still not optimal likely due to insufficient funding. ILO plays an important role in promoting OSH policies and sets minimum standards in conventions based on ethical principles. ILO conventions include No. 81 (labor inspection), No. 155 (occupational safety and health), No. 161 (occupational health services), No. 170 (chemical safety), and No. 174 (prevention of major industrial accidents). Additionally, the core ILO conventions include freedom of association, child labor, forced labor, and discrimination issues, which precludes OSH conventions from full budgetary

resources. Although the ILO is an important reference for OSH standards, conventions and recommendations require national ratification and the lack of ratification and subsequent enforcement undermines the impact of the conventions. Moreover, some have criticized the shift in ILO standards away from specific measures with high levels of accountability toward promoting high-level global labor standards that allow flexibility in application, ostensibly to allow countries with different levels of economic development to adapt standards to their local context. This, in practice, allows greater accommodation of management discretion at the workplace.

The WHO promotes action in global OSH through a network of WHO Collaborating Centers for Occupational Health. The strategy is now defined by the WHO Global Plan of Action for Workers' Health; 2008-2017. Reports of the action is given periodically regarding the updates of the plan's (Lucchini and Leslie 2014).

The common challenge encountered in the development of occupational health service includes lack of awareness among workers, employers, health planners, policy makers, health professionals and public at large, lack of trained human resource, inadequate, inaccessible, and inequitably distributed health service institutions. lack of multidisciplinary staff, absence of field-testing equipment for conducting environmental and biological monitoring of the work place and the health of the workers. insufficient budget for carrying out regular inspections, conducting research activities, the characteristics of the workers, the majorities are poor, illiterate or poorly educated, poor working environment, no specific regulation/ legislation on occupational health and safety issues, unfavorable climatic condition and heavy load of endemic disease: such as bilharzias, onchocerciasis, malaria, leishumaniasis, and trypanosomiasis, absence of training institution on occupational health and safety, little or no collaboration or cooperation among stakeholders, poor information exchange /net work in the area of OHS, lack of multidisciplinary forum or panel and absence of integration of occupational health and safety with general health service (Lucchini and Leslie 2014).

As Lenjisa (2016), explained in his thesis research on Practices of Occupational Health and Safety Management in Oromiya Steel Pipe Mil PLC, the ultimate goal and safety programme should be to eliminate accidents. No unplanned or uncontrolled activity with the potential to cause injury should happen. An accident free working environment may be an idealistic goal, but

is certainly achievable. In organizations, there are different kinds of factors that hinder the achievement of occupational safety and health. The potential challenges and ways to overcome those challenges should be identified to implement an effective OSHMS. The challenges can be related to management, workers, authority and accountability, training, workplace environment.

The challenges in the workplace are:-

- 1) Lack of management attendance to safety program: - Management is directly responsible for preventing injuries and illness, with each level accountable to the one above and responsible for the level below.
- 2) Ignorance of the continuous process improvement. Continuous Improvement by working together with long-term views of safety and health, environment, economy, and social integration. Benchmarking activities, utilization of sound science, risk assessment and cost/benefit analysis to establish priorities and standards for continuous and fundamental improvement of safety and health are recommended.
- 3) Lack of employee involvement to OSHMS: - Each employee should assume responsibility for working safely. Professionalism in safety is as important as professionalism in production, quality and cost control.
- 4) Insufficient government regulations and guidelines. Government Regulations must be recognized where applicable. Co-operation with government in a responsible manner fosters safety benefit and cost effective legislation that is based on sound technical evidence and true safety and health priorities meeting total community need.
- 5) Lack of government audits and/or inspections. Safety audits should be conducted. Management should audit performance in the workplace.
- 6) Inadequate resources (for example, inadequate training of workers, and job tools and/or facilities, inefficient old procedures etc.). Training is an essential element for safe workplaces. Total safety awareness does not come naturally - management should teach, motivate and sustain employee safety knowledge to eliminate injuries.

2.1.10 REASONS FOR OCCUPATIONAL HEALTH AND SAFETY

Overall, the moral, legal and economic reasons are very closely linked for managing Health and Safety. An organization that loses money through poor management of Health and Safety could possibly go out of business. According to Mark (2001), “a job well planned is a job well done.”

“a job well planned is a job half finished.” Planning is essential to the ongoing success of any enterprise and certainty to the components of the enterprise, including safety.

a. **Moral:** duty of reasonable care; unacceptability of putting health and safety of people at risk; society’s attitude to moral obligations; making the moral case to senior management.

b. **Legal:** the preventive (enforcement), punitive (through criminal sanctions), and compensatory effects of law.

c. **Economic:** direct and indirect costs associated with incidents and/or unhealthy workplaces and their impact on the organization (includes insured and un-insured costs) (Lucchini and Leslie 2014).

Furthermore, insured and uninsured costs that a company has to take into account can be divided into direct and indirect costs. Good health and safety can improve productivity, reduce risks and improve team spirit and morale in the workplace. A perfect example of good Health and Safety practice would be to provide additional cooling fans for a worker who works on a moulding machine that generates high temperatures, especially during hot summery days. Providing regular and frequent breaks or job rotations can also help.

It gives employers the opportunity to express their vision and promote a better public image, improve working conditions and quickly adapt to new changes in law, society or public demand. This in turn leads to positive financial returns and lowers risk for high-risk industries.

Health and safety, in essence, is all about caring for employees, consumers and members of the public and knowing how to apply the principles and written laws into practice efficiently. As a Health and Safety professional I asked myself many times what drives me to improve my knowledge, is it for me to look good in the eyes of the others and to enhance my career with a better position or financial gain? As a matter of fact, I am inspired to improve people’s lives and to have the ability to change people’s attitudes towards Health and Safety. Work- related injuries, illness and deaths impose costs on employers, workers and the community. These include both direct costs and indirect costs.

- Direct costs include items such as workers’ compensation premiums paid by employers or payments to injured or incapacitated workers from workers’ compensation jurisdictions, and

- Indirect costs include items such as lost productivity, loss of current and future earnings, lost potential output and the cost of providing social welfare programs for injured or incapacitated workers.

According to ILO (1983), every year, throughout the world, millions of industrial accidents occur. Some of them are total and some result in permanent disablement, complete or partial; the great majority are only temporarily disabling, which however, may last for several months. Every accident causes suffering to the victim, a considerable proportion must cause much anguish to his or her family, and many especially those resulting in death or permanent disablement – may have a catastrophic effect on family life. Moreover, all accidents waste time and money. The world is still paying heavily for accidents in terms of both human suffering and economic waste. Despite some progress, the question of safety at work is still a serious problem. The economics of accident is inevitably linked to the economics of accident prevention. If the cost of accident actually appears on a balance sheet, the employer, who is ultimately responsible, can integrate measures for accident prevention into the overall plans for the firm.

Many of the costs of accidents can readily be expressed in monetary terms, others are less tangible. According to the authors, accident costs are made up of direct or subjective expenses comprising, for example, personal suffering and bereavement of the victim's family, and indirect, hidden or resource expenses which include material damage, loss of equipment, expenses resulting from loss of production and so on. ILO listed the following hidden accident costs.

1. Cost of lost time injured employee.
2. Cost of time lost by other employees who stop work.
3. Cost of time lost by foremen.- Supervisors or other executives assisting injured employee, investigating the cause of accident. Selecting, training replacing the injured employee, preparing accident report.
4. Cost of time spent on the case by first aid attendant.
5. Cost due to damage to the machine, tools or other property.
6. Incidental cost due to indifference with production. Failure to fulfill orders on time.
7. Cost to employer under employee welfare & benefit system.

8. Cost due to the loss of profit on the injured employees productivity and on idle machine.
9. Cost that occurs in consequence of the excitement or weakened moral due to the accident.
10. Overhead cost per injured employee (the expense of light, heat, rent etc.)

It is now generally agreed that the indirect cost amounts to between two & five times than the direct costs Mark (2001).

2.2 EMPIRICAL REVIEW

2.2.1 Empirical Study about OSH economic crises globally

(i) ILO Estimation

The International Labour Organisation, (2009) estimated that about 2.3 million workers die from occupational accidents and diseases worldwide every year. ILO further estimated that 4 per cent of annual global GDP, or USD 2.8 trillion, is lost due to the direct and indirect costs of such accidents and diseases (such as lost working time, workers' compensation, interruption of production, and medical expenses). It was estimated that about percent of the burden of all diseases and injuries in established market economies is attributable to work.

ILO (2013), the total cost of a workplace injury is often underestimated because some costs may be indirect, are not immediately felt, or simply difficult to quantify, such as loss of reputation. For example, apart from the direct costs of accidents such as worker compensation, there are also indirect costs on the loss of skilled workers, delays in production, accident investigation costs, associated legal costs, equipment damage/replacement costs, costs to reschedule work, recruitment and the training of new staff, loss of corporate image etc. A study by the Stanford University¹¹ estimated that the indirect costs due to such losses could be 4 times higher than the direct costs. Similarly, work-related ill health also causes huge suffering and loss. However, they remain largely invisible compared to work-related accidents, even though they are estimated to kill six times as many people each year.

(ii) WHO report

A study used by the World Health Organization (WHO) and health professionals, as reported in the Global Burden of Disease and Injury by Murray and Lopez (WHO/World Bank), estimated that 5% of the global burden is related to work in 'Established Market Economies' group of

countries as classified by World Bank. This correlated well with the ILO estimate for costs of occupational injuries and illnesses – 4% of annual global GDP.

(iii) Study report in Singapore institute

According to the study report undertaken by the WSH Institute researchers workplace Safety and Health Institute, Singapore (2013) the total cost of work-related injuries and ill health to workers, their employers and the community for Singapore is estimated to be SGD 10.45 billion, equivalent to 3.2% of the nation's GDP for 2011. The costs borne by different economic agents were estimated to be: SGD 2.31 billion (22.1%) by employers; SGD 5.28 billion (50.5%) by workers, and S\$2.87 billion (27.4%) by the community.

Based on the final report on the findings of the National Workplace Safety and Health Survey, (2010) the costs of work injuries and illnesses may be broadly divided into direct and indirect costs. Direct costs include workers' compensation payments, medical expenditures and legal costs. Examples of indirect costs include training replacement employees, lost productivity and costs associated with lower employee morale and absenteeism.

2.2.2 Empirical Study about OSH in Ethiopia

In the physical year of 2001/2002 there have been around 4754 accidents out of which 3370 with day lost and 1370 without day lost and 14 fatal accidents were reported to occur. The report was obtained from 105 undertakings in six regional states employing 62,183 workers. The severity rate for the accident is found to be 0.83 hours out of 1000 hours of work. The frequency rate for the occupational accident during the same year was 3.185 hours. Out of the accidents caused 0.3% were fatal ones. The days lost due to accidents in the same year was around 18,400 days.

Looking at statistics by industry, the manufacturing sector was the most hazardous i.e. caused most occupational accidents (with 86.6% of the occupational accident) followed by agriculture and fishing (with 7.5% of the total occupational injury).

In the year 2002/2003 fiscal year the number of occupational accidents decreased significantly, there were only 1,262 occupational accidents all together out of which there are only 3 fatal accidents. 29 undertakings reported the accidents employing 16,122 workers and 1,112 accidents are reported with day lost causing 3584 days to be lost without work.

The severity rate of the accident was around 0.1 hour or around 6 minute out of 1000 hours was lost. This looks like as if it is negligible severity rate in terms hours lost but it does not show the

real situation due to under reporting of accidents statistics from 75% the country. Had it not been like this, the figure could be swollen many times. The frequency rate for the accident was 34 hours out of million hours worked for the same year. As compared to the past year 2001/2002, the manufacturing sector is still the most hazardous industrial sector caused most of the occupational accidents i.e. 67.12% of the total occupational accidents followed by construction (19.5% of the total occupational). The remaining industries accounted only for 13.39% out of all the casualties.

In the year 2003/2004 out of the, total estimated 4600 undertakings in the country employing 10 and above workers only 81 (i.e. around 2% out of the total) reported 3,029 accidents (fatal and non fatal). Out of this there were 15 non fatal accidents. Due to the 2448 non fatal accidents around 11,263, days were lost without work. The severity rate during the same year was around 1 hour or 60 minutes lost out of 1000 worked hours. Where as, the frequency rate was around 25 hours out of one million worked hours in the same year. Similar to the past year, manufacturing is the most hazardous industrial sector accounting for 91.04 percent of all accidents caused, followed by agriculture hunting and forestry industrial sector i.e. around 6%. The remaining industry accounted only for around 3% out of the total reported accidents.

As it has been tried to explain, the national compilation of annual occupational injuries suffers from under reporting and has been remained to be poor in all the history of the labour inspection services starting from its inception. This is ascribed due to the awareness problem towards the importance of the formation regarding the occupational injuries can play in putting place of strong OSH services and the positive role it has in enhancing productivity and competitiveness of undertaking in the business endeavor. In addition to this, undertakings are reluctant to comply with their obligation of compiling and reporting all occupational injuries caused to the nearest labour inspection services as per legal obligation set by the labour proclamation No 377/93 Article 92. This is due to absence of strong enforcement in this regard. So the existing statistics cannot show the reality of both the incidence and rate of occupational in injuries in the country.

At the time of the assessment, there was no list of occupational diseases and dangerous incidents which can be used as reference standard to immediate report to the Labour Inspection services, (MOLSA, 2006).

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter covers about how the research carried out. It contains Description of the study area, research design, research approach, population and sample size, source of data, data collection instrument, data collection procedures, validity and reliability test, ethical considerations, data analysis. In general, the study analyzed the practices and challenges of occupational safety and Health at Meta Abo Brewery Company.

3.1 RESEARCH DESIGN

Descriptive survey design method was employed in this study with the assumption that it enables the researcher to reveal the existing situations of occupational safety and health at Meta Abo Brewery Company. Because, descriptive research study type is flexible in nature and it can provide a lot of information that helps in identifying further areas of research. Besides, it uses both quantitative and qualitative data in order to find the solution to what is being studied so far. As Kothari, (2004) explained the major purpose of descriptive research is description of the state of affairs as it exists at present and also he added that descriptive research studies are those studies which are concerned with describing the characteristics of a particular individual, or of a group. And this method identified the Practices and challenges of the study.

3.2 RESEARCH APPROACH

As Kothari, (2004) explained the types of research approach brings to light the fact that there are two basic approaches to research, namely, quantitative and the qualitative approaches. The former involves the generation of data in quantitative form which can be subjected to rigorous quantitative analysis in a formal and rigid fashion and is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. The quantitative one is helpful in quantifying variables which is gathered through closed ended questions and gathering and interpreting statistical data.

Qualitative research, on the other hand, is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind. This aims at discovering the underlying motives and desires, using in depth interviews for the purpose. Such an approach to research generates results either in non-quantitative form or in the form which are not subjected to

rigorous quantitative analysis. Generally, the techniques of focus group interviews and depth interviews are used.

Thus, it used both quantitative and qualitative data in order to find the solution to what is being studied so far. Accordingly, 120 questionnaires were distributed for both Supply Chain and demand staff to find out the result quantitatively and additionally, out of the total twenty interview session were organized with 4 safety officer, 4 machine operator and 4 quality control and 8 administration staff, lastly observation were conducted.

3.3 POPULATION, SAMPLE SIZE AND SAMPLING TECHNIQUE

Population refers to the complete set of individuals (subjects or events) having common characteristics in which the researcher is interested. The target population of this study includes both supply chain which are production team, machine operators, safety officer and quality control and demand staff which is administrative specifically of Meta Abo Brewery Sh. Co. in Sebeta.

The study has focused on Meta Abo Brewery S. Co. specifically in Sebeta branch. The target population was production teams, machine operators, quality control, safety officer and administration staff found in Sebeta main office. The sampling technique is stratified sampling technique because by this method the strata divided into five heterogeneous strata based on their work assignment. These were 170 production teams, Machine operator, Quality Control and safety officer. To determine sample size the researcher uses stratified random sampling techniques was employed in this study.

Sample Size Determinations

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{170}{1 + 170(0.05)^2} = 120$$

Where:

- n = Sample Size
- N = Total Population Size
- e = Acceptable Level of Error (that is 5 percent)

Source: Yamane (1967)

Based on the above formula, the researcher gathered data from 120 respondents through questionnaire which are Supply Chain and demand staff.

3.4 SOURCES OF DATA

Both primary and secondary sources of data were used. Production teams, machine operators, quality control, safety officer and administration staff are considered as primary sources of the study and the primary target population for the study as well. The reason for selecting the target population is to get relevant data and genuine information.

Other essential secondary sources included in this study were: relevant books, academic journals, proceedings, articles contributed by different authors, internet based information which contains relevant information related to the subject under the study.

3.5 DATA COLLECTION METHOD

Questionnaire, interview, and observation were employed to collect data. The data was collected from primary sources through questionnaire, interview, and observation which enable the researcher to gain genuine information.

3.5.1 Questionnaire

The most basic form of measurement might be questionnaire because questionnaires are easily distributed, have less room for bias, have increased likelihood of confidentiality and require much less time and money (Bourdon et al, 2005). It is also more comfortable for some respondents who prefer to fill questionnaire than participate in the interview. When the researcher decided to make questionnaire as data gathering tool, the researcher taken into consideration all the advantage of the tool and its easiness to manage with the short time that the researcher has to conduct this research. Questionnaires were collected from 120 Supply Chain and Demand staff. The reason why a questionnaire used is easier to handle and is simpler for the respondents to answer within a short period of time (Koul, 2008). The items of the questionnaires were mainly close-ended questions and accompanied by some open ended ones. The closed ended questionnaires aid the coding and analysis of responses whilst the open ended facilitate richness and intensity of responses. The questionnaire first prepared in English and then interpreted into Amharic to ensure clarity of understanding by respondents and administered by the researcher.

3.5.2 Interview

Additionally, out of the total 20 employees interview were conducted which are 4 safety officer, 4 machine operator, 4 quality control and 8 administration staff by using census because as the researcher deem they are relevant bodies to provide appropriate information for the study due to their intimacy with production workers in their day to day activities.

Semi structured interview which is the most common type of interview in social research (Dawson, 2002). It was used to collect data because this process allows the researcher to gain insights into others perspectives about the phenomenon under study and it is particularly useful for ascertaining respondent's thoughts, perceptions, feelings, and retrospectives account of events. Marriam (1996) further explained that "interviewing is necessary when we cannot observe behavior, feelings, or how people interpret the word around them.

3.5.3 Observation

Observation checklist was another data gathering tool that helps the researcher as an eye witnesses to the situation. The major points observed by the researcher during the survey period were cleanliness of the brewery company, Space for staff refreshing center, availability of different services, availability of notice board, laboratories with adequate equipment's, libraries with adequate reference materials, first aid facilities, staff rooms, staff launch and meeting hall, latrines based on sex placement and so on. In addition, observation can help to consolidate the research with different techniques and to know what the situations look like in real life practices of the brewery company.

3.6 DATA COLLECTION PROCEDURES

This study depended on primary data using a questionnaire, which is administered by giving orientation and explanation for selected respondent about the purpose of the questioner with help of the supervisors and collecting the paper on the box to give confidence for the respondents.

Questionnaires were distributed to the sampled population by the researcher for filling by the respondents. The questionnaires are simplified as much as possible so that all respondents have a clear meaning of each of the question. The self-administered questionnaire was prepared by a likert scale of 5 levels (ranging from 1- (strongly disagree) to 5-(strongly agree)) to elicit information from respondents on the independent variables. The rationale behind selecting such variety respondents is perhaps to consolidate the reliability of information.

3.7 VALIDITY AND RELIABILITY

Checking the validity and reliability of data collecting instruments before providing to the actual study subject is the core to assure the quality of the data (Creswell 2009).

3.7.1 Validity Test

Validity is the extent to which difference found with measuring instrument reflecting true differences among those being tested. As of John (2007), in order to ensure the quality of the research design content and construct validity of the research was checked. Construct validity establishing correct operational measures for the concepts being studied. The literature review were conducted and thoroughly examined to make sure that the content of measuring is relevant to the study. Experts' opinions in the area of health and safety in brewery industry and quality management were taken. To ensure validity of instruments, initially the instrument was prepared by the researcher with guidance from the advisor.

3.7.2 Reliability Test

As it is vital to obtain a reliable measure for the purpose of deriving a scale score, Cronbach's coefficient alpha was used in this study. Schoenbach (2004) indicated that Cronbach's alpha gives the proportion of the total variation of the scale scores that is not attributable to random error and its values of 0.70 or greater are considered adequate for a scale that to be used to analyze associations. The purpose of deriving a scale score by having multiple items is to get a more reliable measure of the construct than is possible from a single item. This scale reliability is typically calculated by using Cronbach's coefficient alpha. In this regard, values of 0.70 or greater are considered adequate for a scale that to be used to analyze associations (Schoenbach, 2004).

Table 3.1: Reliability Test

Variable	N	Cronbach's α coefficient
Awareness on Occupational Safety and Health	4	0.789
Level of occupational safety and health management	7	0.761
Challenges associated with the promotion of health and safety	7	0.751
Over all	18	0.812

Source: Own survey study result, 2018

Cronbach's α -coefficient was applied to evaluate the reliability of the measurement scales. All 8 scales used in our study met the suggested standard of $\alpha \geq 0.70$ indicating that they all were internally consistent. Therefore, it indicates the reliability of the scales is good depicting a very strong internal consistency among the measurement items and the selected instrument accurately measures the variables selected.

3.8 DATA ANALYSIS

The data collected through questionnaire and semi structured interview from the study representative sample were processed and subjected to a variety of analysis techniques. The researcher used both qualitative and quantitative analysis in this study. The quantitative data were organized and analyzed using SPSS version 20.0. Thus, descriptive statistics such as frequency counts, percentage, mean value and SD were suitably employed for analysis. Besides, the data gathered through interview was analyzed in the form of narration or telling. Finally, the researcher enhanced the reliability of the findings.

3.9 ETHICAL CONSIDERATIONS

The researcher addressed ethical considerations of confidentiality and privacy of all individual respondents. The researcher used a rigorous and conscious effort at all times to sustain this promise. Respondents participated on voluntary basis. Participants were well informed as to the purpose of the study and consented verbally. Measures were taken to ensure the respect, dignity and freedom of each individual participating and to assure confidentiality in the study. Moreover, participants were clearly informed that the information they provide would be kept confidential and would not be disclosed to anyone else including anyone in the company.

In addition, data, results, methods and procedures, and publication status were truthfully reported. No attempted used to fabricate, falsify, or misrepresent data in this study. It was tried to avoid careless errors and negligence; the research work was carefully and critically examined. Never plagiarize. It tried to honor patents, copyrights, and other forms of intellectual property. Not used unpublished data, methods, or results without permission and given proper acknowledgement or credit for all contributions to research. In the next section, Data presentation, analysis and interpretation Chapter (Chapter four) will be presented.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

This chapter includes the results and discussions of this research. It begins with response rate of the responses and the profile of the respondents and subsequently borders on the health and safety of each work category and ends with the institutional response to occupational health and safety issues in Meta Abo Brewery Company. This chapter analyzes and presents the views of respondents which were selected to find out the effects of safety and health practices of beverage industry.

4.1 RESPONSE RATE

Data were collected from supply chain and demand staff. The number of respondents are represented in the following table.

Table 4.1 Response rate

No.	Categories	Target Population	No. of Employees	No. of respondent	Actual	%
1.	Supply and demand staff	Production teams, machine operator, qualitycontrol, safetyofficer, administration staff	170	120	98	81.7%
2.	Supply and demand staff	machine operator, qualitycontrol, safetyofficer, administration staff	20	20	14	70%

Source: Survey Data 2018

A total of 120 questionnaires were administered to the respondents selected from supply and demand chain department as the above table indicates the details of respondents. Accordingly, 98 questionnaires (81.7% of the targeted population) were properly filled and returned. It indicates that more than eighty percent of the targeted respondents were participated in the study. In addition, key informants who were considered to be side by side with OHS issues were

interviewed. It can therefore be observed from this table that 4 machine operators, 4 quality controllers, 4 safety officer and 8 administration staff were interviewed in-charge of OHS and the result of their response are presented in qualitative analysis of this study.

As indicated on chapter three, interview sessions were conducted with a total of 20 employees. Out of the total these selected employees, 14 interview session (70% interview successes rate) were conducted which were composed of are 4 safety officer, 3 machine operator, 3 quality control and 4 administration staff as the researcher deem they are relevant bodies to provide appropriate information for the study due to their intimacy with production workers in their day to day activities. The researcher selected five department categories namely production teams, machine operators, quality control, safety officer and administration staff in order to gather data through questionnaire and interview.

4.2. BACKGROUND OF RESPONDENTS

4.2.1 Respondents’ Profile Based on Age and Sex

Table 4.2 Respondents’ Profile Based on Age and Sex

Sex	Male	Female			
Count	78	20	(Male= approximately 80%)		
Age:	<24	25-40	41-50	51-60	Above 60 year
Count	12	40	26	11	9

Source: Survey Data 2018

Of all respondents more than half percent are males (approximately 80% of the respondents). This is because the workers in the production department were mainly males. Further, 12 workers were below 24 years and nine workers as high as 60 years. Specifically from the table, a greater percentage of workers (40) were between 25 and 40; this implies that this study comprises young and energetic youth whose skills need to be developed and enhanced to ensure the effectiveness of the study.

4.2.2 Respondents' profile based on marital status and education level

Table 4.3 Respondents' profile based on marital status and education level

Marital Status			Educational level		
Category	Count	%	Category	Count	%
Married	51	52%	Illiterate	-	0%
Single	24	24%	Can read & writes	-	0%
Divorced	15	15%	1-8	13	13%
Widowed	8	8%	9-12	19	19%
			Diploma	38	39%
			Degree & above	28	29%

Source: Survey Data 2018

The highest educational level attained by 28 respondents was degree and above which was closely followed by diploma by 38 respondents. This implies that majority of the production team workers have had some level of education at least to the basic level. As indicated in the above table, respondents of this study have had some level of formal education (more than elementary education) and it implies that the participants of this study have had formally educated to handle the questionnaire. Regarding marital status, more than half of the participants were married and 24 respondents were single with 15 divorced and 8 widowed. As the study indicates married respondents in the factory constitute greater number and this could be because of the number of workers between 25 and 40 were high. Overall, the respondents of this study were comprised from well-educated and family oriented workers. It is believed that the study got data from responsible and accountable persons.

4.2.3 Respondents’ profile based on work experience, salary and employee pattern

Table 4.4 Respondents’ profile based on work experience, salary and employee pattern

Work experience in the current job category			Monthly salary in Birr			Employment pattern		
Category	Count	%	Category	Count	%	Category	Count	%
1-5 years	19	19%	Below 1500	4	4%	Permanent	81	83%
6-15 years	43	44%	1500 - 3000	22	22%	Temporary	17	17%
16-25 years	25	26%	3000 – 10,000	53	54%			
26-35 years	7	7%	Above 10,000	19	19%			
Above 35 years	4	4%						

Source: Survey Data 2018

The above table indicates the working experience of employees who participated in the study. The objective was to determine how long and consistent employees have worked in the organization. The data gathered shows majority of the respondents (43 participants) have worked between 6-15 years in the organization. As indicated from this table, exactly 19 respondents had working experiences below five years whilst 25 respondents had between 16 and 25 years. The remaining (11 respondents) had above 26 years of work experience. Available data shows that monthly earnings of employees (both permanent and contract) ranges between a minimum of birr 1500 and a maximum of more than 10,000 birr. The majority of the participants of the study got more than 3000 birr per month. Most of the participants of the study were permanent staffs which includes 81 staffs in number.

4.3 ANALYSIS OF COLLECTED DATA

4.3.1 Employee awareness on Occupational Safety and Health

This section considers data collected on the awareness level of employee on occupational safety and health. The variables studied here include: safety and health training, safety and health policy, and employees knowledge about work place safety and health, workers rights and

obligations. The below table shows that respondents' response on their awareness level on Occupational Safety and Health.

Table 4.5 Respondents' response on awareness on Occupational Safety and Health

Statements		Strongly disagree	Disagree	Indifferent	Agree	Strongly agree	Mean
The company organizes occupational safety and health training, work shop and seminar	Count	3	0	10	35	50	4.315
	Row N %	3.1%	0.0%	10.2%	35.7%	51.0%	
	Row N %	3.1%	0.0%	14.3%	29.6%	53.1%	
I know the content of the company policy. It is also available near to my work place or in book form?	Count	2	0	15	27	54	4.338
	Row N %	2.0%	0.0%	15.3%	27.6%	55.1%	
I Know employees' rights and obligations related to OSH?	Count	9	6	8	21	54	4.071
	Row N %	9.2%	6.1%	8.2%	21.4%	55.1%	
I have awareness on work related injury compensation?	Count	8	0	20	25	45	4.009
	Row N %	8.2%	0.0%	20.4%	25.5%	45.9%	
Grand Mean 4.183 Standard Deviation = 0.812							

Source: Survey Data 2018

Accordingly, the results collected from the respondents have been presented in the above table. Regarding safety and health training, majority, 51.0%, of respondents have strongly agreed and 35.7% agreed that the company organizes occupational safety and health training, work shop and seminar. It was found that 4.183 grand mean and 0.812 standard deviation. It was rated as very good which shows the trend towards to the highest value with less data variability. Mean scores 4.51-5.00 excellent or very good, 3.51-4.50 good, 2.51-3.50 average or moderate, 1.51-2.50 fair and 1.00-1.50 is poor (Francisco M. Ebio, 2016). Since a significant number of employees have trained in safety and health requirements, their awareness level is not as expected and therefore may not take the necessary precautions to safeguard them self and others from safety and health hazards. Chetty (2006) indicated that employee which was not taken adequate OSH training they have high chance to expose to work place injury and illness. Meta Abo Brewery S. Co. has adapted its occupational safety and health policy from international practices through Diageo. It is available in the company data base and it is posted in the compound on the big banner. The above table indicated that few respondents did not know the existence of the

company's safety and health policy. It is implied that the company organizes occupational safety and health training and work shop and seminar appropriately. Employees should know the content of the company policy. It is also available near to my work place or in book form.

4.3.2 Level of occupational safety and health management

In theory and practices of occupational safety and health, suitable OSH management on the work place comforts the wellbeing of the employee and improves the quality work environment.

Table 4.6 Responses on level of occupational safety and health management

		Strongly disagree	Disagree	Indifferent	Agree	Strongly agree	Mean
Employee working place is safe	Count	6	3	9	33	47	4.147
	Row N %	6.1%	3.1%	9.2%	33.7%	48.0%	
There is lack of equipment, material and clothing for occupational safety and Health	Count	3	19	17	24	35	3.703
	Row N %	3.1%	19.4%	17.3%	24.5%	35.7%	
always wear all essential personal protective equipment while working.	Count	3	8	14	24	49	4.104
	Row N %	3.1%	8.2%	14.3%	24.5%	50.0%	
Supervisors always ensure that staff wears the necessary protective devices while working.	Count	10	11	8	18	51	3.908
	Row N %	10.2%	11.2%	8.2%	18.4%	52.0%	
My company provides notices on all health and safety measures	Count	9	8	19	24	38	3.758
	Row N %	9.2%	8.2%	19.4%	24.5%	38.8%	
Safety induction, orientation and refresher courses are conducted by my organization at the workplace	Count	3	8	10	41	36	4.008
	Row N %	3.1%	8.2%	10.2%	41.8%	36.7%	
The company will arrange medical checkup at least once a year	Count	2	5	14	31	46	4.176
	Row N %	2.0%	5.1%	14.3%	31.6%	46.9%	
Grand Mean 3.969 Standard Deviation 0.916							

Source: Survey Data 2018

Accordingly, companies must show their commitment and close follow up on the implementation of OSH policies and procedures. To assess the level of work place safety in this study, respondents were inquired to indicate the extent of their agreement with the following statements on the scale that most nearly reflects the extent to which they agree or disagree. Thus, the above table portrayed that almost half of them (48.0%) strongly agreed and 33.7 % of the respondents agreed that their working place is safe. Others preferred the remaining categories 6.1% preferred strongly disagree, 3.1% disagree and 9.2% preferred the category of indifference. However, this study showed that there is lack of equipment, material and clothing for occupational safety and Health. It was evidenced that 60.2% of respondents preferred the

category of strongly agree and agree. It shows that they were unhappy with availability all the necessary PPE required for their work.

Regarding to wearing all essential personal protective equipment while working, exactly half of the respondents preferred the category of strongly agree and only 3% of them chosen the opposite category (strongly disagree). More than half of them (52.0 %) also strongly agree that supervisors always ensure that staff wears the necessary protective devices while working.

Nevertheless, 38.8% of the respondents strongly agreed (24.5% agree) that the company provides notices on all health and safety measures. Only 20% of the respondents kept indifference about the company's notices on all health and safety measures. The rest of the respondents were either disagreeing or strongly disagree to almost similar degrees. To assess the company's consideration on the preventive action mentioned, respondents were asked to respond to the statement: "The Company will arrange medical checkup at least once a year"; the result, as shown on the above table, indicted 49.6% of respondents strongly agree and 31.6% with the statement. The rest of the respondents were either neutral or disagree to varying degrees. On the assessment on safety induction, orientation and refresher courses, 36.7% and 41.8 % of the respondents preferred the category of strongly agree and agree respectively. It shows that the company conducted safety induction, orientation and refresher courses at the workplace. It was found that 3.969 grandmean and 0.916 standard deviation. It was rated as very good which shows the trend towards to the highest value with a little bit higher data variability. Mean scores 4.51-5.00 excellent or very good, 3.51-4.50 good, 2.51-3.50 average or moderate, 1.51-2.50 fair and 1.00-1.50 is poor (Francisco M. Ebio, 2016).

4.3.3 Issues on the challenges associated with the promotion of health and safety

Regarding issues on the challenges associated with the promotion of health and safety, participants were asked to indicate the extent of their agreement with the following statements on the scale that most nearly reflects the extent to which they agree or disagree. Meta Abo brewery has various weaknesses to create a safe workplace as healthy food industry. The main challenge is related to procurement which procures less quality products. Accordingly, it is difficult to create happy and engaged employees and their satisfaction level have been decreased. Accordingly, as

of the common and most important Occupational and Health problems experienced in this company, they stated that the company is not a smart about it, and employees do not work in a safe and organized way, the company cannot justify its efforts financially and avoid trouble. Thus, they assure that health and safety are important in beer industry to create healthy, happy and engaged employees that lead to increased customer satisfaction and, therefore, higher sales and market share.

Table 4.7 Responses on Issues on the challenges associated with health and safety

		Strongly Disagree	Disagree	Indifferent	Agree	Strongly Agree	Mean
Lack of management attendance to safety program	Count	1	6	7	35	49	4.273
	Row N %	1.0%	6.1%	7.1%	35.7%	50.0%	
Lack of awareness about work site safety and health	Count	2	1	9	32	54	4.379
	Row N %	2.0%	1.0%	9.2%	32.7%	55.1%	
Lack of employee involvement	Count	5	2	7	33	51	4.252
	Row N %	5.1%	2.0%	7.1%	33.7%	52.0%	
Insufficient government regulations	Count	4	3	10	30	51	4.233
	Row N %	4.1%	3.1%	10.2%	30.6%	52.0%	
Lack of government audits	Count	13	12	5	25	43	3.745
	Row N %	13.3%	12.2%	5.1%	25.5%	43.9%	
Inadequate resources	Count	3	8	12	34	41	4.039
	Row N %	3.1%	8.2%	12.2%	34.7%	41.8%	
Lack of Workers positive response to wear PPEs	Count	6	3	4	26	59	4.316
	Row N %	6.1%	3.1%	4.1%	26.5%	60.2%	
Grand Mean 4.176 Standard Deviation 0.987							

Source: Survey Data 2018

The above table shows that there are various challenges associated with the promotion of health and safety in the company. It was found that 4.176 grand mean and 0.987 standard deviation. The grand mean was rated as very good which shows the trend towards to the highest value with less data variability. Mean scores 4.51-5.00 excellent or very good, 3.51-4.50 good, 2.51-3.50 average or moderate, 1.51-2.50 fair and 1.00-1.50 is poor (Francisco M. Ebio, 2016). The mean ranges from 4.379 to 3.745. The highest mean was reported 4.379 to indicate lack of awareness about work site safety and health is the main challenge to implement health and safety in the company. It was evidenced by respondents perception

study as most of them (55.1%) preferred the category of strongly agree (32.7% chosen agree category) and few participants (around 2.0%) preferred the category of strongly disagree.

Lack of Workers positive response to wear personal protective equipment (PPEs) in the organization was considered as the next highest challenge. Most of the respondents (60.2%) preferred the category of strongly agree and 26.5% of them also agreed on the statement. Lack of management attendance to safety program was also indicated as the main challenges associated with the promotion of health and safety in the company by half of the respondents. 35.7 % of the respondents also agreed that of management attendance to safety program was indicated as among the main challenges. Lack of employee involvement to occupational safety and health management system (OSHMS) and insufficient government regulations and guidelines were designated as the main challenges. Similar results found that 52.0% of the respondents preferred strongly agree category for the two statements. In the given seven statements or choices, lack of government audits and/or inspections preferred as a least challenge. Below half of the respondents (43.9% of respondents) preferred strongly agree category and others 13.3% strongly disagree, 12.2% disagree, 5.1% indifference and 25.5% agree. 41.8% of the respondents preferred strongly agree category and others 3.1% strongly disagree, 8.2% disagree, 12.2% indifference and 34.7% agree to indicate inadequate resources (for example, inadequate training of workers, and job tools and/or facilities) as the challenge in the company. It is implied that companies should solve the challenges associated with the promotion of health and safety. This is because safety and health issues are directly related to the production and then revenues of the company's businesses. Brewery companies should create a safe workplace as healthy food industry.

4.3.4 Practices of the Company on Health and Safety

This study firstly considered on practice of Occupational Safety and Health in terms of most commonly used PPEs and possible reasons for not always use PPEs. Secondly, these studies considered for the possible reasons for not always use all essential personal protective equipment (PPEs). In industry particularly in beverage industry, wearing of personal protective equipment can mean the difference between personal safety and severe injury at work. According to the respondents, safety shoe and safety suit have been given for most of the employees.

Table 4.8 Respondents’ response on Practice - Most commonly used PPEs and possible reasons for not always use PPEs

Most commonly used PPEs			Possible reasons for not always use all essential personal protective equipment (PPEs)		
Choices	Frequency (N)	%	Choices	Frequency (N)	%
Safety Shoe	95	97%	Carelessness and ignorance	62	63%
Hand glove	58	59%	Shortage of PPEs	55	56%
Leather Apron	49	50%	PPEs are not comfortable	50	51%
Ear plug	62	63%	Lack of awareness	72	73%
Eye goggle	42	42%	Lack of motivation	13	13%
Helmet	61	62%	No strong follow-up and enforcement	46	47%
Safety Suit	90	92%			
Cap/hear net	54	55%			
Reflective jacket	33	33%			

Source: Survey Data 2018

Selective employees have been benefited to get others like hear net/cap, ear plug, hand gloves and eye goggle were the most important PPE for employees while, reflective jacket, helmet and leather apron. In addition, to recognize the possible reasons for not always use all essential personal protective equipment (PPEs) while working, respondents were asked to choose from the below possible reasons which were extracted from the literature.. The reasons given for not wearing personal protective equipment were identified. These are Lack of awareness (73%), carelessness or ignorance of safety requirements (63.0%), Shortage of PPEs (56.0%), PPE are not comfortable (51.0%), no strong follow-up and enforcement non-enforcement (47%) and lack of motivation (13.0%).

It was understood that since January 2012 as Diageo purchased the Meta Abo Brewery, formerly a state-owned business based in Sebeta. With a broad portfolio of international spirits brands, such as Smirnoff Vodka, Baileys and Captain Morgan, the addition of Meta ensures Diageo’s position as the leading total beverage alcohol business in Ethiopia. Since acquiring the Meta Abo Brewery, the team in Ethiopia has worked hard to define the positioning of the brand, invest in marketing activities and build new commercial teams. It is a must to provide all the personal

protective equipment necessary for security and safety at work. In this study, respondents were requested to list Personal Protective Equipment's (PPEs) which are important at work area.

4.3.5 Work related injuries and illness in the past two years

In this study, it was tried to understand how many times employees have faced work related injuries and illness in the past two years. Similarly, it was tried to know sick leave as result of work related injury and illness and body affected as result of work related injuries. The collected data were summarized on the following table accordingly.

Table 4.9 Responses on Work related injuries and illness

Work related injuries and illness in the past two years			Sick leave as result of work related injury and illness			Body affected as result of work related injuries		
Category	N	%	Category	N	%	Category	N	%
1- 2 times	42	42%	1- 2 days	35	36%	Upper hand	29	19%
3-5 times	22	22%	3-5 days	21	21%	Lower hand	28	18%
>5 times	14	14%	6-10 days	15	15%	Back pain	30	19%
None at all	20	20%	>10 days	5	5%	Eye	9	6%
			None at all	22	22%	Ear	9	6%
						Hand finger	40	26%
						Toe	9	6%
						Others		

Source: Survey Data 2018

The above table shows the last two years injury characteristics of the company. A total of 80 (81.6%) respondents were reported occupational injuries during the last 2 years. overall prevalence of 81 injuries per 100 exposed workers per two years. With regard to occupational injury, this study reviewed the overall prevalence during the last 2 years was 42 (42.0%) injured respondents reported 1-2 times, 22 (22.0%) of the injured respondents reported 3-5 times and 14 (14.0%) and of the injured respondents reported more than 5 times and 20.0% of them said none at all.

Regarding frequently affected body parts, the above table portrayed that the analysis of frequent injured body parts of the respondents: the body part with the highest frequency of occupational injuries hand finger 40 (26%), back pain 30 (19.0%), upper hand 29 (19.0%), lower hand 29 (18.0%) and less frequently indicated Toe, Eye and Ear 9 (6%). Regarding sick leave as result of work related injury and illness, the above table also portrayed that the analysis of frequent sick leave given: the category of 1-2 days selected by 35(36%) respondents, 3-5 days by 21 (21%), 6-10 days by 15 (15%) and more than 10 days by 5 (5%) respondents. This analysis indicates that less sick leaves were given as the company faced less work related injuries and illness in the past two years.

4.3.6 Sources of the Accidents, Behavioral Characteristics and Satisfaction Level

This study also tried to assess the sources of the accidents.

Table 4.10 Responses on sources of the accidents

Sources of the accidents		Behavioral Characteristics of the Respondents		
Choices	Count	Choices	Count	%
Machine	20	Alcohol	9	9%
Broken glass	69	chewed chat	13	13%
Work load and repetitive Jobs	38	smoking cigarette	35	36%
Slip disorder	50	Not at all	41	42%
Uncomfortable seat	39	Assessment of satisfied by their current job		
Noise	44	Choices	Count	%
Chemical	68	Satisfied	75	77%
Slippery/wet floor	74	Dissatisfied	23	23%
Fallen/disorder Objects	45			

Source: Survey Data 2018

The main source of injuries reported were broken glass 69, repetitive job and workload 38, chemical 68, slippery floor 74, disordered items 45, sleep disorder 50, machine 20 and uncomfortable seat 39 and noise 44 as shown on the above table. Regarding to behavioral characteristics of the respondents, 9 (9.0%) respondents consumed alcohol, 13(13.0%) of the respondents chewed chat and 35 (36%) of the respondents smoking cigarette. The majority 75 (77.0%) of the respondents were satisfied by their current job as shown on the same table and the remaining indicated as they were not satisfied on their current job. This indicates that most of the

sources of injuries are broken glass, chemicals, slippery floor, disordered items, sleep disorder, machine and uncomfortable seat. These sources of injuries can be solved by good housekeeping, cleaning, good warehousing system and material handling.

Overall, the number of staff required to efficiently perform all operational and warehouse activities is dependent on many factors, including the amount and types of commodity and material stored, the total number of work stations and warehouses, and the frequency of receipts and dispatches. In any operation, adequate numbers of staff should be employed to perform the routine activities. There must be clear segregation of duties between staff with physical custody of commodity (such as warehouse management) and staff authorizing movement or distribution of materials.

According to the interview session, it was observed that employees believed that the employer should do everything possible to care for employees and keep them in the fold. All of the interviewees were asked to answer about “Why is health and safety so important to the Beer industry?”. Their response assured that its employer or supervisor responsibility to make sure employees have a great place to work. Employer or supervisor should think employees are the heart of the organization. A strong employee value proposition that includes a safe workplace is healthy-heart food. There are also sound financial reasons for focusing on health and safety.

They assured that Health and safety is our number-one core value and it should be the agenda of every meeting. The company is trying to brand health and safety program and it invests significant time and resources in ongoing training and communication about the program. Interviewees were also inquired about some of the challenges and constraints of ensuring health and safety. They indicated that there is no organized health and safety, wellness and disability management teams. The health and safety team along with senior managers do not travel to hotels, suppliers, transporters and communities to conduct health and safety training and information-sharing sessions. In addition, interviewees were also asked to express their opinion about their department’s mandate concerning OHS, inspection and OHS policy for formal workers in this company.

Thus, the company has been working to implement scheduled/non-scheduled health and safety compliance audits and communicate results (against the Diageo Global Risk Management Standards). This includes performing HSE audits; HSE risk assessments, etc. Drive actions and

improvements arising from these audits. It needs to create key relationships with stakeholders and line managers as well as with the senior managers, recording and analysis of Health and Safety data in order to provide information on accident trends injury types, etc. reviewing and up-dating HSE procedures and systems of work to ensure compliance with codes of practice, technological developments and best practice. It tried to ensure plant operation is carried out respecting HSE rules and regulations. The company has slogan called “Safe Work Permit” and it is tried to implement whenever necessary.

4.4 OBESERVATION

In this section, the researcher observations are presented and analyzed to support the findings identified by the primary data. This analysis was done from the data collected by observation checklist. It was an important data gathering tool in this study that helps the researcher as an eye witnesses to the situation.

Table 4.11Data collected by observation checklist

No.	Item	Yes	No
1.	Are there any records of all individual workers?	X	
2.	Is there any occupational health and safety board?	X	
3.	Any availability of accident and incident records?	X	
4.	Availability of occupational health inspection reports?		X
5.	Does the industry have of health & safety personnel?	X	
6.	Is there any First Aid Kit with necessary facilities in various work sites?	X	
7.	Is there any firefighting equipment?	X	
8.	Any emergency exit provided?	X	
9.	Do the employees use the necessary Personal Protective Equipment?	X	
10.	Is there excessive heat in the workplace?	X	
11.	Is there excessive noise in the workplace?	X	
12.	Is there excessive dust in the workplace?		X
13.	Is there any facilities for employees (like, Cleanliness of the brewery company , Space for staff refreshing center, availability of different services, availability of notice board, laboratories with adequate equipment’s, Libraries with adequate reference materials, First aid facilities, Staff rooms, staff launch and meeting hall, Latrines based on sex placement and so on)	Various Responses	

Source: Survey Data 2018

The major points observed by the researcher during the survey period were organized as follows. There was a very good cleanliness of the brewery compound. But there were bushes and grasses

around the fence of the compound. There was also a space for staff refreshing center. It was observed that different services were given such as clinic, counseling room, laboratories, adequate reference materials, first aid facilities, staff rooms, cloth changing room, staff launch and meeting hall, latrines based on sex placement and so on. It was also observed that there were old and new notice boards in the compound. The occupational health inspection reports were not compiled properly and there was any compiled surprise or monthly report in this regard. There were various First Aid Kit materials with necessary facilities in various work sites. But some were expired and others occupied empty alcohol materials and small medical equipment like plaster and cotton. There was complete firefighting equipment in this brewery. There were various small and big emergency exits. At time of visiting, almost all employees use the necessary Personal Protective Equipment.

There was excessive heat and noise but not excessive dust in the workplace. Thus, Meta Abo Brewery SC.; a Diageo Company, is firmly committed to ensuring the occupational health, safety and wellbeing of its employees, contractors, suppliers, customers and visitors. Its vision for Health and Safety is ZERO HARM; everyone must comply with the Health and Safety Policy and Regulations whilst on site. We have zero tolerance for Health and Safety breaches, hence, Management staff and safety Managers have the authority to stop operations and challenge anyone found in breach of our Health and Safety laws and regulations. But the implementation of occupational health, safety and wellbeing of its employees, contractors, suppliers, customers and visitors has a problem. Some line managers are not safety leaders and do not feel as have the primary responsibility for ensuring safe working practices are implemented, maintaining safe workplaces and ensuring measures are in place for the prevention of accidents. In addition, each individual also has a personal responsibility for his or her own health and safety and for that of their colleagues. Therefore, it is a must looking forward for commitment from each individual in ensuring that their actions demonstrate this aim.

CHAPTER FIVE

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This final chapter presents the key findings deriving from the data analysis. Based on these findings, recommendations have been made to inform company's decision makers and policy makers and any responsible body. The chapter includes a conclusion remark for the entire study.

5.1. Summary of Key Findings

A 81.7% response rate was achieved for this part of the questionnaire and from the total respondents' majority (80.0%) of them were men. In addition, others demographic such as employee age, educational status, work experience and employment patter were found to be significant to provide appropriate data for occupational health and safety study. Workers in the 28 to 40 age group, work experience of 1-6 years and more permanent workers were exposed more for this study. From the survey, the following major findings have been outlined. This has been done according to the objectives of the study. The general objective of the study was to investigate the practice and challenges of OSH in Meta Abo Brewery share Company.

5.1.1 Assessing the existing occupational safety and health practice

Practices of the Company on Health and Safety

- Most commonly used PPEs and possible reasons for not always use PPEs - safety shoe and safety suit have been given for most of the employees. However, selective employees have been benefited to get others like hear net/cap, ear plug, hand gloves and eye goggle were the most important PPE for employees while, reflective jacket, helmet and leather apron. In addition, to recognize the possible reasons for not always use all essential personal protective equipment (PPEs) while working, respondents were identified as lack of awareness, carelessness or ignorance of safety requirements , Shortage of PPEs, PPE are not comfortable, no strong follow-up and enforcement non-enforcement and lack of motivation
- Work related injuries and illness in the past two years, a total of 80 (81.6%) respondents were reported occupational injuries during the last 2 years. With regard to occupational injury, this study reviewed the overall prevalence during the last 2 years

was 40 (41.0%) injured respondents reported 1-2 times, 22 (22.0%) of the injured respondents reported 3-5 times and 14 (14.0%) and of the injured respondents reported more than 5 times and 20.0% of them said none at all. Regarding frequently affected body parts, the body part with the highest frequency of occupational injuries hand finger 40 (26%), back pain 30 (19.0%), upper hand 29 (19.0%), lower hand 29 (18.0%) and less frequently indicated Toe, Eye and Ear 9 (6%). Regarding sick leave as result of work related injury and illness, the above table also portrayed that the analysis of frequent sick leave given: the category of 1-2 days selected by 35(36%) respondents, 3-5 days by 21 (21%), 6-10 days by 15 (15%) and more than 10 days by 5 (5%) respondents. This analysis indicates that less sick leaves were given as the company faced less work related injuries and illness in the past two years.

- the main source of injuries reported were broken glass, repetitive job and workload, chemical, slippery floor, disordered items, sleep disorder, machine and uncomfortable seat and noise. Less number of employees of the company consumed alcohol, chewing chat and smoking cigarette at work place. The majority of the respondents were satisfied by their current job and the remaining indicated as they were not satisfied on their current job.

5.1.2 Identifying the key challenges of occupational safety and health

- One of the major challenges is lack of awareness among workers and employers about work site safety and health (55.1% preferred the category of strongly agree); lack of Workers positive response to wear personal protective equipment (PPEs) in the organization is considered as the next highest challenge indicated (most of the respondents, 60.2% preferred the category of strongly agree and 26.5% of them also chosen agree category); others main challenges are listed as lack of management attendance to safety program, management attendance to safety program, lack of employee involvement to occupational safety and health management system (OSHMS) and insufficient government regulations and guidelines, inadequate resources (for example, inadequate training of workers, and job tools and/or facilities) as the challenge in the company and lack of government audits and/or inspections preferred as a least challenge.

- Employee awareness on occupational safety and health, within a grand mean of 4.2064 and standard deviation = 0.845, major safety and health risk areas of Meta Abo Brewery is the level of awareness on occupational safety and health and its application for business profitability and efficiency. But, it is assured that most of the respondents strongly agreed that the company organizes occupational safety and health training, work shop and seminar, the company has safety and health policy, they know the content of the company policy. However, fewer respondents strongly agreed that they have awareness on work related injury compensation.
- Level of occupational safety and health management, within grand mean 3.969 and standard deviation 0.916, works remain to implement suitable OSH management on the work place comforts the wellbeing of the employee and improves the quality work environment; almost half of them strongly agreed that their working place is safe, employees wear all essential personal protective equipment while working and ensure that staff wears the necessary protective devices while working, the Company will arrange medical checkup at least once a year and it conducted safety induction, orientation and refresher courses for its employees. But only 38.8% of the respondents strongly agreed (24.5% agree) that the company provides notices on all health and safety measures.

5.2. CONCLUSIONS

The size and competition of beer market in the country has been emerged and this sector accommodates a lot of workers among its supply chain system. As long as the market and its consumers increase, employment in the brewery sector will increase. This calls for a comprehensive OHS policy to emphasize the health and safety needs of workers. For the above analysis and summary of the study, it can be concluded that the implementation of OHS in the company is not considered as excellent. Even if the economic cost of injuries and diseases as indicated in the analysis is not alarming and long term risks was observed as chemicals and others were chosen the main sources of injuries. Meta Abo Brewery leadership team does not completely stand firmly behind the content of the policy that could not ensure the delivery of high standards in Health and Safety for the employees. The leadership and employees commitment to support, contribute to and comply with the terms of the policy is not effective to

deliver the policy content. Therefore requires immediate attention from employers and employees through the use of PPEs.

5.3. RECOMMENDATIONS

Based on the study findings and the above conclusions the following recommendations & duties are forwarded. Accordingly, Meta Abo Brewery SC. should be committed to set measurable occupational health and safety KPIs and review performance and create a proactive safety culture in which all Meta employees believe that all injuries and illness are foreseeable and preventable under the umbrella of Zero Harm and expect everyone to act in a manner that demonstrates their personal commitment and ensure an adequate Emergency Preparedness plan is in place and communicate the policy to all employees, contractors, customers and suppliers who work in our sites so as to make them aware of their occupational Health and Safety obligations. In addition,

- Meta Abo may improve safety and health at work through a Decent Work Agenda – it helps to better address occupational safety and health as a vital component of decent work. It promotes a preventive safety and health culture and progressively achieving a safe and healthy working environment. It requires developing, in consultation with the most representative organizations of employers and workers, community, government, policy, programme, and system on occupational safety and health.
- The priority areas of Action for Meta Abo, which will be included in the company's corporate occupational safety and health programme include creation of a corporate tripartite committee on OSH, review and harmonisation of OSH policy and procedure, formulation of specific regulations for high risk sectors, including low level employees, capacity building, including training of inspectors, formulation of inspection guidelines and scaling up OSH training in educational and vocational training institutions and properly reviewing the current system of recording and reporting of occupational injuries.
- Employees may place their safety above their work and insist their employers provide them with PPE and employees should co-operate with their employers in the health and safety measures they put in place and also work safely to protect themselves and others from injury.

5.4. DIRECTIONS FOR FUTURE RESEARCH

Empirical studies of the effect of health and safety on organizational and cooperate performance and the impact of health and safety cost efficiency on supply chain performance. In addition, an in-depth survey on economic cost of injuries and diseases should be considered for future studies and similar studies in the other sectors of the economy (formal and informal) should be done to understand and appreciate OHS issues within the sectors. The costs to enterprises of work-related accidents and ill health are often underestimated. This is mainly because some costs may be difficult to quantify, or they go unrecognized. Future studies should show the relationship between the direct and indirect costs and their impact on organizational performance and a significant economic burden of enterprises' occupational accidents and diseases should be addressed.

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APPENDICIES

APPENDIX A – Questionnaire in Amharic and English

አዲስአበባዩኒቨርሲቲ

የንግድስራትምህርትቤት

ሰው-ሀብትስራሕመራርየትምህርትክፍል

ሰላምታ

በአዲስአበባዩኒቨርሲቲየንግድስራትምህርትቤትየትምህርትክፍልስርዓተ-ሰው-ሀብትስራሕመራርሁለተኛዲግሪዎንኢያጠናውየምገኝስ ሆንለዚሁትምህርትማሟያበድርጅታጅታውስጥበስራሕካባቢደህንነትናጤንነትዙርያእየተተገበረያለውንናያጋጠሙተግዳሮቶችን እያካሄድኩእገኛለሁ። የጥናቱምአላማበስራታላይከስራጋርበተያያዘየሚደርሱአካላዊጉዳዮችናየጤናመታወክችግሮች፣ዓይነቶችናመንስኤዎቻቸውንመለየትእናበድርጅቱበምንአይነትሁኔታእየተተገበረእንዳለናያጋጠሙችግሮችንበማጥናትየመፍትሄህሳቦችንመጠቆምነው። በመሆኑምከዚህበታችየተዘጋጁትንመጠይቆችበጥንቃቄበመመልከትመልሶቻቸውንበትዕዛዙመሠረትእንድትሞሉትብብራችሁንእጠይቃለሁ። ጥያቄዎቹንምለመመለስከ20ደቂቃበላይአይወስድም። አንድምየጥያቄዎቹመልስከጥናቱአላማውጪአይውልም። ለሁሉምጥያቄዎችየሰጣችኋቸውመልሶችበሚስጠራዊነትይጠበቃሉ። በዚህመጠይቅመሳተፍሙሉበሙሉበፍቃድኝነትላይ የተመረከዘነው።

ከሰላምታጋር

ኢሳያስአሰፋ

ክፍልአንድ፡ የግለሰብ/ቧመሰረታዊመረጃዎች

- 1. ያታ [] ወንድ [] ሴት
- 2. ዕድሜ (በዓመት) [] <24 [] 25-40 [] 41-50 [] 51-60 [] ከ60 ዓመት በላይ
- 3. የጋብቻሁኔታ [] ያገባ [] ያላገባ [] የፈታ [] በሞት መለየት
- 4. የትምህርት ደረጃ
 መጻፍና ማንበብ የማይችል/ የማትችል መጻፍና ማንበብ የሚችል/ የምትችል
 የመጀመሪያ ደረጃ ትምህርት (1-8) ያጠናቀቀ/ች ሁለተኛ ደረጃ ትምህርት (9-12) ያጠናቀቀ/ች
 ዲፕሎማ ዲግሪና እና ከዚያ በላይ
- 5. የሥራ ክፍል -----
- 6. አሁን ባሉበት የሥራ ቦታ ስንት ዓመት አገለገሉ?
 1-5 ዓመት 6-15 ዓመት 16-25 26-35 ከ 35 ዓመት በላይ
- 7. የወር ደሞወዝ

ጠፍታላቅፍ፡፡					
ረ) በድርጅቱውስጥበሰራቦታላይስለጤናናደህንነትገለጻ፤ስልጠናናማኒቃቂያኮርስይካሄዳል፡፡					
ሰ) ድርጅቱቢያንስበአመትአንድግዜየሰራተኞችንጤንነትበምርመራያረጋግጧል፡፡					

3. ምንግዜምበሰራቦታላይአስፈላጊየሆኑየደህንነትመጠበቂያዎችንየማይጠቀሙከሆነአባክዎንምክንያትዎንከታችከተዘረዘረውውስጥ በማድረግይምረጡ።

- ለደህንነትመመሪያዎችያለን አስፈላጊየደህንነትመጠበቂያዎች የደህንነት መጠበቂያዎቹ ምቹ
- ግዴታሽንትወይምቸልተኝነት ባለመኖራቸው ባለመሆኑ
- የግንዛቤእጥረት ማነቃቂያዎችያለመኖራቸው በደህንነት ህጎች አተገባበር ላይ
- ጥብቅክትትልና ተገቢ የሆኑ የእርምትእርምጃባለመወሰዱ

ሌሎችካሉ _____

ክፍልአራት፡-የሰራቦታደህንነትበሰራተኛውላይያለውተግዳሮት፡

በዚህክፍልለእያንዳንዱነጥብየተቀመጡትንመለኪያዎችየሚስማሙትንየ ምልክትበማስቀመጥይምረጡ። መለኪያዎቹም፡-

በጣምአልስማማም፤ አልስማማም፤ አልወሰንኩም፤ እስማማለሁናበጣምእስማማለሁ-ስለዚህስለየሰራቦታጤንነትእናደህንነትመመሪያያለዎትንግንዛቤቀ

ጥለውለተቀመጡትነጥቦችበመለኪያዎቻቸውአማካኝነት በማድረግይምረጡ

ነጥቦች	በጣምአልስማማም	አልስማማም	አልወሰንም	እስማማለሁ	በጣምእስማማለሁ
በሰራደህንነትፕሮግራምጉዳይየማኔጅመንትክትትልአለመኖር፡፡					
በሰራተኞችናበአስሪዎችመካከልስለሰራአካባቢደህንነትናጤንነትዙርያየግንዛቤእጥረትአለ፡፡					
በሰራአካባቢደህንነትናጤንነትጉዳይሰራተኞችከማኔጅመንቱጋርተሳትፎአለማድረግ(በሰራደህንነትጉዳይየሰራተኞችተሳትፎአለማድረግ)፡፡					
በቂየሆነየመንግስትህግናመመሪያአለመኖር፡፡					
የመንግስትክትትልናምርመራእጥረትአለ፡፡					
በቂአቅርቦትአለመኖር (ለምሳሌ, በቂያልሆነስልጠና፣ በቂያልሆነየሰራተኛዎችናበቂያልሆነፋሲሊቲአለመኖር)፡፡					
በሰራቦታላይሰራተኞችየደህንነትመጠበቂያመሳሪያለመጠቀም (ለመልበስ) አለመፈለግ፡፡					

ክፍልአምስት፡-የሰራቦታደህንነትበሰራተኛውምርታማነትላይያለውተፅዕኖ፡

1. በዚህሁለትዓመትውስጥለምንምሁኔታደህንነትደጋጋሚደረግብኩም፤ ለደህንነትደጋጋሚደረግብኩም ሲሆን

ጤን በማድረግይምረጡ

1- 2 ጊዜያት >5 ጊዜያት
 3-5 ጊዜያት ምንምጊዜየለም

2. በዚህሁለትአመትውስጥከስራዎጋርበተያያዘባጋጠመዎትጉዳትወይምህመምምከንያትየህክምናፈቃድለምንያህልቀናትወስደውያውቃሉ?እባክዎንትክክለኛውንምርጫ[]በማድረግይምረጡ

1- 2 ቀናት 3-5ቀናት 6-10 ቀናት
 >10 ቀናት ምንምወስጄአላውቅም

3. ከስራጋርበተያያዘባጋጠመዎትአደጋበየትኛው/ኞቹየሰውነትዎከፍልነውጉዳትደርሱበዎየሚያውቀው?እባክዎንትክክለኛውንምርጫ[]በማድረግይምረጡ

ላይኛውእጅ ታችኛውእጅ ላኛውእግር
 ታችኛውእግር የወገብጡንቻዎች አይን
 ጆሮ የእጅጣቶች የእግርጣቶች

ሌሎችካሉ _____

4. የአደጋውምንጮችምንድናቸው?

ማሽን የተሰበረጠርሙስ በሚወድቁቁሳቁሶች
 የሰራጫናእናድግግሞሽያለውሰራ የእንቅልፍማጣት አንሸራታችወለል
 ምቹባልሆነመቀመጫ ድምጽ ኬሚካል

ሌሎችካሉ _____

5. በስራዎደስተኛነዎት?

አዎ አይደለሁም

6. በስራቀናትውስጥከዚህበታችከተዘረዘሩትውስጥየትኛው/ኞቹልምደችአሉብዎ?

አልኮልመጠጣት ሲጋራማጨስ
 ጫትመቃም ምንምልምድየለብኝም

7. እባክዎከላይከተጠቀሱትሌላተጨማሪጥያቄካለይግለፁ

ለጊዜዎእናለትብብርዎአመሰግናለሁ!!

Addis Ababa University
School of Commerce
Human Resource Management department

Greeting!

I am doing my thesis in Addis Ababa University Human Resource Management department for the fulfillment MSc degree on the tile “Practice and Challenge of occupational safety and health” at Meta Abo Brewery Company.

The objective of the study is to assess the types of work related injuries and illness employee go through frequently and to investigate the sources and reasons of these issues. In addition to study the practice and challenge on Meta Abo Brewery Company and to propose improvement solutions.

I will ask your cooperation to answer all the below question carefully according to the instruction. For answering all questions it is not take more than 20 min. All answer of the question only be used for the study purpose and kept in secrete. Participation on this questioner are depends on your full willingness.

Kind regards,

EsayasAssefa

SECTION I: QUESTIONNAIRE FOR EMPLOYEES.

Part one: Personal information

1. Sex: Male Female
2. Age: <24 25-40 41-50 51-60 Above 60 year
3. Marital Status
- Married
- Single

Divorced

Widowed

4. Educational level

Illiterate

can read & writes

1-8

9-12

Diploma

Degree & above

5. Department-----

6. Work experience in the current job category?

1-5 years 6-15 years 16-25 years 26-35 years Above 35 years

7. Monthly salary in Birr?

Below 1500 1500 - 3000 3000 – 10,000 Above 10,000

8. Employment pattern? (1).Permanent (2).Temporary

Part Two: Employee awareness on Occupational Safety and Health

1. Please indicate the extent of your agreement with the following statements by ticking [√] on the scale that most nearly reflects the extent to which you agree or disagree. Using this key 1= strongly disagree 2 = Disagree 3 = Indifferent 4 = Agree 5= Strongly Agree

	Statements	Strongly Disagree	Disagree	Indifferent	Agree	Strongly Agree
1.	The company organize occupational safety and health training, work shop and seminar.					
2.	The company has safety and health policy?					
3.	I know the content of the company policy. It is also available near to my work place or in book form?					

4.	I Know employees' rights and obligations related to OSH?					
5.	I have awareness on work related injury Compensation?					

Part Three: Practice of Occupational Safety and Health in the company

1. Please select by ticking [√] from the below listed Personal Protective Equipment's (PPEs) which are important while you are at work.

- Safety Shoe Hand glove Leather Apron
 Ear plug Eye goggle Helmet
 Safety Suit Cap/hear net Reflective jacket

List if others _____

2. Level of occupational safety and health management in the organization

Please indicate the extent of your agreement with the following statements by ticking [√] on the scale that most nearly reflects the extent to which you agree or disagree. Using this key
 1= strongly disagree 2 = Disagree 3 = Indifferent 4 = Agree 5= Strongly Agree

Statements	Strongly Disagree	Disagree	Indifferent	Agree	Strongly Agree
A) Employee working place is safe.					
B) There is lack of equipment, material and clothing for occupational safety and Health.					
C) I always wear all essential personal protective equipment while working.					
D) Supervisors always ensure that staff wears the necessary protective devices while working.					
E) My company provides notices on all health and safety measures.					
F) Safety induction, orientation and					

refresher courses are conducted by my organization at the workplace.					
G) The company will arrange medical checkup at least once a year.					

3. If you are not always use all essential personal protective equipment while working, please tick [] from the below possible reasons.

Carelessness and [] Shortage of PPEs [] PPEs are not comfortable []
ignorance

Lack of awareness [] Lack of motivation [] There is no strong follow-up and []
enforcement

Please specify if others _____

Part four: Issues on the challenges associated with the promotion of health and safety

Please indicate the extent of your agreement with the following statements by ticking [√] on the scale that most nearly reflects the extent to which you agree or disagree. Using this key
1= strongly disagree 2 = Disagree 3 = Indifferent 4 = Agree 5= Strongly Agree

	Statements	Strongly Disagree	Disagree	Indifferent	Agree	Strongly Agree
1.	Lack of management attendance to safety program.					
2.	Lack of awareness among workers and employers about work site safety and health.					
3.	Lack of employee involvement to occupational safety and health management system (OSHMS).					
4.	Insufficient government regulations and guidelines					
5.	Lack of government audits and/or inspections.					
6.	Inadequate resources (for example,					

Appendix B - INTERVIEW GUIDIE FOR KEY INFORMANTS

SECTION II: INTERVIEW GUIDIE FOR KEY INFORMANTS

1. What is your department's mandate concerning OHS?
 2. How often do you go on inspection?
 3. Is there any OHS policy for formal workers in this company?
 4. What are some of the challenges and constraints of ensuring health and safety?
 5. What are the common and most important Occupational and Health problems experienced in this company?
 6. Is there any OHS inspection report?
 7. Does the factory have health and safety personnel?
 8. Is there anything that I might not have covered in my questions, which you would like to talk about?
-
-

Thank you for your cooperation!

Appendix C - OBESERVATION CHECKLIST

SECTION III: OBESERVATION CHECKLIST

No.	Item	Yes	No
1.	Are there any records of all individual workers?		
2.	Is there any occupational health and safety board?		
3.	Any availability of accident and incident records?		
4.	Availability of occupational health inspection reports?		
5.	Does the industry have of health & safety personnel?		
6.	Is there any First Aid Kit with necessary facilities in various work sites?		
7.	Is there any fire fighting equipments?		
8.	Any emergency exit provided?		
9.	Do the employees use the necessary Personal Protective Equipment?		
10.	Is there excessive heat in the workplace?		
11.	Is there excessive noise in the workplace?		
12.	Is there excessive dust in the workplace?		
13.	Is there any facilities for employees (like, Cleanliness of the brewery company , Space for staff refreshing center, availability of different services, availability of notice board, laboratories with adequate equipment's, Libraries with adequate reference materials, First aid facilities, Staff rooms, staff launch and meeting hall, Latrines based on sex placement and so on)		