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ADDIS ABEBA UNIVERSITY
COLLEGE OF DEVELOPMENT STUDIES DEPARTMENT OF URBAN
DEVELOPMENT AND MANAGEMENT
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PROBLEM OF OCCUPATIONAL SAFETY AND HEALTH AND THEIR IMPACT ON
DEVELOPMENT

THE CASE OF NIFAS SILK LAFTO SUB CITY INDUSTRIAL ZONE

ADDIS ABABA

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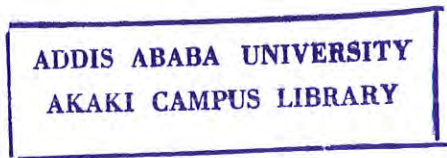


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ACRONYMS

ASEAN	Association of Southeast Asian
GDP	Gross Domestic Product
GNP	Gross National Product
HSE	Health and Safety Executive
ILO	International Labor Organization
MOLSA	Ministry of Labor & Social Affair
NGO	Non-Governmental Organization
NIC	Newly Industrialized Countries
OSH	Occupational safety Health
PPE	Personal Protective Equipment
TBL	Triple Bottom Line
WHO	World Health Organization

ABSTRACT

There are various reasons for the poor occupational safety situation in developing countries: Such as use of out-dated machinery, poor maintenance and little safety guarding of machinery, inadequate training of workers; poor design of equipment and workstations; and lack of personal protective equipment. The objective of the study to identify the problems of occupational safety and health in manufacturing industries according to Ethiopian labor law; the case of Nifas silk Lafto sub city industrial zone. Using random sampling technique, 100 questionnaires were distributed to factory worker eighty six were retrieved, ten factory manager were interviewed and one hundred thirty five inspector report were reviewed and summarize. The result from the questionnaire that 71% of the respondents claimed that they have low level of awareness about occupational safety and health and the Ethiopian labor law and 65% of them described their knowledge on the issue of occupational safety and health is low which implies that most workers do not have a clear picture about the law enforcement about employee/employer relation as well as different safety measures and this limits the workers from working safely and also from getting the right compensation and benefit from their organization. Increased rate of work related injury was observed. Preventive measures concerning functional occupational health and safety programs are essential to safeguard the health and safety condition of workforce.

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

It is estimated that more than 80% of the world's population live in the developing countries in Africa, the Middle East, Asia and South and Central America. The developing countries are often financially disadvantaged, and many have largely rural and agricultural economies. However, they are widely different in many ways, with diverse aspirations, political systems and varying stages of industrial growth. The status of health among people in the developing countries is generally lower than in the developed countries, as reflected by higher infant mortality rates and lower life expectancies. (Chai, 2011)

Several factors contribute to the need for occupational safety and health in developing countries. First, many of these countries are rapidly industrializing. In terms of the size of industrial establishments, many of the new industries are small-scale industries. In such situations, safety and health facilities are often very limited or non-existent. In addition, developing countries are often the recipients of technology transfer from developed countries. Some of the more hazardous industries, which have difficulty in operating in countries with more stringent and better enforced occupational health legislation, may be "exported" to developing countries. (WHO, 2014)

There are various reasons for the poor occupational safety situation in developing countries: Such as use of out-dated machinery, poor maintenance and little safety guarding of machinery, inadequate training of workers; poor design of equipment and workstations; and lack of personal protective equipment (Barry, 1995). While unsafe working environments commonly cause most workplace injuries, human factors such as young age, sex, lack of experience, job dissatisfaction, sleep disorders, smoking habit, excess alcohol use, and lack of physical activity are inherent factors. Occupational safety and health is one of the most important issues in every organization, and every employee deserves to work under conditions which do not expose him/her to any injury or health problems. To make sure that employees are working with safe working conditions, the management and employees

should work together to make that happen and the government is also doing its part by enforcing this issue with a law (ILO, 2009).

The manufacturing industry plays an important role in any economy and its activities are also vital to the achievement of the socio-economic development goals of providing shelter, infrastructure and employment (Anaman and OseiAmponsah, 2007). Indeed, the interdependence of the manufacturing sector and economic development has been addressed by various writers and in all cases, there is evidence indicating a direct link between investment in manufacturing industry and economic growth. For instance, in an extensive study by Lopes (1998), it was revealed that countries that invested minimum of 10% into industry are likely to grow faster in their Gross Domestic Product (GDP).

Ethiopia's Labor Proclamation No.377/2003 was enacted in 2003 and it aims at regulating employee-employer relationships, working conditions and various issues. It is classified into twelve parts and one hundred and ninety one articles. The issue of occupational safety and health and the requirements are embodied in Articles 91 to 112 under Part Seven of the Proclamation. Even though the Proclamation clearly states all the requirements that need to be fulfilled by employers, there are various companies that fail to do so thereby bringing about different occupational safety and health problems on workers. Occupational safety and health (OSH) is a discipline dealing with the prevention of work related injuries and diseases as well as the protection and promotion of the health of workers. It aims at the improvement of working conditions and environment. Occupational health entails the promotion and maintenance of the highest degree of physical and mental health and social well-being of workers in all occupations. (ILO,2010)

Continuous assessment should be done on organizations to monitor the extent to which conditions of occupational safety and health (OSH) management system is in place. For this study, the sector manufacturing factories in the Nifas silk Lafto sub city was selected based on the repetitive claims from the employees to the relevant regulatory government offices and due to the dangerous working conditions in the production department of these organizations as indicated in the inspection reports of the labor and social affairs office of the sub city.

While setting and implementing a strategy on the control of occupational safety and health in the work places of the organizations in the sector, the management should take into account that it is not a onetime activity, but a continuous task and employees and employers should take enough attention and practice safe working habit on their day to day activity.

The costs of occupational accidents could be cut by effective preventive measures, and at the same time productivity could be improved. Usually safety measures are considered only from the medical or technical points of view. The economic viewpoint widens the basis for decision making so that it is possible to arrive at the most productive safety solution with respect to the available economic resources.(Alone,1983).

Thus, occupational safety and health can affect company performance in many ways. Healthy workers are more productive and can produce at a higher quality. Fewer work-related accidents and diseases lead to less sick leaves. In turn this results in lower costs and less disruption of the production processes. Equipment and a working environment that is optimized to the needs of the working process and that are well maintained lead to higher productivity, better quality and less health and safety risks. Reduction of injuries and illnesses means less damages and lower risks for liabilities and contribute for the development of country.

1.2 STATEMENT OF THE PROBLEM

Now a days industrialization is having a broad impact on the development pursuits of Ethiopia. Investment on different private sectors and the number of people who are participating in the private sector are steadily increasing. In these organizations, lots of people are getting employed and are given the chance to work towards Ethiopia's development.

In Nifas silk Lafto sub city, Addis Ababa, there are three thousand privately owned factories that produce different products. In the course of their operation, there are various issues that owners and managers should consider and one of the factors is the occupational safety and health of the employees in the organization.

According to the Ethiopian labor law (Proclamation No. 377/2003), a company should work with the given conditions which are stated from Articles 92 to 112. These provisions state different requirements that must be fulfilled according to the ergonomic and health conditions as well as insurance and benefits of the employee in cases of accidents.

In the sub-city which is the subject of this study, i.e. Nifas Silk Lafto this sub-city, workers in factories and service giving organizations face challenges in occupational safety and health, and are exposed to hazardous working conditions. This research has addressed these challenges that occur on the application of the safe working environment in these factories.

1.3 RESEARCH QUESTIONS

This research deals with the status of occupational safety and health and working conditions that could cause occupational accidents and health problems in the industrial zone of the Nifas silk Lafto Sub-city by addressing the following questions.

- Are the industries safe enough for workers and decent work place? Are the industries fulfilling the required minimum occupational safety health standards?
- What are the contemporary occupational health and safety (OHS) issues confronting workers in the manufacturing industry and how this can be incorporated into a framework of development?

1.4 OBJECTIVES OF THE STUDY

1.4.1 General Objective

In general; the objective of the research is to identify the challenges in the application of occupational safety and health policy in manufacturing factories; the case of Nifas silk Lafto sub city, Addis Ababa.

1.4.2 Specific Objectives

The specific objectives of this study are;

- i. To assess implementation status of OSH policy
- ii. To identify the major challenges of OSH implementation

- iii. To assess the impacts of OSH
- iv. To identify the problems in the application on convenient working conditions including fire protection; provision of personal Protective equipment's (PPE)
- v. Surveillance of working environment and working practices which affect workers health, including sanitary installation and other facilities provided by employer.
- vi. To identify the problems of healthy working environment.
- vii. To analyze the data on health and safety issues of casual workers using appropriate analytical tools; and

1.5 SIGNIFICANCE AND SCOPE OF THE STUDY

Assessing the status of occupational safety and health in Nifas Silk Lafto sub city industrial zone, is significant because any organization must understand and give enough attention for the issue of occupational safety and health to achieve its strategic goals and maximize its ability to attain its strategic objectives. Assessment on this area can enable companies to analyze the gap between the current working conditions and the desired safe and healthier working environment.

This study will be significant for organizations and industries by creating a better understanding about the possible causes of different occupational hazards and health problems that could occur in the sector. Finding the pattern of the facts that could result different accidents and any work related diseases is necessary to understand hazardous working conditions. Analyzing and interpreting these conditions helps different employers, employees and also their social environment by creating a better awareness about the realities in the sector. It also enhances the level of awareness about how the law enforcement contributes for creating a better employee employer relation as well as safer and healthier working conditions and for the country development as well. In the fast changing competitive environment, the proper application of occupational safety and health management system has positive roles to keep the company competitive and successful and contribute for overall socio-economic and sustainable development.

1.6 LIMITATIONS OF THE STUDY

While studying the problem of occupational safety and health problem of nifaslk lafto industrial zone some limitations had occurred and these are bulleted below.

- One of the limitations of the study was; all the questionnaires that was given to the workers were not all responded to the researcher and this minimizes the number of data for the analysis.
- Another limitation includes the managers, and most of the managers were too busy to be available for the interview which forces the data collection to take more time than expected.
- And some of the results from the managers, like the availability of safety materials in the workplace and the level of compensation and benefit, did not correspond with the results from the workers which led to additional assessment on the issues and took additional time to get a clear data.
- Even though fire hazard is a very dangerous issue in the occupational safety and health management, the Ethiopian labor proclamation does not state a clear article on the obligations of the worker and employer and employee on fire prevention in the workplace.

Even though there were the limitations listed above, additional time and effort was given so as to overcome the limitations and accomplish the study.

CHAPTER TWO: REVIEW OF THE LITERATURE

2. INTRODUCTION

Even though there is no research that clearly identifies and summarizes the occupational safety and health status of manufacturing industries in Nifas Silk Lafto sub city, the Social and Labor Affairs Office of the sub city has stated that there are many workers and employers that are suffering from failure to implement OSH management system in their organization. In the year of 2013 seven factories reported to the Social and Labor Affairs Office that, more than one hundred and twenty workers suffered from occupational accidents.

The chapter presents the overview of the occupational safety and health, its significance in terms of development. This is followed by classifications of occupational safety and health Hazards the general overview of the situation of workers in Ethiopia in relations to their engagement into the manufacturing industry having considered their economic challenges and the opportunities that exist for them. The elaborations in this chapter provide the background to occupational safety and health.

2.1 HISTORICAL BACKGROUND AND DEFINITION OF OCCUPATIONAL SAFETY AND HEALTH

Writers such as, Herbertk. A, 1979, stated in his book, **The** study of occupational safety and health has been in existence for as long as there have been structured work environments. Hippocrates (460-377 BC), for example, wrote of the harmful effects of an unhealthy workplace on slaves, and Caesar (100–40 BC) was reported to have an officer in charge of the safety of his legions. He shows the history of the various interventions developed to improve workplace safety. The history of occupational safety and health is vast and diverse, and therefore a comprehensive review is beyond the scope of this paper, however, this section will focus on the major influences (i.e., government, insurance, engineering and psychology) and pertinent legislation that have shaped occupational safety and health intervention research.

Jean Cordovan, 2002 explained Occupational health problems vary with the dynamics of industry. For example, while the United States in recent years has lost much of its heavy industry and has increased its service industries, we have seen the growth of new (or perhaps, only newly recognized) conditions, such as repetitive motion disabilities, multiple chemical sensitivities, and work-stress-related mental and physical ailments. However, the basic principles of worker protection remain the same.

In 1945, as Herbertk.A 1979, stated when the nuclear bombs were exploded, a whole new, yet familiar, set of environmental health concerns emerged: those of uranium miners, nuclear weapons workers, atomic energy workers, and people who are generally exposed to ionizing radiation in fallout. Yet, as we know, the basic principles of protection were already known, except that the dimensions of our effort have been greatly expanded. In addition to providing leaded barriers and exhaust ventilation, industrial hygiene had moved to the world societal level. As Einstein said, “. . . everything had changed except our way of thinking.” As we approach the 21st century, the evolution of occupational and environmental health provisions will be shaped by how we manage such major issues as:

1. Control over the work process: hours and pace of work, workers' right to know, workers' right to participate in their safety and health protection, and quality of medical care.
2. Definition and recognition of work-related diseases and their prevention. The view must be broad to embrace not only diseases that are narrowly work-related, such as chemical poisonings, but also the wider group of conditions in which work and living conditions are interdependent, such as atherosclerotic heart disease, hypertension, many cancers, many respiratory conditions, musculoskeletal conditions, and mental illnesses.
3. Setting standards for health and safety.
4. The will of society to view work as a means to fulfillment-health as a result of work, rather than its casualty.
5. Relationships of the industrial plant and the surrounding community and between workers and other people in the community, in terms of the quality of life.

2.2 CLASSIFICATIONS OF OCCUPATIONAL SAFETY AND HEALTH HAZARDS

The various hazards which give rise to occupational injuries, diseases, disabilities or death through work WHO and ILO classified as: -

- Physical Hazards
- Mechanical Hazards
- Chemical Hazards
- Biological Hazards
- Ergonomic Hazards
- Psychosocial Hazards

2.2.1 Physical Hazard

According to WHO, Physical hazards, which can adversely affect health, include noise, vibration, ionizing and non-ionizing radiation, heat and other unhealthy microclimatic conditions. Between 10 and 30% of the workforce in industrialized countries and up to 80% in developing and newly industrialized countries are exposed to a variety of these potential hazards. Physical hazard has possible cumulative or immediate effects on the health of the employees. Therefore, employers and inspectors should be alert to protect the workers from adverse physical hazards.

2.2.2 Mechanical Hazard

Mechanical factors include unshielded machinery, unsafe structures at the workplace and dangerous unprotected tools are among the most prevalent hazards in both industrialized and developing countries(ILO, 2009). They affect the health of a high proportion of the workforce. Most accidents could be prevented by applying relatively simple measures in the work environment, working practices, and safety systems and ensuring appropriate behavioral and management practices. This would significantly reduce accident rates within a relatively short period of time. Accident prevention programmes are shown to have high cost-effectiveness and yield rapid results. However, ignorance of such precautions, particularly in sectors where production has grown rapidly, has led to increasing rates of occupational accidents (WHO, 2010).

2.2.3 Chemical Hazards

WHO reports shows that Average annual world production of chemicals amounts to an estimated 400 million tones. There are between 5 to 7 million known chemicals, however, only 70,000 to 80,000 are on the market, with 1,000 or so being produced in substantial quantities. In North America around 1,000 to 1,200 are produced annually (50 % are polymers).In Western Europe, some 150 to 200 new substances are registered each year. Of the 70,000 to 80,000 chemicals only 5 to 10 %(i.e., 500 to 7,000 should be considered hazardous; 150 to 200 of these are carcinogenic. Chemical hazards are dependent on their amount, concentration, time of exposure, mode of entry to the body, age, sex, health status and resistance of the exposed workers and their effect on health are

1. Asphyxiation
2. Systemic intoxication
3. Pneumoconiosis
4. Carcinogens
5. Irritation
6. Mutagen city
7. Teratogenicity

2.2.4 Biological Hazard

Many biological agents such as viruses, bacteria, parasites, fungi, moulds and organic dusts have been found to occur in occupational exposures. In the industrialized countries around 15 % of workers may be at risk of viral or bacterial infection, allergies and respiratory diseases (WHO 2010). In many developing countries the number one exposure is biological agents. HIV/AIDS, Hepatitis B and C viruses and other blood borne pathogens, tuberculosis infections (particularly among health care workers), asthmas (among persons exposed to organic dust) and chronic parasitic infections (particularly among agricultural and forestry workers), are the most common occupational diseases that result from such exposures. Exposure to biological hazards in workplace results in a significant amount of occupationally associated diseases.

2.2.5 Ergonomic Hazards

Ergonomics, also known as human engineering or human factors engineering, is the science of designing machines, products, and systems to maximize the safety, comfort, and efficiency of the people who use them (ILO, 2010). Between 10% and 30% of the workforce in industrial countries and between 50% and 70% in developing countries may be exposed to heavy physical workload or to unergonomic working conditions such as lifting and moving of heavy items or repetitive manual tasks. Repetitive tasks and static muscular load are found in many industrial and service occupations. In many industrial countries musculoskeletal disorders are the main cause of both short-term and permanent work disability, which can cause economic losses that may amount to 5% of the GNP.

2.2.6 Psychological Hazard

Up to 50% of all workers in industrial countries judge their work to be “mentally heavy”. Psychological stress caused by time pressure, hectic work, and risk of unemployment has become more prevalent during the past decade. Other factors that may have adverse psychological effects include jobs with heavy responsibility for human or economic concerns, monotonous work or work that requires constant concentration. Others are shift-work, jobs with the threat of violence, such as police or prison work, and isolated work. Psychological stress and overload have been associated with sleep disturbances, burn-out syndromes, stress, nervousness and depression. There is also epidemiological evidence of an elevated risk of cardiovascular disorders, particularly coronary heart disease and hypertension. Within the work environment emotional stress may arise from a variety of psychosocial factors, which the worker finds unsatisfactory, frustrating, or demoralizing.

2.3 IMPORTANCE OF OCCUPATIONAL SAFETY AND HEALTH

WHO stated that, it is in the interest of workers and their representatives to earn a living, and also to reach old age in healthy conditions (WHO, 2007). These interests are not contradictory but complementary to company interests. Organizations have traditionally evaluated their health in terms of the bottom line. according to Cooper, 1994, with past research uncovering enormous financial and human costs associated with unhealthy organizations, human resource professionals have begun to position healthy workplace programmes and activities as a source

of competitive advantage to curtail increasing health care costs; assist in the attraction, acquisition and retention of employees; better manage the employer-employee relationship; meet the needs of an increasingly diverse workforce, and boost employee morale (Fulmer, Gerhar & Scott, 2003; Jaffe, 1995; Pfeffer 1994).

Kello way & Day, 2005 asserted that the goal of many organizations has been to avoid being unhealthy as opposed to optimizing health. There is however, a growing recognition that financial health correlates with investments in employee well-being (Goetzel, Guindon, Turshen & Ozminskowski, 2001), a condition which is gradually putting health and safety issues at the front end of work, job and organizational design efforts. Indeed, the costs of unsafe, stressful and unhealthy workplaces are horrific in personal, economic, and social terms and therefore require immediate attention.

The past decade has witnessed an increasing number of publications addressing interventions aimed at preventing work-related illness and injury and employee health. The rising interest and investment in workplace health promotion raises no questions as a cost benefit analysis of the subject matter is more likely to go in its favor an affirmation of Frost and Robinson's (1999) assertion that many business scholars are recognizing the importance of healthy organizations and healthy people. For instance, a 2007/2008 survey by the Health and Safety Executive (HSE) on work-related illness estimated 34 million lost work days; 28million due to work related illness and 6 million due to workplace injury. Translating this in monetary terms means an erosion of a chunk of the profit margins of organizations. Jones, Hodgson, Clegg and Elliot (1998) in a similar study reported that 14% of the people in the United Kingdom who retired early did so because of ill-health and part of these ill-health conditions were believed to be the result of working conditions or at least made worse by working conditions. The belief that manpower is expandable (Stout, 1974) and that organizations can afford to lose some of their personnel only to be replaced in no time appears to be a thing of the past. Organizations no longer can afford to lose experienced and committed employees through ill-health caused by unhealthy working conditions as the cost of recruiting, selecting, developing, motivating and retaining new employees who take over from experienced employees lost through work related ill-health remains incalculable.

According to Jones, Hodgson, Clegg and Elliot 1998, OSH therefore remains an important consideration for all organizations, particularly organizations engaged in high risk operations like the mining, logging and construction industries. Good OHS practices not only provide a safer working environment but also improve worker morale and productivity (ASCC, 2006). By pursuing good OHS practices, businesses face fewer workplace injuries and benefit from higher employee retention rates and enhanced corporate image. This reduces the costs associated with production delays, recruiting new staff and replacing equipment and avoids the resulting uncertainty and workload pressure placed on co-workers (ASCC, 2006). Businesses who strive to improve their OHS performance create safer workplaces, which benefit not only employers and employees but their families, their communities and their economies at large.

National economies also enjoy the benefits of a thriving OSH policy as the benefits accrued to industries tend to trickle down in the form of taxation and a reduction on other social services (e.g., health care facilities, social support benefits). A high standard of OSH correlates positively with high GNP per capita (WHO, 1994). The countries investing most in occupational health and safety show the highest productivity and strongest economy, while the countries with the lowest investment have the lowest productivity and the weakest economies (WHO, 1994). Thus, active input in occupational health and safety is associated with positive development of the economy, while low investment in occupational health and safety is a disadvantage in the economic competition.

2.4 OCCUPATIONAL SAFETY AND HEALTH IN ETHIOPIA

The African continent is witnessing a verifiable shift towards peace, stability and economic growth. This situation is making the world appreciate East-Africa for its significant investment opportunities. Ethiopia is one such country in the sub-region experiencing rapid industrialization in recent times.

ILO report shows that, in countries like Ethiopia with a fast growing labor force coupled with a growing informal sector as opposed to the formal sector, workers have tended to fight for job security while neglecting the need to promote the quality of work life, although the provision of a safe and healthy work environment is a human right issue, and investment in

occupational health and safety yields improved working conditions, higher productivity and better quality of goods and services. A commonly used argument has been that poor countries and companies cannot afford safety and health measures. However, there is no evidence that any country or company in the long run would have benefited from a low level of safety and health. On the contrary, studies by the ILO based on information from the (World Economic Forum, 2002) and the Lausanne Institute of Management IMD demonstrate that the most competitive countries are also the safest. Selecting a low-safety, low-health and low-income survival strategy is not likely to lead to high competitiveness or sustainability (ILO, 2003).

Lack of comprehensive OHS policy, poor infrastructure and funding, insufficient number of qualified occupational health and safety practitioners, and the general lack of adequate information are among the main drawbacks to the provision of effective enforcement and inspection services in most African countries (Muchiri, 2003). Ethiopia epitomizes the above assertion in its entirety.

MOLSA safety policy states the protection of workers' health and safety, and promoting their working conditions, became of an increasing interest in Ethiopia as the awareness of industrial hazards and dangers increased during the recent years. Occupational safety and health became one of the main concerns of the Ethiopian government, whose commitment to this issue is expressed at the highest political levels, on the necessity for enhancing the formulation of a national labor strategy to ensure adequate protection and security for workers, including a proper system to compensate all those who die or sustain injuries at work.

The recent reports of ILO on OSH situation in Ethiopia, in general, does not fulfill our needs and ambitions and the degree of compliance with the existing legislation tends to be low, due to the following reasons:(ILO,2009.)

- Absence of adequate and effective OSH inspection services of the Ministry of Labour, which is the main enforcing site of occupational safety and health legislation in Ethiopia, due to lack of resources and other reasons
- Absence of a clear national OSH policy for the proper direction of OSH activities and making better use of the available resources.

- Public awareness of OSH, in general, and among employers and workers, in particular, tends to be low. Sometimes the employer does not take adequate safety measures, including providing personal protective equipment (PPE), for his workers to protect them, and other times those equipment are provided by the employer, but neglected by the workers in spite of the intense need for them.
- Absence of proper coordination among different agencies working on OSH. Some of those agencies have the human and technical resources, but do not have the law which authorizes them to use those resources, and others have the power of the law, but do not have the resources.

2.5 WORK RELATED INJURIES IN ETHIOPIA

Occupational accidents and injuries occur every day in different workplaces in Ethiopia, costing the country huge human and economic losses, and leaving behind unknown number of disables and sufferers. Although several governmental agencies publish yearly statistics on the number and costs of occupational injuries, the real relevant statistics, and the resultant losses in Ethiopia, remain unknown, and cannot be accurately predicted. All those statistics are based on the reports of the MOLSA, which are limited to the workers is reported by the organizations, but, no doubt, the real figures are much more than the published ones. It is believed that the real magnitude of the problem is greatly underestimated.

In the physical year of 2001/2002 MOLSA reports indicated 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% was 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 look like as if it is negligible severity rate in terms hours lost but it is 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.

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. Whereas, 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.

Table1: showing the accidents that occurred and reported during the years 1993- 2004

Undertakings who reported the accident by year and number of employees				Types of Accidents		Lost days due to the accidents	
S.R. No	Year in G.C	No of Factories	No of Workers	Non Fatal	Fatal	Lost Days	Salary Paid
1	1993/94	60	48695	3896	6	9360	29,827
2	1994/95	80	66094	5236	6	13146	122,770
3	1995/96	87	64227	4831	7	35322	206,414
4	1996/97	112	60164	3998	14	40990	128,988
5	1997/98	129	64247	5288	13	13260	167,659
6	1998/99	98	59391	4417	11	14105	317,164
7	1999/2000	94	57230	4115	12	14669	200,014
8	2000/01	103	65073	4119	8	14253	213,151
9	2001/02	105	62183	4740	14	18352	
10	2002/03	29	16122	1269	3	3583	56,297
11	2003/04	72	47072	2994	7	10453	181,596

Source MOLSA

The availability of more experience and information enhances the likelihood of anticipating and recognizing safety and health hazards because “accidents are not events happening by chance; they have specific causes. Nor are they random events; they are usually predictable and preventable.” (Friend and Kohn, 2007) Keeping all the records of accidents helps the management to identify the causes of accidents so as to find the appropriate solutions.

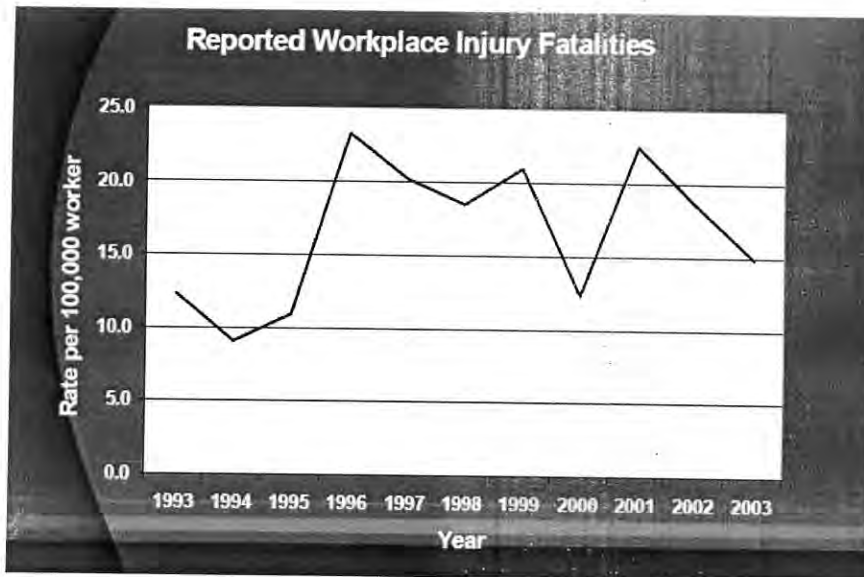


Figure.2 Occupational fatality rate in Ethiopia

Source: Ethiopian occupational health and safety regulatory environment (Solomon Yimer and Chris keil)

2.6 OCCUPATIONAL SAFETY AND HEALTH AND WORKING ENVIRONMENT

Ethiopian labor law clearly spells out the 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 the same article the employer is obliged to take, in particular the following measures to safeguard the health and safety of the workers. To comply with the occupational safety and health requirements provided for is the proclamation; take appropriate steps to ensure that workers are properly instructed is notified concerning the hazards of their respective occupations and the pre cautions necessary to avoid accident & injury to health. Ensure that directive are given and also assign safety officer, establishes an occupational, safety and health committee, provides workers with protective equipment, clothing and other materials and instruct them of its use, obliged to register and notify to the nearest labour inspection services occupational accident and diseases arrange according to the nature of the work at his/her own expense, for the medical examination of newly employed workers and for those workers engaged in hazardous work as may deemed nearly, take

appropriate pre-executions to ensure that all processes of work shall not be a source or cause of physical, chemical, biological, ergonomically and psychological hazards to the health and safety of the workers (Ethiopian Labor law)

Ethiopian labor law provides the obligations of workers pertaining to the required co-operation and putting in to practice of the regulation and instruction given by the employer in order to ensure safety health and working conditions at work places. The following are the major obligation set by the law for workers to abide with. (Ethiopian labor law, article 93)

- To co-operate in the formulation of work rules to safe-guard the workers health and safety and implement these are
- To inform the employer of any defects related to the appliances used and injury to the health and safety of workers, he/she discovers within the company.
- Report to the employer any situation, which he/she may have reason, to believe could present a hazard and which he/she cannot avoid on his/her own or any accident or injury to health which arises in the course or in connecting with work
- To make proper use of all safeguards, safety devises and other appliances furnished for the protection of the health and safety of others.
- To obey all the health and safety instructions issued by the employer or by competent authorities.

2.7 DETERMINANTS OF OCCUPATIONAL SAFETY AND HEALTH

WHO, in 2013 reported that economically active people spend on an average about one third of their time at the workplace. Employment and working conditions have powerful effects on health equity. Good working conditions can provide social protection and status, personal development opportunities, and protection from physical and psychosocial hazards. They can also improve social relations and self-esteem of employees and lead to positive health effects. According to world health organization, the health of workers is an essential prerequisite for household income, productivity and economic development. Therefore, restoring and maintaining working capacity is an important function of the health services.

In this report Health risks at the workplace, such as heat, noise, dust, hazardous chemicals, unsafe machines and psychological stress, cause occupational diseases and can aggravate other health problems. Conditions of employment, occupation and the position in the workplace hierarchy also affect health. People working under stress or with precarious employment conditions are likely to smoke more, exercise less and have an unhealthy diet.

In addition to general health care, all workers and particularly those in high-risk occupations need health services to assess and reduce exposure to occupational risks, as well as medical surveillance for early detection of occupational and work-related diseases and injuries. Chronic respiratory diseases, musculoskeletal disorders, noise-induced hearing loss and skin problems are the most common occupational diseases. Yet only one third of countries have programmes in place to address these issues. Work-related non-communicable diseases (NCDs) as well as cardiovascular diseases and depression caused by occupational stress result in increasing rates of long-term illness and absence from work. Occupational NCDs include occupational cancer, chronic bronchitis and asthma caused by air pollution in the workplace and radiation. Despite these diseases, in the majority of countries physicians and nurses are not adequately trained to address work-related health problems and many countries do not offer postgraduate education in occupational health.

2.8 ETHICS IN SAFETY PROFESSION

Depending on the organization, the safety professional may be tasked with additional responsibilities in security, workers' compensation, training, wellness, human resources, insurance, environmental concerns, and a myriad of other job responsibility combinations. (Taylor, Easter & Burlington, 2004) The ethical behavior is an important thing because one of the reasons that accidents happen is because of the characteristics of workers on the job. Ethical beliefs are shaped by their personal experiences, peer pressure, family and cultural and religious standards. Is it possible to take a wide variety of diverse individuals with varying backgrounds, religious beliefs, family beliefs, and a myriad of different experiences and provide a level of training and learning to achieve a minimal level of acceptable ethical behavior? Safety professionals often face tough issues in the performance of their jobs which often fall within gray areas with regard to legality, ethics, and morality (Taylor, Easter & Burlington, 2004)

The law and different documents prepared by the government and management by themselves will not prevent accidents from happening without the “right” behavior of the worker on the job. And the management can enhance the behavior of the workers by conducting different trainings and on the job coaching.

2.9 OCCUPATIONAL SAFETY & HEALTH AND DEVELOPMENT

Kheni 2008 noted that, it is useful to view occupational health in the context of national development as the two are intimately linked. Every nation wishes to be in a state of advanced development, but it is the countries of the developing world which are most anxious almost demanding for rapid development. More often than not, it is the economic advantages of such development which are most sought after. According to Jeyaratnam. J, 2013 true development is, however, generally understood to have a wider meaning and to encompass the process of improving the quality of human life, which in turn includes aspects of economic development, of improving self-esteem and of increasing people’s freedom to choose. Let us examine the impact of this development on the health of the working population, i.e., development and occupational health.

Jeyaratnam. J, 2014 stated further the global gross domestic product (GDP) has remained almost unchanged for the period 1965-89, there has been an almost tenfold increase in the GDP of the developing world. But this rapid economic growth of the developing world must be seen in the context of overall poverty. With the developing world constituting three quarters of the world’s population, it accounts for only 15% of the global domestic product. Taking Asia as a case in point, all of the countries of Asia except for Japan are categorized as part of the developing world. But it needs to be recognized that there is no uniformity of development even among the developing nations of Asia. For instance, today, countries and areas such as Singapore, Republic of Korea, Hong Kong and Taiwan (China) have been categorized as newly industrialized countries (NICs). Though arbitrary, this implies a transition stage from developing country status to industrialized nation status. However, it must be recognized that there are no clear criteria defining a NIC. Nevertheless, some of the salient economic features are high sustained growth rates, diminishing income inequality, an

active government role, low taxes, underdeveloped welfare state, high savings rate and an economy geared to exports.(Mager.S, 2012)

There exists an intimate relationship between health, development and the environment. Rampant and uncontrolled development measures purely in terms of economic expansion could, under certain circumstances, be considered to have an adverse impact on health. Usually, though, there exists a strong positive relationship between a nation's economic status and health as indicated by life expectancy.(Jeyaratnam. J, 2014)

As much as development is positively linked to health, it is not adequately recognized that health is a positive force driving development. Health must be considered to be more than a consumer item. Investing in health increases the human capital of a society. Unlike roads and bridges, whose investment values dwindle as they deteriorate over time, the returns on health investments can generate high social returns for a lifetime and well into the next generation. It should be recognized that any health impairment that the worker may suffer is likely to have an adverse effect on work performance, a matter of considerable interest particularly to nations in the throes of rapid development. For instance, it is estimated that poor occupational health and reduced working capacity of workers may cause an economic loss of up to 10 to 20% of gross national product (GNP). Furthermore, the World Bank estimates that two-thirds of occupationally determined disability adjusted life years (DALYS) could be prevented by occupational health and safety programmes. As such, the provision of an occupational health service should not be viewed as a national expense to be avoided, but rather as one that is necessary for the national economy and development. It has been observed that a high standard of occupational health correlates positively with a high GNP per capita (WHO 1995). The countries investing most in occupational health and safety show the highest productivity and strongest economies, while countries with the lowest investment have the lowest productivity and the weakest economies. Globally, each worker is said to contribute US\$9,160 to the annual domestic product. Evidently the worker is the engine of the national economy and the engine needs to be kept in good health.

Development results in many changes to the social fabric, including the pattern of employment and changes in the productivity sectors. In the early stages of development, agriculture contributes extensively to national wealth and the workforce. With development, the role of agriculture begins to decline and the contribution of the manufacturing sector to national wealth and the workforce becomes dominant. Finally, there comes a situation where the service sector becomes the largest income source, as in the advanced economies of industrialized countries. This is clearly evident when a comparison is made between the group of NICs and the group of Association of Southeast Asian (ASEAN) nations. The latter could be categorized as middle income nations of the developing world, while the NICs are countries straddling the developing and the industrialized worlds. Singapore, a member of ASEAN, is also a NIC. The ASEAN nations, though deriving approximately a quarter of their gross domestic product from agriculture, have almost half of their GDP drawn from industry and manufacturing. The NICs, on the other hand, particularly Hong Kong and Singapore, have approximately two-thirds of their GDP from the service sector, with very little or none from agriculture. The recognition of this changing pattern is important in that occupational health services must respond to the needs of each nation's workforce depending on their stage of development (Jeyaratnam and Chia 1994).

In addition to this transition in the workplace, there also occurs a transition in disease patterns with development. A change in disease patterns is seen with increasing life expectancy, with the latter indicative of increasing GDP. It is seen that with development or an increase in life expectancy, there is a large decrease in death from infectious diseases while there are large increases in deaths from cardiovascular diseases and cancers.

2.10 THE LINK BETWEEN OCCUPATIONAL SAFETY AND DEVELOPMENT

While the present proposition of this paper does not seek to advance OHS as a competing pillar of sustainable development, current changes in the corporate mechanism, production processes and marketing strategies imposes new obligations on industry practitioners and policy makers to start thinking of how to harness the potentials of OSH in promoting sustainability (McKeown, 2002). Despite improvements in work design, significant departures from work related hazards and occupational; diseases are still far from fruition. Thus

occupational health and safety issues are still as relevant in today's work environments as yesterdays.

Elkington, 1994 in his studies did mention Occupational health and safety and sustainable development can be approached from varying perspectives. In so far as sustainable development has been argued from various perspectives, the link between OSH and sustainable development can assume any of these varying perspectives. Based on the three pronged model of sustainability espoused by McKeown (2002), the role of OSH in promoting sustainable development can be argued in at least three dimensions; people, planet and profits. This framework has assumed various names in literature but it is commonly called the triple bottom line approach. The difficulties in managing what is often regarded as competing elements in the wealth creation equation "people, planet and profit" is looked into in a recent article by Crews (2010) "Strategies for implementing sustainability: Five leadership strategies". Crews (2010) sought to provide ways for harnessing the potential that sustainable practices can offer.

The phrase "triple bottom line" was first coined in 1994 by John Elkington, the founder of a British consultancy called Sustainability. His argument was that companies should be preparing three different (and quite separate) bottom lines. One is the traditional measure of corporate profit the "bottom line" of the profit and loss account. The second is the bottom line of a company's "people account" a measure in some shape or form of how socially responsible an organization has been throughout its operations. The third is the bottom line of the company's "planet" account—a measure of how environmentally responsible it has been. The triple bottom line (TBL) thus consists of three Ps: profit, people and planet. It aims to measure the financial, social and environmental performance of the corporation over a period of time. Only a company that produces a TBL is taking account of the full cost involved in doing business (<http://www.economist.com> assessed 15-07-2011). Profitability is considered as the prime driver of modern capitalist economies. Firms rely on sufficient profitability to meet shareholders needs of "value and wealth maximization". Although profitability and value maximization may mean different things when argued theoretically, the two are expected to move in tandem because profitability is a major and necessary condition and driver for maximizing the wealth of shareholders. In effect, firms cannot in practice achieve

sustainability without meeting the profitability dimension of modern business concern. But how do firms achieve optimum profitability using all available opportunities and resources? Notice should be taken of the operational definition of “optimizing profitability”. By optimizing profitability, firms should seek to make the best values out of all available opportunities and resources taking due recourse to alleviate all choices that stand the potential of wasting organizational resources. Will firms be considered as optimizing profitability in the face of significant occupational health and safety related diseases, accidents and hazards?

When viewed within the context of sustainable development, environmental concerns become not just a cost of doing business, but a potent source of competitive advantage. Enterprises that embrace the concept effectively realize the advantages: more efficient processes, improvement in productivity, lower costs of compliance, and new strategic market opportunities” (Schmidheiny, 2002). Giving due attention to the “Planet” aspect of the TBL has important contribution towards the total well-being of the employee and more importantly giving every firm a competitive edge.

CHAPTER THREE: THEORETICAL FRAMEWORK AND RESEARCH DESIGN

Having concluded the literature review, the focus of this chapter is to combine the observations, assertions and conventions that emerged from the literature review to develop a theoretical framework for the study. The theoretical framework will serve as a pivot to evaluate the occupational health and safety issues of workers in the manufacturing industry in in Nefas Silk Lafto sub-city and also set the scene for developing a conceptual framework for the study. Following this, the conceptual framework is used in designing an appropriate Research Instrument for eliciting the relevant data. The chapter also discusses issues relating to how the sampling frame was established and the data used for the analysis.

3.1 THE THEORETICAL FRAMEWORK OF OCCUPATIONAL SAFETY HEALTH

As demonstrated in chapter two sections 2.6, the Ethiopian labor law clearly state in article 92 about Safety and Health and demonstrates that employers have clear legal obligations to protect any worker under their control or management. To this end, the factory owners have legal obligations under the National labor law things to:

- Provide and maintain, working environment that is safe and without risks to health;
- Provide adequate information on hazards, as well as instructions, training and supervision to help execute work safely;
- Provide personal protective equipment appropriate for the job; and
- Provide adequate welfare facilities such as amenities and first aid.

Figure 3.1 below, shows the theories that govern the provisions of occupational health and safety materials on construction sites.

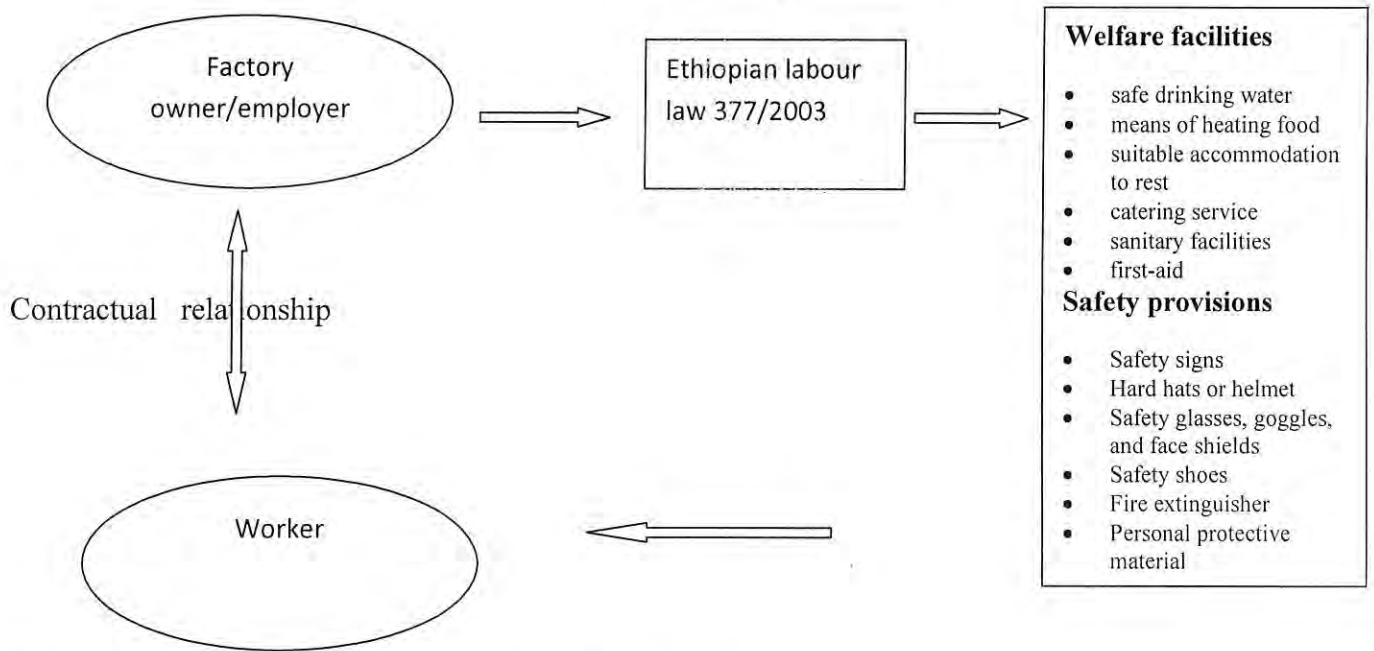


Figure 3: A framework of OHS provisions for workers

3.2 THE CONCEPTUAL FRAMEWORK

Conceptual framework is a collection of interrelated concepts, like a theory but not necessarily so well worked-out (Borgatti (1999) asserted that a theoretical framework guides the researcher to determine what things to be measured and what statistical relationships to look out for. Drawing from this assertion, it is appropriate to present a brief of the emerging issues from the literature review and thereafter determine which variable to measure.

Issues emerging from the literature review from some developing countries were grouped into safety and welfare issues of workers; socio-economic conditions of the worker, and employers' benefits and concern of engaging workers. Governing these issues are the Legislations and Policies of Occupational Health and Safety (OHS).

It was revealed that, welfare facilities such as inadequate accommodation, sanitary facilities, lack of cafeteria services and among others, were the major problems confronting casual workers on construction sites, whereas lack of safety provisions such as protective gear, first-aid facilities, fire extinguisher and training of workers on health and safety were also safety problems facing the factory worker.

3.3 METHODOLOGY ADOPTED

As noted earlier, the aim of this research is to study the occupational safety and health of the Nefas silk lafto sub city industrial zone. This chapter illustrates the basis upon which the research instrument is designed and the kind of respondents selected. Generally, to achieve the aim of a study, one of the important areas to consider is the kind of method that is adopted (Naoum, 2001). For this reason, the researcher employs a range of complementary research methods to the study.

This study is a descriptive type of research and tries to explain the basic research question which is; Are the industries safe enough for workers and decent work place? Are the industries fulfill the required minimum occupational safety health standards? Nifas silk Lafto sub city and describe their current situation on the controlling measures. For collecting and analyzing information, a research design sets a road map by specifying the methods and procedures undertaken.

To describe the conditions in the industries and find out the causes for the occupational safety and problems that is hazard and accidents, data were collected both from the management and also the production workers of the purposely selected factories for the study. In the data collection technique for this research two instruments were used which are the interviews for the managers and questionnaire for the production workers.

There are one hundred thirty five factories in the sub-city (according to trade and industry office) and twenty of these factories were randomly selected, and studied. The sample size is thus 15%. Interview was held with top level managers of all the twenty organizations and questionnaires were given to five workers from each organization.

Random sampling was used for the sampling of the workers by first selecting the workers who are working in the manufacturing department of the twenty factories which were six hundred twenty eight, and eighty six of them responded to the questionnaire out of hundred which makes 16% sample size.

The time horizon of the study is a cross sectional type of study. By combining the responses of both the management and the workers a more reliable and sound information was gathered so as to clearly describe the situation in the sector.

Sample size of the interview

N = total number of factories

n = sample size

% sample = (n/N)100%

Where N=135, n= 20

% sample = (n/N)100%

= (20/135)100%

= 15%

For the questionnaire

W = total number of workers in the production departments

w = number of questionnaire given

% sample = (w/W) 100%

Where W=628, w =100

% sample = (w/W) 100%

= (100/628)100%

= 16%

Response rate

R = total number of workers selected for the questionnaire

r = number of workers responded

$$\% \text{ response rate} = (r/R) 100\%$$

$$\text{Where } W=100, w = 86$$

$$\% \text{ response rate} = (r/R) 100\%$$

$$= (86/100)100\%$$

$$= 86\%$$

The randomly selected eleven companies are listed below.

1. Roha Pack plc
2. Osaka metal works PLC
3. Sani steel pipe manufacturing
4. OK Jamaica shoe factory PLC
5. Alnur import export industrial group PLC
6. AlemGenete corrugated sheet factory
7. GMM Garments
8. Ramesy Shoe Factory
9. Amaga Spring matters Factory
10. Classic packaging factory
11. SMS coffee processing PLC
12. Coba impact plastic bottling Industry
13. Samuel Shale plastic factory
14. Efgem plastic Bag Factory
15. G-4 blocket factory
16. Afero Printing Press
17. Galaxy PPC Factory
18. Degman Plastic Factory
19. Yunis Grment
20. Beka yelebse kulefe Factory

Secondary source: - These include desk review of both published and unpublished material including policy documents, newspapers, internet, journals, articles, labor inspector report, bulletins, newsletters, and site safety text books available in labor office. The secondary source was to get a deeper understanding of occupational health and safety related issues involving manufacturing industries.

3.4 DESCRIPTION OF THE STUDY AREA

Nefas Silk Lafto Sub-City is one of the major administrative divisions of the Addis Ababa City Government. It is located in the South Western side of the Metropolis neighboring five of the sister sub-cities starting from the southern tip to the upper west in anti-clock wise direction are; Akakikality, Bole Kirkos, Lideta and Kolfekeranio respectively. The sub-city share boundary with the Oromiya Regional state from its southern side and is an extension zone of urbanization. The sub-city is administratively divided into 10 kebeles or local government units networked with all infrastructural facilities within and between the neighboring sub-cities. Industrial and residential zones are clearly demarcated by the city Master plan and facilitated by the land use policy of the metropolitan area.

According to the 2007 Ethiopian Population and Housing Census Report; the total population of the sub-city is 316,108. The number of male is 148,892(47.1%) while female residents are 167,216(52.89%) exceeding by some thousands from the male population.

The people are engaged in all sorts of economic activities such as small manufacturing firms; retail business; small and micro-enterprises; service giving activities of all sorts' mixed farming at the periphery areas of adjacent to the Oromya Regional State are some of the absorption of the people. The sub-city is also known for having industrial zone and there are around 3000 establishments like factories, service giving organizations, garages, hotels, small and micro enterprises and different NGOs and local organizations

Distribution of Factory in the Subcity

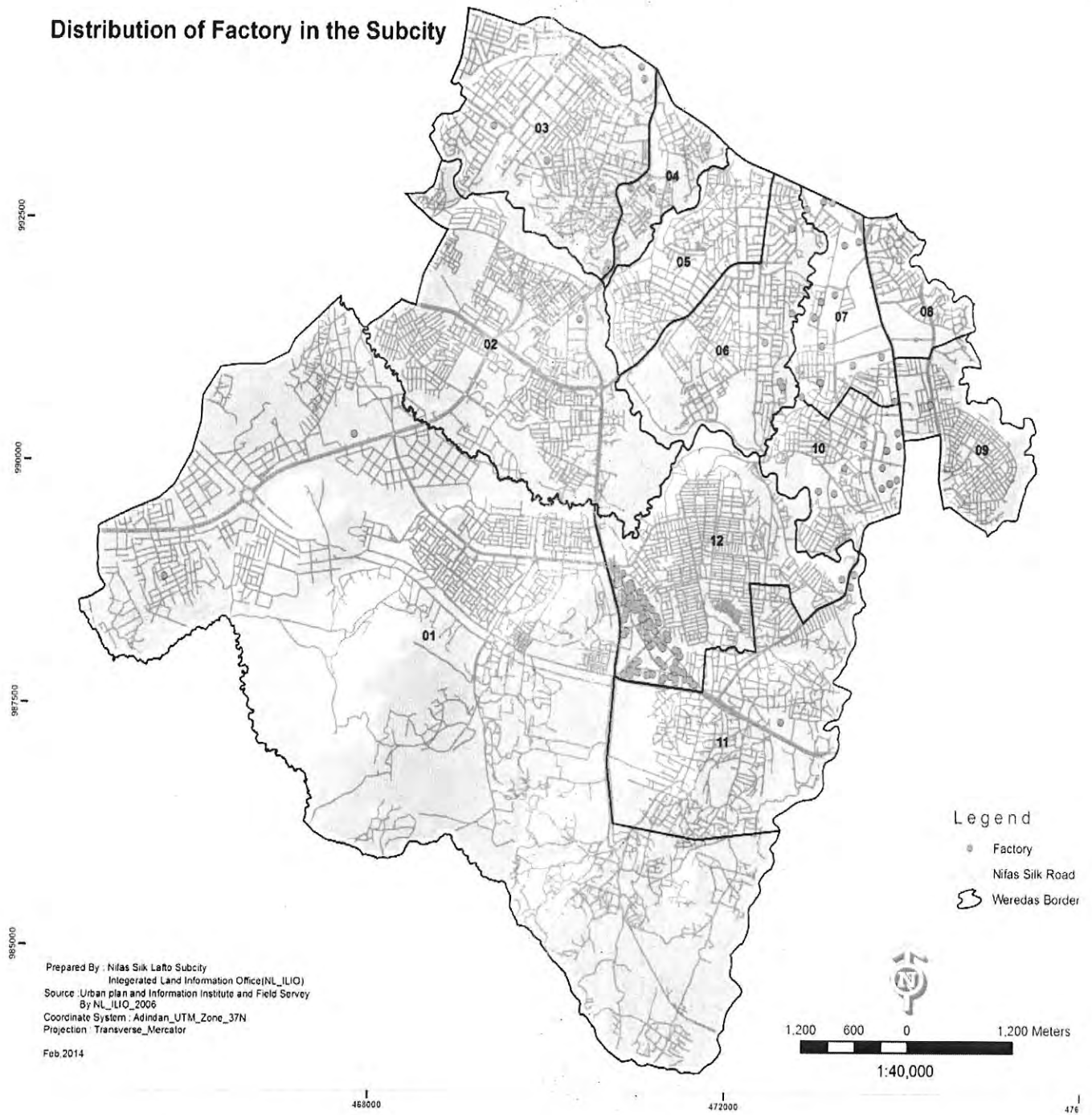


Figure1. Map of Study Area

CHAPTER FOUR: RESULTS & DISCUSSION

This covers the result of twenty organizations. Interview was held with one top level manager from every organization. Questionnaire was given to hundred workers but eighty six of them responded and I have summarized the results below.

- Seventeen of the organizations described the level of the awareness about the Ethiopian labor law in their organization as low and the other three claimed that there is medium level awareness.
- All the twenty organization claimed that the workers have on job training about how to operate their machineries and basic safety measures. And two of the organizations provide the necessary and appropriate service and maintenance whenever necessary but nine of the other organizations are working with the culture that work will not stop unless the machine has stopped working.
- Only three organizations were able to keep records of all the accidents that happened in their organization and their causes. And the most common type of accident that happens in was found to be skin burn from hot metal and cutting on different types of the body.
- Five of the organizations claimed that most of the accidents occur on the day time but in the other fifteen most of it happen in the late night shift.
- None of the organizations claimed that they have a safety professional in their organization.
- In twelve of the organizations fire extinguishers were fully in place and were found to be renewed every time before the expiry date. But in the other eight organizations, fire extinguishers were there but they were all expired and needs to be renewed.
- From the twenty organizations, four of them are working with a high sound level that needs an ear protection and two of them provided the appropriate protective device, but the other two don't.
- With regard to ventilation, the work environment of all the organizations is high in temperature, only eight of them installed the necessary ventilation system and the other twelve do not have one even though they claimed that they have a plan to install that in short time.

- In relation to the lighting of the work places, all of the organizations were found to be working with an acceptable level of lighting conditions.
- Six organizations were found to have a fairly safe electrical installation but the other fourteen had big problems with their electricity and this could cause fire hazard and electrical damages.
- In nine of the organizations the layout of the machineries were well organized and safe but in the other eleven organizations there are machineries that doesn't work here and there which created uncomfortable condition on the working areas and passage ways.
- With regard to Industrial health;
 - Only three organizations were fully equipped with the appropriate first aid kit out of twenty even though there is no health professional in the organization.
- In two factories the materials in the work places were fully labeled but the other eighteen don't.
 - Nine of the twenty organizations had insurance for their workers
- All the organizations were found to be paying all the necessary compensation which is designated by the law with the approval of a medical board.

Most of the suggestions of the managers include;

- The workers should use all the personal protective equipment at all times
- Any problems or deficiency in machineries should be reported to the management on time, so that they can be fixed on time.
- Workers should avoid using alcohol or any drug before they start working.
- The workers should always work on their machineries only to minimize the accidents that happen from the activities done on machineries which they do not have full knowledge about.
- The government should support the organization by creating enough awareness on occupational safety and health and different safety measures.

Table 2. Questionnaire results 1

No.	Questions for the respondents	Never	Once in a while	Sometimes	Usually	Often
1	Is maintenance and service is fully provided to your machine?	18	40	10	188	-
2	Have you taken whole health test when you entered the organization and periodic checkup?	80	-	6	-	-
3	Have you been diagnosed with any kind of illness that is related with your work environment?	80	-	6	-	-
4	Have you ever encountered and kind of injury in your work environment since you started working in the company?	20	15	32	-	18
5	Whenever the disease or injury is beyond first aid treatment, does your organization take you to the appropriate hospital or clinic?	20	22	18	2	24
6	Does your company cover all the expenses of the health treatment?	71	-	-	-	5
7	Does your company provide you the compensation and benefits you should get according to the Ethiopian labor law?	21	-	-	55	10
8	Do you get first aid treatment in your company?	15	-	57	-	14

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Table 3. Questionnaire results 2.

No.	Questions for the respondents	Very low	Low	Medium	High	Very high
1	How do you describe the level of your awareness of the Ethiopian labor law?	-	65	21	-	-
2	How is your awareness on the issue of occupational safety and health?	-	71	15	-	-
3	Are the machineries you are working with has their appropriate safety guards?	-	55	19	12	-
4	Have you taken enough training on how to operate the machine /equipment you work with?	-	72	14		-
5	Do you have enough information about the effects and possible side effects about the raw materials you are using?	6	68	12	-	-

4.1. ANALYSIS AND DISCUSSION

This analysis will try to explain and discuss the possible causes of occupational hazards and their effects based on the results of the interview. One of the issues on this is operational and legislative training given to the workers, and the result shows that there is a minimum level of awareness about the legal duties and responsibilities of the workers which would cause misunderstanding on the job and cost unnecessary time and effectiveness on the job. The result from the questionnaire that 71% of the respondents claimed that they have low level of awareness about occupational safety and health and the Ethiopian labor law and 65% of them described their knowledge on the issue of occupational safety and health as low which implies that most workers do not have a clear picture about the law enforcement about employee/employer relation as well as different safety measures and this limits the workers from working safely and also from getting the right compensation and benefit from their organization.

Table 4. Performance of organizations on safety measures

No.	Safety measure	Performance in %
1	Accident record keeping	15
2	Good ventilation system	40
3	Availability of fire extinguishers	60
4	Safe electrical installation	30
6	First aid kit/treatment	15

The table above shows that, in most of the organizations there is a poor maintenance system for the machineries and workers were forced to work with those machineries and are possible causes of accidents. Another result from the interview shows that there are only 15% of the organizations were keeping all the records of accidents but article 92/4 puts the employee on the obligation of registering employment accident and occupations diseases and notify the labor inspection of same but from the organizations studied, this trend limits the management from knowing all the possible hazardous check points in the workplace so as to implement the appropriate controlling mechanism.

Regarding convenient working environment, Article 92/7 states the obligations of the employer to “take appropriate pre-executions to insure that all the processes of work shall not be a source or cause of physical, chemical, biological, ergonomical and psychological hazards to the health and safety of the workers”; The results of the data collected shows that 60% of the factories have a poor ventilation system and 40% of the organizations do not have the proper fire extinguishers in the work place, this implies that fire hazards are likely to happen because of the hot air in the work place and these organizations are unable to overcome the fire hazards quickly because of the lack of fire extinguishers in the work place. Hence different fire extinguishers; i.e. foam, CO₂, powder and also sand should be available in the workplace even though there is no clear article that states fire extinguishers should be available. And 70% of the organizations had a poor electrical installation and machine layout system in their organization and in the result of questionnaire 47% of the respondents claimed

that they were working with machineries that do not have their safety guards and these factories are more likely to cause industrial accidents.

Article 92/2 of the proclamation states that, “An employer shall take the necessary measure to safeguard adequately the health and safety of the workers; he/she shall in particular take appropriate steps to ensure that workers are properly instructed and notified concerning the hazards of their respective occupations and the precautions necessary to avoid accident and injury to health; ensure that directives are given and also assign safety officer but none of the organizations have a safety professional in their human resource that would help the company to asses different hazardous check points and come up with the appropriate safety measures. The other result shows that 34% of the respondents claimed that they are working with machineries with no safety guards and 62% respondents said that they do not have had enough training on how to operate their machineries. And these 20% respondents were found to have been not provided with the necessary maintenance for the machineries which causes different accident on the workers because of the malfunctions of their equipment. 64% of the respondents claimed that they do not have enough information about the materials they are using which causes different accidents because of misusing a material.

69% of the respondents claimed that they have never taken a full health checkup by their organization but 69% of them have never been diagnosed with any kind of sickness on their job which implies that organizations do not make their workers to get a health check up unless they are sick and it is hard to know if they are exposed to a situation that could cause a long term health problems from their work environment. And 57% of the respondents claimed that they have suffered different occupational injury but 61%of them said that they have gotten the necessary first aid treatment in their work environment.

Occupational safety and health is not fully addressed in the factories according to compensation and benefit. One of the results shows that the compensation and benefit system of all companies were pointed out to be as per the standards stated on the labor law from article 39-41. But 24% of the workers claimed that their companies does not provide the proper compensation and benefit article 105 states that Where a worker sustains employment injury, the employer shall cover general and specialized medical and surgical care, hospital

and pharmaceutical care and any necessary prosthetic or orthopedic appliances. The results of the questionnaire shows that, 82% of the respondents claimed that their organization covers all the clinical costs of occupational sickness and injury but the other said they don't get this privilege. And 66% of the respondents said that their company provides them the necessary compensation and benefits so as to cope up with their occupational and economical necessities and more than 18% of the organizations have health insurance for their worker which is a good health cover. And only 15% of them were fully equipped with the appropriate first aid equipment which limits the workers to have a quick treatment in case of injury. According to benefit and compensation all of the organizations were applying the necessary compensation and benefit program which protects the workers from suffering different economical and social costs. Hence companies are expected to do more to ensure the health and safety of workers than they do to fill the gap.

Table 5. Age and sex distribution of respondents

Age and sex distribution		Age			
		18-30	30-40	40-50	50 and above
Sex	M	30	12	7	-
	F	25	10	2	-

There were some constructive suggestions by the managers on what the workers and government should do. One of the suggestions was workers should not be using any kind of alcohol or drug in the work place because it will obviously make them lose concentration and cause accident. The other suggestion that most managers focused on is that workers should obey the rules and regulations of the company because those rules were made to minimize industrial accident and maximize productivity. And the government is suggested to give solid awareness about safety as well as duties and responsibilities for the workers and owners to create a better and safer working environment in the industry.

Most of the suggestions of the workers focuses on what the management and the government should do, the most common suggestion was management should give enough attention on the possible accident causing situations and make the necessary safety measures and provide the workers with the necessary personal protective equipment so as to minimize industrial

accident and the management should work with the workers while planning any safety management system because the workers experience different hazardous condition and can contribute for the system. Most workers suggested that the government should push the owners and managers of the organizations to apply the necessary safety management system.

4.2.2 Secondary Data

One hundred and thirty five work place were investigated by Nefas Silk Lafeto Sub City Labour Inspectors. This report summarizes the study findings where there are recommendations for improvements. This study concentrated on identifying areas needing improvement. The work place which are under investigation were plastic factories, Metal& Wood Enterprises, Garments, Shoe & sole factories ,floor factories, Hotel &restaurants, Construction sites ,Printing press, clinics ,schools & others. The investigation focus mainly on the provision of basic facilities and employment.

Table6:The provision of different facilities and employment condition

	Industry type																					
	Plastic factories		Metal & wood enterprise		garment		Shoe and sole factories		Floor factories		Hotel & Restaurant		construction		Printing press		clinics		schools		others	
	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA
Formation contract	6	16	18	6	4	7	5	-	3	6	4	13	3	2	5	2	-	6	3	1	15	10
Provision of safety devices	4	18	18	6	8	3	4	1	1	8	16	1	3	2	5	2	6	-	4	-	8	17
First aid	2	20	9	15	3	8	3	2	4	5	2	15	-	5	4	3	6	-	2	2	7	18
Fire extinguisher	6	16	17	7	6	5	4	1	5	4	3	14	4	1	6	1	2	4	1	3	20	5
Toilets	18	4	21	3	7	4	3	2	4	5	16	-	4	1	6	1	6	-	4	-	20	5
locker	3	21	6	18	6	5	4	1	4	5	1	16	-	5	1	6	6	-	2	2	6	19
cafeteria	3	19	6	18	4	7	2	3	2	7	-	17	-	5	6	-	6	3	1	6	19	
Total	42	114	95	73	38	39	25	10	23	40	42	76	14	21	27	21	26	16	19	9	82	93

A: - Available

source:- Nifas silk lafto sub city labor office

NA: - Not Available

4.2.3 Analysis of secondary data

Contract of employment how it is formed, its major content, types the obligations of both parties to the contract of employment, law full activities to the same in the contract, how suspension and termination takes place with due effects to each party, record keeping regarding the relationship between the parties etc. (Articles 4-52) . Among 135 enterprises 66(48.89%) formed the contract, 69(51.12 %) don't have any contract document or firms didn't fulfill the standard according to Ethiopian labour law.

Employers should train workers about fire hazards in the workplace and about what to do in a fire emergency. If you want your workers to evacuate, you should train them on how to escape. If you expect your workers to use firefighting equipment, you should give them appropriate equipment and train them to use the equipment safely. During the inspection 74(54.8%) have fire extinguishing systems and 61 (45.2%) firms don't have the system .These indicate these firms highly vulnerable to fire.

It is a requirement of OSH that employees be given a safe and healthy workplace that is reasonably free of occupational hazards. However, it is unrealistic to expect accidents not to happen. Therefore, employers are required to provide medical and first aid personnel and supplies commensurate with the hazards of the workplace. The details of a workplace medical and first aid program are dependent on the circumstances of each workplace and employer. In the inspection only 42(31%) have first aid kit but the contents of the first-aid kit is below the standard and 93 (69%) firms didn't have any first aid kit.

Where adequate protection against the risk of accident or injury to health, including exposure to adverse conditions, cannot be ensured by other means, suitable personal protective equipment and protective clothing, having regard to the type of work and risks, should be provided and maintained by the employer, without cost to the workers, as may be prescribed by national laws or regulations. Application. Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a

sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact. The main objectives are preventing accidents and diseases and harmful effects on the health of workers arising from the work place. Among 135 firms 74 (53%) provide protective equipment for their workers the rest 61(47%) didn't provide any protective device.

Toilet facilities, in toilet rooms separate for each sex, shall be provided in all places of employment in accordance with table 4 of this section. The number of facilities to be provided for each sex shall be based on the number of employees of that sex for whom the facilities are furnished. Where toilet rooms will be occupied by no more than one person at a time, can be locked from the inside, and contain at least one water closet, separate toilet rooms for each sex need not be provided. Where such single-occupancy rooms have more than one toilet facility, only one such facility in each toilet room shall be counted for the purpose of table

Table7: Number of toilet facilities per worker

Number of worker	Number toilet facilities /close set
1 to 15	1
16 to 35	2
36 to 55	3
56 to 80	4
81 to 110	5
111 to 150	6

Among 135 organization 109 (84%) have toilet facilities (some of them below standard) and 26 (16%) didn't have toilet facilities.

Change rooms must be equipped with separate storage facilities for protective work clothing and equipment like lockers .During inspection only 39(29%)firms provide only lockers for

their worker all of them didn't have changing room and 97(71%) didn't provide locker and changing room.

Workers need feeding at their working place. Only 26 firms have cafeteria the rest firms didn't have cafeteria

CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

5.1. CONCLUSION

Managers and workers in the sector face different challenges in the workplace while designing and implementing a safer and healthier working environment. This study tried to address the causes of industrial accidents and illness, and from the results and findings of the data collected, different points can be drawn; these are:

- The results of the study shows that there are workers who are working with equipment and machineries that are not working properly and are without their safety guards, and accidents can occur from the malfunctions of those equipment.
- Inconvenient working environment is not fully addressed in all organizations as per article no. 92/8 and conditions like poor lighting condition limits the workers to operate safely and also poor ventilation system makes the room temperature higher and can depress the workers and make them loose focus while they are operating heavy machinery and it can also accelerate fire hazards. Another point is high level sound in the workshop which causes misunderstanding between workers while they are working and in the long term causing hearing problem.
- Keeping records of all the accidents as per article 92/4 and investigating their causes as stated on article 93/7 of the labor proclamation helps to get a better safety controlling mechanism but none of the organizations keep all the records as well as have a safety professional in their organization who could contribute a lot to create a safer and healthier working environment.

- Fire extinguishers and first aid treatment are not fully provided in all organizations and this limits them to overcome different occupational accidents in the workplace until they get clinical treatment.
- Poor compensation and benefit program can make the workers to pay social as well as economic costs because if a worker is injured or become ill in the workplace, he/she is going to have to stop working and get medical treatment and the management should be able to give the worker his/her sick leave and cover the medical costs. And when the treatment is done, the worker should be provided with the appropriate working conditions as per article 105 if the worker faced a permanent or temporary physical or biological disability.

5.2. RECOMMENDATIONS

The magnitude of occupational injury in work place was very high. The economic impact while compensating and medically handling the injuries, and lost healthy workdays cannot be undermined. Factors related to the occurrence of occupational injuries were very preventable. Hence, the implementation of basic occupational health and safety services with the provisions of personal protective devices with the followup of their appropriate utilization, not spending more than 48 hours per week at work, ensuring sustained work place inspections, and promotions of the right to know through information dissemination, education and/or training on occupational health and safety to all categories of workers are highly advised

- Organizations should keep the machineries they use safe by providing the necessary maintenance and check and install all the safety guards of the machineries. The management should give enough training on how to operate the machines and also on the necessary safety measures.
- Organizations on the sector should keep the room temperature not too high by applying the necessary ventilation system and if the high temperature is important for production, like in the melting department of aluminum production factories, the

workers should be provided with the appropriate personal protective equipment. Also the passage ways in the workplace should be clear and convenient for movement and the sound level especially in the nail production factory, is very high and ear muff should be given by the management and workers should use the protective equipment every time they are in their work place.

- The management should give more focus on the occupational safety and health issue and have a safety professional in their organization or someone who is capable of keeping all the accidents and their causes so as to make the appropriate safety measures in the workplace and manage the safety and health of the employees while they are working.
- Since fire hazard is always dangerous and can make lots of damage to the workers as well as the workplace and the Ethiopian labor law states that there should be fire extinguishers available in every 15m distance and 1.5m above the ground and this can able the organizations to minimize the damage from fire hazards.
- Managers should make every employee to take a health checkup or get a medical report when they hire one. And they should also provide a periodic checkup for their employees to know what possible health problems can occur from the workplace so as to implement the necessary prevention mechanisms and compensation & benefit for the victims of the health problem. First aid treatment should also be available in the workplace to minimize the level of damage done until they get the proper health treatment.

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APPENDIX

Appendix A:

Questionnaires

Biographical Information Questionnaire

1. Name (optional) : _____
2. Age: _____
3. Sex: _____
4. Years of service: _____
5. Educational qualification: _____
6. Job position: _____

Occupational safety and health questionnaire

1. How do you describe the level of your awareness of the Ethiopian labor law?

Very low	Low	Medium	High	Very high

2. How is your awareness on the issue of occupational safety and health?

Very low	Low	Medium	High	Very high

3. Are the machineries you are working with has their appropriate safety guards?

Not at all	Low quality	Satisfactory	Good	Very good

4. Have you taken enough training on how to operate the machine /equipment you work with?

Not at all	Low training	Medium training	Enough training	More than enough

5. Is maintenance and service is fully provided to your machine?

Not at all	Ones in a while	Sometimes	Usually	Always

6. Do you have enough information about the effects and possible side effects about the raw materials you are using?

Very low	low	Medium	High	Very high

7. Have you taken whole health test when you entered the organization and periodic check up?

Not at all	Ones in a while	Sometimes	Usually	When ever needed

8. Have you been diagnosed with any kind of illness that is related with your work environment?

Not at all	Ones in a while	Sometimes	Often	Very often

9. Have you ever encountered and kind of injury in your work environment since you started working in the company?

Not at all	Ones in a while	Sometimes	Often	Very often

10. Do you get first aid treatment in your company?

Never	Ones in a while	Sometimes	Usually	Always

11. Whenever the disease or injury is beyond first aid treatment, does your organization take you to the appropriate hospital or clinic?

Never	Ones in a while	Sometimes	Usually	Always

12. Does your company cover all the expenses of the health treatment?

Never	Ones in a while	Sometimes	Usually	Always

13. Does your company provide you the compensation and benefits you should get according to the Ethiopian labor law?

Never	Ones in a while	Sometimes	Usually	Always

14. What do you suggest to be done to minimize industrial accident and create a healthier work environment in your organization?

Appendix B:

Interview Questions for Managers

General Information Questions

1. Name of the organization : _____
2. Time of establishment: _____
3. Number of workers: _____
4. Field of production : _____

Occupational safety and health questions

1. How do you describe the awareness of the Ethiopian labor law in your organization?
2. How is the level of training given to your workers on how to operate their machinery/equipment and safety measures? Are the machineries provided with the appropriate service and maintenance periodically?
3. According to record keeping, do you keep records of accidents and injuries that happened in your company? And what kind of accidents does usually happen in your organization?
4. On which shift of work hour does most of the accidents occur in your organization:
Day time (8:00am – 4:00 pm), night time (4:00pm – 12:00am), or late night (12:00am – 8:00am)
5. Do you have a safety professional in your organization? If so, what are the major duties and responsibilities of the safety professional?
6. According to fire hazards, what kind of fire controlling system do you have in your company? And are the appropriate fire extinguishers available in the work place?
7. How is the work environment according to;
 - Lighting of the work place
 - Sound level, and
 - Ventilation
8. Is the electrical system in the work place well installed and safe?

9. How do you describe the layout of your machineries according to safety?

10. According to industrial health, how do you see the work environment based on the following points?
 - First aid kit and employee who has taken first aid treatment training?
 - Are the raw materials and different chemicals labeled, so that the workers will not miss use the item?
 - Do you have insurance for your workers?
11. How does the compensation and benefit program look like in your organization for the workers who are victims of occupational accident?
12. As a manager what do you suggest on, what workers and investors should focus on so as to minimize the accidents and improve occupational health in plastic/metal work factories?

Appendix C:

PROCLAMATION NO. 377/2003 ARTICLE 92 TO ARTICLE 112

Occupational Safety, Health and Working Environment

CHAPTER ONE

Preventive Measures

92. Obligations of an Employer

An employer shall take the necessary measure to safeguard adequately the health and safety of the workers; he shall in particular:

- 1) Comply with the occupational health and safety requirements provided for in this Proclamation;
- 2) Take appropriate steps to ensure that workers are properly instructed and notified concerning the hazards of their respective occupations and the precautions necessary to avoid accident and injury to health; ensure that directives are given and also assign safety officer; establish an occupational safety and health committee of which the committee's of which the committee's establishment, shall be determined by a directive issued by the Minister;
- 3) Provide workers with protective equipment, clothing and other materials and instruct them of its use;
- 4) Register employment accident and occupations diseases and notify the labour inspection of same;
- 5) Arrange, according to the nature of the work, at his own expenses for the medical examination of newly employed workers and for the medical examination of newly employed workers and for those workers engaged in hazardous work, as may be necessary.
- 6) Ensure that the work place and premises do not cause danger to the health and safety of the workers;
- 7) Take appropriate pre-executions to insure that all the processes of work shall not be a source or cause of physical, chemical, biological, ergonomical and psychological hazards to the health and safety of the workers;

- 8) Implements the directives issued by the appropriate authority in accordance with this Proclamation.

93. Obligations of worker

A worker shall:

- 1) co-operate in the formulation of work rules to safeguard the workers health and safety, and implement same.
- 2) inform forthwith to the employer any defect related to the appliances used and injury to health and safety of the workers that he discovers in the undertaking.
- 3) report to the employer any situation which he may have reason to believe could present a hazard and which he cannot avoid on his own any accident or injury to health which arises in the course of or in connection with work.
- 4) Make proper use of all safeguards, safety devices and other appliance furnished for the protection of his health or safety and for the protection of the health and safety of others.
- 5) Obey all health and safety instructions issued by the employer or by the competent authority.

94. Prohibition

No worker shall:

- 1) interfere with, remove, displace, damage or destroy any safety devices or other appliances furnished for his protection or the protection of other; or
- 2) obstruct any method or process adopted with a view to minimizing occupational hazard.

CHAPTE TWO
Occupational Injuries
SECTION ONE
Liability

95. General

- 1) Subject to the provisions of the relevant pension law, the provisions of this Chapter shall apply to workers where an employment injury is sustained by a worker during or in connection with the performance of his work.
- 2) For the purpose of this Proclamation, “occupational injury” means an employment accident or occupational disease.

96. Liability Irrespective of Fault

- 1) The employer shall be liable, irrespective of fault, for employment injuries sustained by his worker and such liability shall be determined in a accordance with the provisions of this Chapter.
- 2) The employer shall not be liable for any injury intentionally caused by the injured worker himself; any injury resulting from the following acts in particular shall be deemed to be intentionally caused by the worker;
 - a. Non-obedience of express safety instructions or non-observance of the provisions of accident prevention rule specifically issued by the employer; or
 - b. Reporting to work in a state of intoxication that prevents him from properly regulating his body or understanding.
- 3) The provisions of sub-article (1) of this Article shall not affect the right the right of a worker to claim damages in accordance with the relevant law where an occupational injury is a result of fault on the part of the employer.

97. Occupational Accident

For the purpose of this Proclamation “Occupational accident” means 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 and includes;

- a) any injury sustained by worker while carrying out the employer's order, even away from the work place or outside his normal hours of work;
- b) any injury sustained by a worker before or after his work or during any interruption of work if he is present in the work place or the premises of the undertaking by reason of his duties in connection with his work;
- c) any injury sustained by a worker while he is preceding to or from place of work in a transport service vehicle provided by the undertaking which is available for the common use of its workers or in a vehicle hired and expressly destined by the undertaking for the same purpose;
- d) any injury sustained by a worker as a result of an action of the employer or a third party during the performance of his work.

98. Occupational Disease

- 1) For the purpose of this Proclamation an "occupational disease" means any pathological condition whether caused by physical, chemical or biological agents which arise as consequence of:
 - a. the type of work performed by the worker; or
 - b. the surroundings in which the worker is obliged to work during a certain period prior to the date in which the disease become evident.
- 2) Occupational disease shall not include endemic or epidemic disease which is prevalent contracted in the area where the work done, except in the case of workers exclusively engaged in combating such disease by reason of their occupation.
- 3) The minister shall in consultation with the concerned authority issue, directives which contain schedules listing diseases to be of occupational origin. The said schedule shall be revised at least every five years.

- 4) The occurrence of any of the disease listed in the relevant schedule on any worker having been engaged in anyone of the corresponding types of work specified therein, shall by itself, constitute sufficient proof of the occupational origin of the disease.
- 5) Notwithstanding sub-article (4) of this Article, proof shall be permitted to establish the occupational origin of a disease not listed in the relevant schedule and of diseases listed in the relevant schedule and of diseases listed when they manifest themselves under conditions different from those establishing a presumption of their occupational origin.
- 6) In the absence or proof to the contrary, any disease which occurs frequently only to persons employed in certain occupations shall be presumed to be of an occupational origin where the worker suffering from such a disease was engaged in such an occupation and the existence of the disease is ascertained by medical doctor.
- 7) The date on which an occupational disease became evident, i.e. the first date on which the worker became incapacitated or the date of the first medical diagnosis of the disease or the date of the injured worker's death, shall be considered as the date on which an employment injury occurred.
- 8) Where a worker after being cured from an occupational disease listed in the relevant schedule, contracts the disease again as a result of his being engaged in anyone of the corresponding work specified in the said list, it shall be presumed that he has contracted a fresh occupational disease.

SECTION TWO

Degree of Disablement

99. General

- 1) "Disablement" means any employment injury as a consequence of which there is a decrease or loss of capacity to work.
- 2) Disablement shall have the following effects:
 - a. temporary disablement
 - b. permanent partial disablement
 - c. permanent total disablement and
 - d. death.

100. Temporary Disablement

Temporary disablement results from the reduction for a limited period of time of the worker's capacity for work partially or totally.

101. Permanent Partial or Total Disablement

- 1) "Permanent partial disablement" means incurable employment injury decreasing the injured worker's capacity.
- 2) "Permanent total disablement" means incurable employment injury, which prevents the injured worker from engaging in any kind of remunerated work.
- 3) Injuries which, although not resulting in incapacity for work, cause serious mutilation or disfigurement of the injured person shall be considered permanent partial disablement, for the purpose of compensation and other benefits.

102. Assessment of Disablement

- 1) The degree of permanent total or partial disablement shall be fixed in accordance with the assessment table of disablement prescribed by directives issued by the Minister.
- 2) The degree of disablement shall be assessed in accordance with the assessment table provided for in sub-article (a) of this Article, by a competent medical board. The board shall determine the extent of the degree of disablement as far as possible within twelve months from the date of injury.
- 3) Disablement which has been assessed may be reviewed in accordance with sub-articles (1) and (2) of this Article where the worker's condition deteriorates or improves or is wrongly diagnosed:
 - a. on the imitation of the appropriate authority, or
 - b. at the request of the worker or employer concerned.
- 4) Where the result of the review warrants it, the rights of the worker to a disablement benefit shall be recognized or withdrawn or that the rate payable increase or reduced, as the case may be.
- 5) Where a worker who suffered an employment injury sustains a further employment injury, his disablement shall be reassessed in light of his new circumstances.

CHAPTER THREE
Benefits in the Case of Employment Injuries
SECTION ONE
GENERAL

103. Payment of Benefits

Injury benefits shall be paid in accordance with the provisions of this Chapter.

104. Special Obligation

- 1) An employer shall have to execute the following obligations:
 - a. to provide the injured works with first aid in time;
 - b. to carry the injured worker by an appropriate means of transport to the nearest medical center;
 - c. to notify the occurrence to the appropriate organ in accordance with the directives issued by the minister.
- 2) The employer shall have the obligation to pay the funeral expenses specified under Article 10 (1) (b).

SECTION TWO

Medical Benefits

105. Types of Benefits

Where a worker sustains employment injury, the employer shall cover the following expenses:

- 1) general and specialized medical and surgical care;
- 2) hospital and pharmaceutical care;
- 3) any necessary prosthetic or orthopedic appliances.

106. Duration of Benefit

Medical benefits shall be withdrawn in accordance with the decisions of the Medical Board.

SECTION THREE
Various Kinds of Cash Benefits

107. General

- 1) A work who has sustained employment injury shall be entitled to:
 - a. periodical payment while he is temporarily disabled;
 - b. disablement pension or gratuity or compensation where he sustains permanent disablement;
 - c. survivors; pension gratify or compensation to his dependant where he dies.
- 2) Periodical payment may be suspended where a worker who has claimed or is receiving same:
 - a. refuses or neglects to submit himself to medical examination or in any way intentionally obstructs or unnecessarily delays such examination;
 - b. behaves in a manner calculated to retard his recovery; or
 - c. violates the directives issued by the competent authority for the conduct of injured workers.
- 3) As soon as the circumstances that occasioned the suspension ceases, the periodical payment shall recommence, provided, however that there shall be no entitlement to back-pay for the period of suspension.

108. Periodical payment

- 1) The employer shall pay for one year the periodical payment mentioned in Article 107 (1) (a)
- 2) The periodical payments referred to in sub-Article (1) of this Article shall be at the rate of full wage of the worker previous average yearly wages during the first three months following the date of injury, not less than 75% (seventy five percent) of the worker previous average yearly wages during the next three months following the date of injury and not less than 50% (fifty percent) of his previous average yearly wages for the remaining six months.
- 3) Periodical payments shall cease whichever of the following takes place first:
 - a. When the worker is medically certified to be no longer disabled;

- b. On the day the worker becomes entitled to disablement pension or gratuity;
- c. Twelve months from the date the worker stopped work.

109. Disablement Payments

- 1) Unless otherwise provided for in a collective agreement disablement benefits payable to workers of state enterprises covered under this Proclamation shall be in accordance with the insurance scheme arranged by the undertaking or pension law.
- 2) An employer shall pay a lump sum of disablement compensation to workers who are not covered by the pension law.
- 3) The amount of the disablement compensation to be paid by the employer shall be:
 - a. where the injury sustained by the worker is permanent total disablement, a sum equal to five times his annual wages;
 - b. where the injury sustained by the worker is below permanent total disablement a sum proportionate to the degree of disablement calculated on the basis of the compensation provided for in Sub-Article (3) (a) of this Article.
- 4) Where a worker who has sustained permanent disablement was at the date of the injury on apprentice, his disablement compensation payable in accordance with Sub-Article (2) of this Article, shall be calculated by reference to the wages which he would probably have been receiving as a qualified workman after the end of his studies.

110. Dependants' Benefits

- 1) Where a worker or an apprentice dies as a result of an employment injury, the following benefits shall be payable:
 - a. dependant's compensation in accordance with the provisions of Sub-Articles (2) and (3) of this Article; and
 - b. subject to the provisions of a collective agreement or work rules, payment for funeral expenses which shall be not less than two month wages of the worker.
- 2) The following shall be considered dependants
 - a) the worker's widow or widower;
 - b) children of the deceased worker who are under eighteen years of age;

- c) any parent who was being supported by the deceased worker.
- 3) The amount of the dependants compensation for workers not covered by the Public servants pension law, shall be a Sum equal to five times the annual salary of the deceased and for those stipulated under Sub-Article 2 of this Article by the employer at once;
 - (a) 50% (fifty percent) for the deceased worker's lawful husband or wife;
 - (b) 10% (ten percent) each for the deceased worker's children who are below the age of fifteen years old;
 - (c) 10% (ten percent) each for the deceased worker's parents who were being supported by him;
- 4) If the total of dependents' compensation calculated in accordance with Sub-Article 3 of this Article is in excess of one hundred percent (100%) of the total amount to be divided, the amount of compensation of each dependent shall be proportionately reduced by the amount required to reduce the total amount payable to one hundred percent (100%) of the said total amount. If the total of dependents compensation is less than one hundred percent (100%) of the total amounts to be divided, the amounts of compensation of each dependent shall be proportionately increase by the amount payable to one hundred percent (100%).

111. Benefits not Taxable

The benefits referred to in Article 110 shall not be payable where the worker dies after twelve months from the date of the injury, unless it is proved that the injury was the principal contributory cause of his death.

112. Benefits not Taxable

- 1) The benefits paid in accordance with the provisions of this Section shall be free from any kind of tax.
- 2) The benefits payable under the provisions of this Section shall not be assigned, attached or deducted by say of setoff.

Appendix D:

Labour Inspector inspection report

ለጃማይካ ጫማ ፋብሪካ

አዲስ አበባ፤

ጉዳዩ፡-መሰረታዊ የስራ ሁኔታ እና የሙያ ደህንነትና ጤንነት ቁጥጥር ውጤትን ይመለከታል፡፡

በአሰሪና ሠራተኛ ጉዳይ አዋጅ ቁጥር 377/96 አንቀጽ 178 እና179 ለስራ ሁኔታ ተቆጣጣሪዎች በተሰጠው ስልጣንና ተግባር መሰረት ጥቅምት 21 ቀን 2004 ዓ.ም በድርጅታችሁ በመገኘት በመሰረታዊ የስራ ሁኔታዎች፣ የሙያ ደህንነትና ጤንነትን በተመለከተ የስራ ላይ ቁጥጥር ማድረጋችን ይታወቃል፡፡በቁጥጥሩ ወቅት የታዩ ጠንካራ ጎኖች እንዲበረታቱ እና መሻሻል የሚገባቸው ደግሞ እንዲሻሻሉ ይህንን መመሪያ ከዚህ እንደሚከተለው እናቀርባለን፡፡

1.በመሰረታዊ የስራ ሁኔታዎች እና የሙያ ደህንነትና ጤንነት ቁጥጥር ወቅት የታዩ

1.1. ጠንካራ ጎኖች

- አዋጁን መሰረት ያደረገ የስራ ውል መኖሩ፤
- የተለያዩ ፈቃዶች ማለትም የዓመት፣ የሀመምና ሌሎች ልዩ ልዩ ፈቃዶች ከሠራተኛው ማህደር ጋር የተያያዙ መሆናቸው፤
- አዋጁን መሠረት ያደረገ የትርፍ ሰዓት ክፍያ እና ያልተሸራረፈ ከ24 ሰዓት የማያንስ የሳምንት እረፍት መኖሩ፤
- በሀዘብ በዓላትና በሳምንት እረፍት ለሚሰሩ ሠራተኛ አዋጁን መሠረት ያደረገ ክፍያ መፈፀሙ እና የትርፍ ሰዓት ማቀናገሻ ፎርማት መኖሩ፤

1.2. መሻሻል የሚገባቸው

1.2.1 የተደራጀ የሠራተኛ መዝገብ አያያዝ አለመኖሩ፤

ምንም እንኳን በአዋጁ መሰረት ከላይ የዘረዘርናቸው ሁኔታዎች ተሟልተው ብንመለከትም የሰራኞቹ ፋይል የተደራጀ አይደለም የተመለከተናቸው የሠራተኞች መረጃዎች የተበታተኑ ስለሆኑ ሁሉም የሰራተኞች መረጃዎች በራሳቸው ፋይል ውስጥ እንዲቀመጥ ቢደረግ፡፡

2. ምቹ የስራ አካባቢን (safe Working environment) በተመለከተ

በአሰሪና ሠራተኛ ጉዳይ አዋጅ ቁጥር 377/96 አንቀጽ 92/6 ማንኛውም አሠሪ የድርጅቱ የሥራ ቦታና ግቢ በሠራተኞች ደህንነትና ጤንነት ላይ አደጋ የማያስከትል መሆኑን ይቆጣጠራል። በተጨማሪም በዚህ አዋጅ አንቀጽ 92/7 በድርጅቱ ልዩ ልዩ የስራ ሂደት ያሉት ፊዚካዊ፣ ኬሚካዊ፣ ባዮሎጂካዊ፣ ኢርጎኖሚካዊና ሥነ ልቦናዊ ምንጮችና ምክንያቶች በሠራተኞች ደህንነትና ጤንነት ላይ ጉዳት እንዳያደርሱ ተገቢውን ጥንቃቄ ያደርጋል። ነገር ግን በቁጥጥሩ ወቅት በተለያዩ የፋብሪካው የስራ ክፍሎች ክፍሎች ተሟላሪን እንደተመለከተነው ፋብሪካው ምቹ የስራ አካባቢ እንደሆነና የፋብሪካው ንፅህና የተጠበቀ ስለሆነ ይህም ለሠራተኞች ደህንነትና ጤንነት አመቺ መሆኑን ተመልክተናል።

2.1 የነፍስ ወከፍ መከላከያ መሳሪያዎችን (personal protective equipment) በተመለከተ

ከድርጅታችሁ የስራ ባህሪ አንጻር የተወሰኑ ማሽኖች ሰራተኞች ላይበቀላሉ አደጋ ሊያደርሱ የሚችሉ በመሆናቸው ይህንን ለመከላከል ያመች ዘንድ የነፍስ ወከፍ መከላከያ መሳሪያዎች (personal protective equipment) ወሳኝነት አላቸው። በአሠሪና ሠራተኛ ጉዳይ አዋጅ ቁጥር 377/96 አንቀጽ 92/3 ማንኛውም አሠሪ የሠራተኞችን ደህንነትና ጤንነት በሚገባ ለመጠበቅ ለሠራተኞች የአደጋ መከላከያ መሳሪያ፣ ልብስና ሌሎች ቁሳቁሶችን ያቀርባል። ስለ አጠቃቀሙም መመሪያ ይሰጣል። በቁጥጥሩ ወቅት እንደተመለከተነው በሁሉም የጫማ መስሪያ ማሽኖች ላይ የአጠቃቀም መመሪያ ሰራተኛው በሚያየው ግልፅ ቦታ ላይ ተለጥፎ ተመልክተናል። ይህም ማሽኑን የሚያንቀሳቅሰው ሠራተኛ ሥራውን በጥንቃቄ እንዲያከናውን ይረዳዋል ። ነገር ግን

- በመርጫ መሳሪያቸውም የሚቀቡ ሰራተኞች የእግልግሎት ጊዜው ያለፈ የመተንፈሻ መከላከያ አርገው ሲሰሩ ተመልክተናል። ይህ ደግሞ ለሠራተኞች የደህንነት መቃወስና ለተለያዩ በሽታዎች በቀላሉ ሊጋለጡ ስለሚችሉ ፋብሪካው ደረጃውን የጠበቀ የመተንፈሻ መከላከያ መሳሪያ ለሠራተኛው እንዲያሟሉ እናሳስባለን።

2.2 የእሳት አደጋ መከላከያ መሳሪያ በተመለከተ

በድርጅቱ ውስጥ የእሳት አደጋ ቢነሳ ከመስፋፋቱ በፊት ከምንጩ ለመቆጣጠር ይቻል ዘንድ አግባብ ያለው የእሳት አደጋ መከላከያ መሳሪያ (fire extinguishers) ግልፅ በሆኑና በመድረደሪያዎች ላይ

ከወለል 1.5 ሜ ከፍታ እና ወደ ጎን 15ሜ እስኪያስኬድ ድረስ ሊኖር ይገባል። በቁጥጥር ወቅት እንደተመለከተ ነው። በፋብሪካው ውስጥ በቂ የእሳት አደጋ መከላከያ መሳሪያዎች በፋብሪካው ውስጥ ያሉ ሲሆን በፋብሪካው እሳት ቢነሳ የአደጋ ጊዜ መውጫ በር የተዘጋጀ መሆኑ ፋብሪካው ምን ያህል ለደህንነት እንደሚጨነቅ ያመለክታል ይህም ጉዳይ የሚያስመሰግንና ለሌሎች ደርጅቶች አርዳታ የሚሆን ነው።

2.3 የመጀመሪያ ደረጃ ሕክምና እርዳታ መስጫ ዕቃዎች መያዣ ሳጥን

የመጀመሪያ ደረጃ ሕክምና መስጫ ሳጥን አስፈላጊ በሆኑ መድሃኒቶችና መሳሪያዎች ተሟልቶ በስራ አካባቢዎች መቀመጥ አለበት። ይህ ሲሆን ቀላል አደጋ ሲከሰት በቀላሉ እርዳታ መስጠት ይቻላል። በአንጻሩ ከፍተኛ አደጋዎች በሚከሰቱበት ጊዜ ደግሞ መለስተኛ እርዳታ በመስጠት ወደ ጤና ተቋማት ለማድረስ ያስችላል። ነገር ግን በቁጥጥሩ ወቅት እንደተመለከትነው የመጀመሪያ ደረጃ ሕክምና ከተሟላ መድሃኒቶችና መሳሪያዎች የሌላ በመሆኑ ከዚህ መመሪያ ጋር አባሪ አድርገን በላክነው ስታንዳርድ መሠረት እንድታዘጋጁ እናሳስባለን።

ሀ. አጠቃላይ ነገሮች

- ✓ በቅርብ ጊዜ የታተመ የመጀመሪያ ሕክምና እርዳታ መመሪያ (ማንጥል)
- ✓ አንድ ጥንድ ለአንድ ጊዜ ብቻ የሚያገለግል የእጅ ቅንት(ግላቭ)
- ✓ አንድ ለአንድ ጊዜ ብቻ የሚገለግል ነፍስ አድን ጭምብል(ሬስሲቴሽን ማስክ) ከአንድ ባልቦላ ጋር
- ✓ አንድ ለአንድ ጊዜ ብቻ የሚገለግል ኮልድ ኮምፕራስ
- ✓ አንድ ደርዘን መርፌ ቁልፎች(ሴፍቲ ፒን)
- ✓ አንድ ስፕሊንተር ፎርሴፕሽን
- ✓ አንድ ጥንድ አሥራ ሁለት (12) ሴንቲ ሜትር የሆነ የፋሻ መቁረጫ መቀስ (ባንዴጅ ሌዘር)
- ✓ ሃያ አምስት(25) አንቲሴፕቲክ ስዋብስ (በፀረ-ሕዋሳት መድሃኒት የራሱ የጥጥ እንክብሎች) ለምሳሌ፡ አልኮል፣ ሳፍራኒን...

ለ. ለቁስል ማሽጊያ የሚያገለግሉ ነገሮች (ድሬሲንግ) እያንዳንዱ ዕቃ ከልክፍት(Infection) የፀዳ እንዲሆን እና ይህንኑ ጽዳቱን ለመጠበቅ ለየብቻው የተጠቀለለ መሆን አለበት፤

- ✓ አስራ ስድስት(16) የተደራረቡ ስስ ለቀዶጥን የሚያስፈልጉ ፋሻዎች(Soft gauze&bandage) (7.5 ሴንቲ ሜትር ስኩዌር)

- ✓ አራት(4) አጣባቂ ያልሆኑ የተደራረቡ ፋሻዎች (Non-adhesive) (7.5 ሴንቲ ሜትር በ10 ሴንቲ ሜትር)
- ✓ ሠላሳ ሁለት (32) ተጠባባቂ ለቁስል ማሸጊያ የሚያስፈልጉ ነገሮች(2.5 ሴንቲ ሜትር ስፋት ያላቸው)
- ✓ ሁለት (2) ፕሬሰር ድሬሲንግ

ሐ. ባንዴጅስ(ፋሻዎች)

- ✓ ሶስት(3) ሶስት መዓዘን ፋሻዎች (Gauze) እያንዳንዱ አሥር ሴንቲ ሜትር
- ✓ ሁለት ጥቅል 2.5 ሴንቲ ሜትር ርዝመት ያላቸው ተጠባባቂ ጥብጥቦች (Adhesive tap)
- ✓ አንድ ጥቅል 7.5 ሴንቲ ሜትር ፕላስቲር
- ✓ ሁለት ጥቅል 7.5 ሴንቲ ሜትር የመወጠሪያ (Tensor bandage)
- ✓ አንድ ጥቅል ቱቦ መሳይ የጣት ፋሻ (Tubular finger bandage)ከመድሃኒት መቀበያ ጋር

2.4 የመፀዳጃ ቤት (Bath room) እና የልብስ መቀየሪያ በተመለከተ

ከድርጅቱ የስራ ፀባይ አካያ ሠራተኞች ከስራ ወደ ቤታቸው ከመሄዳቸው በፊት የግል ንፅህናቸውን የሚጠብቁበት መታጠቢያ፣ ልብሳቸውን የሚቀያይሩበትና የሚያስቀምጡበት ክፍል በሠራተኛው ቁጥር ሊዘጋጅ ይገባል። ነገር ግን በቁጥጥሩ ወቅት እንደተመለከትነው የልብስ መቀየሪያና ፋብሪካው የሌለው መሆኑን አረጋግጠናል እንዲሁም የሰራተኞች የልብስ ማስቀመጫ ቦታ ባለመኖሩ የሴት ቦርሳዎች ግድግዳዎች ላይ ተሰቅለው ተመልክተናል። ያሉት መፀዳጃ ቤቶችና መታጠቢያ ቤቶች ንፅህናቸው የተጠበቀ ነው ነገር ግን ፋብሪካው አቅም በፈቀደ ቁጥር የሰራተኞቹን ቁጥር ያገናዘበ መፀዳጃ ቤቶች በኖሩ ፋብሪካውን ጠንካራ ጎኖች በለጠ ያጠናክረዋል። ስለዚህ በጤና ጥበቃ ሚኒስቴር የመፀዳጃ ቤት አጠቃቀም በወጣው ስታንዳርድ መሰረት የሠራተኛን ቁጥር ያገናዘበ ሽንት ቤትና ሻወር ቤት በሚከተለው መልኩ ቢዘጋጅ ጠቀሜታው ጎላ ነው።

የሠራተኞች ብዛት	የመፀዳጃ ቤቶች ብዛት		የውሃ ሽንት መቀበያ ዕቃዎች(ዩሪናልስ)	የገላ መታጠቢያ ወራጅ ውሃዎች፣ የእጅና ፊት መታጠቢያ ብዛት	
	የወንዶች	የሴቶች		የእጅና ፊት	የገላ መታጠቢያ
1-5	1	1	1	1	1
6-10	2	2	2	2	2
11-20	2	2	2	2	2
21-30	3	3	3	3	3
31-40	4	4	4	4	4
41-50	4	4	4	4	4
51-60	5	5	5	5	5
61-70	5	5	5	5	5
71-80	5	5	5	5	5
81-90	6	6	6	6	6
91-100	6	6	6	6	6
ከ101 በላይ	7	7	7	7	7

2.5 የሴፍቲ ኮሚቴን በተመለከተ

ማንኛውም የስራ ቦታ ወይም ፋብሪካ ወይም ድርጅት በተቋቋመ በስድስት ወር ጊዜ ወይም የሠራተኞቹ ቁጥር ከ10 በላይ ከሆነ የሙያ ደህንነትና ጤንነት ተከታታይ ኮሚቴ እንደሚቋቋም በአሠሪና ሠራተኛ ጉዳይ አዋጅ ቁጥር 377/96 አንቀፅ 92/2 በግልጽ ተደንግጓል። አላማውም በስራ ምክንያት የሚከሰቱ የስራ ላይ አደጋዎችን ለመቀነስና አደጋ ከመከሰቱ በፊት ተገቢውን ስልጠና የሚሰጥና የሚቆጣጠር እንዲሁም የሚከሰቱ የስራ ላይ አደጋዎችን በየጊዜው ለስራ ሁኔታ መቆጣጣሪያ አገልግሎት ሪፖርት የሚያደርግ ሲሆን ከዚህ በታች በተላከላችሁ መመሪያ መሠረት መርጣችሁ ለቡ መብራት ኃይል አካባቢ ቢሮ ቁጥር 406 በሚገኘው ሠራተኛና ማህበራዊ ጉዳይ ጽ/ቤት ሪፖርት እንድታደርጉ እናሳስባለን።

2.6 የሠራተኞች መዝናኛን በተመለከተ

የሰው ልጅ በስራ የተጨናነቀ አዕምሮውን ለማደስ ከሚያስፈልጉት መሰረታዊ ነገሮች መካከል በወቅቱ ትኩስ ወይም ቀዝቃዛ መጠጦችና በአለማችን ላይ የተከናወኑ ተግባራትን ለማወቅ የሚያስችል ቴሌቪዥን ወይም ሬድዮ በመሆኑ ጥሩና ትርፋማ ስራ ለማሰራት ሲባል ድርጅታችሁ ባዘጋጀው መዝናኛ ቦታ ትኩስና ቀዝቃዛ መጠጦችን ከውጭ የሚያቀርብ ሰው በመወከል ወይም ድርጅቱ ራሱ በማቅረብ እና በመዝናኛ ቦታ አካባቢ ለመረጃም ሆነ ለመዝናኛ የሚያስፈልጉ ነገሮችን ሁሉ ማቅረብ ሠራተኞችንም ሆነ ራሱ አሠሪው በመዝናኛት ወደ ስራ ቢገቡ የተሻለ መሆኑን ይታመናል ዚህ ረገድ ፋብሪካችሁ ደረጃውን የጠበቀ የሰራተኞች መመዘኒያ እና መዝናኛ ቦታ ማዘጋጀቱ በጣም ሚያስመሰግንና ለሌሎች አርጋያ የሚሆን ስለሆነ በዚህ እንዲቀጥል እንጠቁማለን።

27 የስራ ላይ አደጋ ሪፖርት በተመለከተ

ድርጅቱ የስራ ላይ ካሉት ከሰራተኛ ስህተትና መዘናጋት ወይም ካልተስተካከሉ የስራ ሁኔታዎች ጋር ተያያዥነት ባለው መልኩ የሚከሰቱ የስራ ላይ አደጋዎችን በመያዝ ለቡ መብራት ኃይል አካባቢ በሚገኘው ን/ስ/ላ/ክ/ከተማ ሠራተኛና ማህበራዊ ጉዳይ ፅ/ቤት በሥራ ሥምሪት አሰሪና ሠራተኛ ጉዳይ እኩልደር ዋና የስራ ላይ ከዚህ መመሪያ ጋር አባሪ አድርገን በላክልናችሁ ፎርማት መሰረት በየወሩ ሪፖርት እንድታደርጉ እናሳስባለን።ይህም በመዲናችን ብሎም በክፍለ ከተማችን በሚገኙ እንዲሁትሪዎች ውስጥ እንደ ኢንዱስትሪው አይነት በብዛት የሚከሰቱ የስራ ላይ አደጋዎችን ምክንያት፣የባከኑ ጊዜያት እና የወጡት አላስፈላጊ ወጪዎችን ለማስቀረት፣በአገር አቀፍ ደረጃ ለሚካሄደው የስራ ላይ አደጋዎች ጥናትና ምርምር መረጃ በመስጠት የመፍትሄ ሀሳብ ለማፈላለግ እና የሙያ ድጋፍ በመስጠት ምርትና ምርታማነት ለማሳደግ አስተዋፅኦ ያለው በመሆኑ ይህን በመረዳት በላክነው ቅጽ መሰረት ሪፖርት እንድታደርጉ እናሳስባለን።

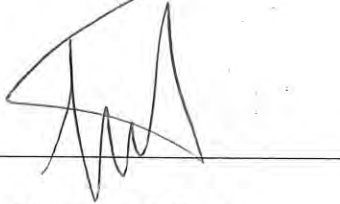
በመጨረሻም ከላይ ከ1-1 .2.6 የተዘረዘሩትን ሁሉ እንድታስተካክሉ እያሳሱን ተፈጻሚነታቸውን ለማረጋገጥ በቅርብ ጊዜ የመከታተያ ቁጥጥር የምናካሄድ መሆኑን እናሳውቃለን።

ከሰላምታ ጋር

DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Dr, Berhane Mehary .All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning a degree.

Dereje Fikre Wondimagegne



Name

Signature & Date

ENDORSEMENT

This thesis has been submitted to The Addis Ababa University, School of Graduate studies College Development Studies Department of Urban Development And Management for examination with my approval as a university advisor.

Berhane Mehary (PhD) _____

Advisor

Signature & Date

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