ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF PUBLIC ADMINISTRATION AND DEVELOPMENT MANAGEMENT

THE PRACTICES AND CHALLENGES OF OCCUPATIONAL HEALTH AND SAFETY IN ETHIOPIA: THE CASE OF AKAKI TEXTILE AND GARMENT FACTORY

BY: Solomon Tibebe

A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTERS OF ARTS IN PUBLIC ADMINISTRATION AND DEVELOPMENT MANAGEMENT

NOVEMBER, 2014

ADDIS ABABA, ETHIOPIA

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BY: Solomon Tibebe

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DECEMBER, 2014

ADDIS ABABA, ETHIOPIA

DECLARATION

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

Name: _____

Signature: _____

Place: Addis Ababa, Ethiopia

Date of submission: _____

This thesis has been submitted for examination with my approval as a university advisor.

Name: _____

Signature: _____

Date: _____

ACKNOWLEDGEMENT

Firstly, I would like to thank the Almighty God for granting me the power and courage to finish my study.

I wish also render my profound and heartfelt gratitude to my advisor Doctor Worku Mekonnen (Addis Ababa University). I am exceedingly grateful to him for his responsible and constructive suggestions, valuable contributions and constructive criticisms for making this work what is today. All these contributions put this work to its rightful perspective.

My undeserved thanks also to the respondents from the four working categories of ATF who were randomly selected for the study for their maximum support and co-operation for making data available which contributed to the success of this work.

I would be ungrateful if I don‘t mention my family members, Gete, Elsabeth, Lidia, Rahel, Mahlet and Abenezer. What you have done for me is immeasurable and cannot be quantified. Thank you so much and God bless you all.

Finally, I wish to express my sincere gratitude to all teachers in the department especially those who have been a source of my academic progress for their support and contributions towards my studies in AAU.

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List of Abbreviation

EPA - Environmental Protection Authority

GNP - Gross National Production

GoA - Government of Alberta Edmund ton

HSE- Health and Safety Executive

ILO - International Labour Organization

MOH - Ministry of Health

MOLSA - Ministry of Labour and Social Affairs

NIOSH - National Institute of Occupational Safety and Health

OHS - Occupational Health and Safety

OSHA - Occupational Safety Hazard Act

PADM- Public Administration and Development Management

PPE- Personal Protective Equipment

UVR-Ultra Violet Rays

WHO - World Health Organization

ABSTRACT

The study assessed the current challenges of occupational health and safety practices and the extent of occupational health hazards of the textile workers as well as the cost implication of these work-related incidents and diseases among ATF. Four main categories of Akaki textile and garment factory workers were targeted in AACA. The sample consisted of 240 workers taking respondents randomly from each of the four work categories according to their workers number proportionately. The study indicated that work in the factory severely affected worker's health, as most activities are insecure, hazardous and take place in unhealthy and unsafe environment. In the study area the particular nature of work in the integrated textile manufacturing created various types of health hazards among the selected respondents such as headache, eye and skin infection, back and chest pain, asthma, loss of interest and mental fatigue. Results of the study showed that the highest 32 percent of the workers reported that they were affected by physical hazards, followed by 26 percent by chemical hazards and the total economic cost of work related injuries and illness among the four work departments for the last Ethiopian budget year(2013/2014) was Birr. 13,090. From the foregoing, a major recommendation is that both government and employing authority should ensure that they adhere strictly to International Labour Organization safety and working conditions or standard in order to increase productivity through improved welfare and health of workers.

CHAPTER ONE

INTRODUCTION

In this chapter, the background of the study, statement of the problem, research questions, objectives of the study, scope and limitation of the study, organization of the study, and key operational definition have been treated one after the other.

1.1. Background of the Study

–Occupational health" deals with all aspects of health and safety in the workplace and has a strong focus on primary prevention of hazards (MOLSA, 1997). The health of the workers have several determinants, including risk factors at the workplace leading to cancers, accidents, musculoskeletal diseases, respiratory diseases, hearing loss, circulatory diseases, stress related disorders, communicable diseases and others (WHO, 2014).

–Occupational Safety" has been defined as the condition of being free from danger of harm and as a legal concept (Gray, 1990). It also implies as state of relative security from accidental injury or death due to measures designed to guard against accidents (Burdine and Mc Leroy, 1992). According to Encyclopedia Americana (1998), safety is the condition of being free from danger or harm. According to ILO (1996), occupational safety and health can be defined as a multidisciplinary activity aiming at:

- Promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations;
- the prevention among workers of adverse effects on health caused by their working conditions;

- Protection of workers in their employment from risks resulting from factors adverse to health;
- the placing and maintenance of workers in an occupational environment adapted to physical and mental needs; and
- the adaptation of work to humans.

The prime objective of OHS at a global level is to ensure that health and safety is accessible to every worker employed in any sector across the economy. According to the Global Strategy on Occupational Health for All document the ten high priority objectives(development of healthy work environment, strengthening international and national policies, establishment of information management system, strengthening research, etc) proposed by the strategy stress upon the significance of primary prevention and encourage countries (receiving support from WHO), to devise national policies and programmes for occupational health with required infrastructure and resources for occupational health. The importance of devising national policies further lays emphasis on the role of the government (W H O, 1995).

Occupational health and safety is a multi-disciplinary field, covering issues related to law, medicine, technology, economics and industry specific concerns. The core eleven occupational health and safety principles put forth by the ILO are as follows:

i. All workers have rights. Workers, as well as employers and government, must ensure that these rights are protected and foster decent conditions of labour.

   As the International Labour Conference stated in 1984:

   - Work should take place in a safe healthy environment

- Conditions of work should be consistent with workers‘ well-being and human dignity
- Work should offer real possibilities for personal achievement, self fulfillment and service society.

ii. Occupational health and safety policies must be established. Such policies must be implemented at both the governmental and enterprise levels. They must be effectively communicated to all parties concerned.

iii. There is a need for consultation with the social partners (that is, employers and workers) and other stakeholders. This should be done during the formulation, implementation and review of such policies.

iv. Prevention and protection must be the aim of occupational health and safety programmes and policies. Efforts must be focused on primary prevention at the workplace level. Workplaces and working environment should be planned and designed to be safe and healthy.

v. Information is vital for the development and implementation of effective programmes and policies. The collection and dissemination of accurate information on hazards and hazardous materials, surveillance of workplaces, monitoring of compliance with policies and good practices, and other related activities are central to the establishment and the enforcement of effective policies.

vi. Health promotion is a central element of occupational health practice. Efforts must be made to enhance workers‘ physical, mental and social well- being.

vii. Occupational health services covering all workers should be established. Ideally

all workers in all categories of economic activity should have access to such services, which aim to protect and promote workers‘ health and improve working conditions.

viii. Compensation, rehabilitation and curative services must be made available to workers who suffer occupational injuries, accidents and work related diseases. Action must be taken to minimise the consequences of occupational hazards.

ix. Education and training are vital components of safe, healthy working environments. Workers and employers must be made aware of the importance and the means of establishing safe working procedures. Trainers must be trained in areas of special relevance to different industries, which have specific OHS concerns.

x. Workers, employers and competent authorities have certain responsibilities, duties and obligations. For example, workers must follow established safety procedures; employers must provide safe workplaces and ensure access to first aid; and the competent authorities must devise, communicate and periodically review and update occupational health and safety policies.

xi. Policies must be enforced. A system of inspection must be in place to secure compliance with occupational health and safety and other labour legislation (Alli, 2001).

Implementation of such principles requires appropriate legal provisions, administrative enforcement and service systems for occupational safety and health and occupational health services.

Thus, the purpose of this study is to assess the current work-related practices and challenges in the selected textile industry and forward the necessary recommendation based on the result of the study.

1.2.Statement of the Problem

These days, the expansion of industrialization and mechanization in developing countries including Ethiopia has brought with its accompanying occupational health and safety issues. This new development has necessitated a fresh campaign for the protection of industrial workers from hazards which are unfavorable to their health, safety and welfare through the provision of occupational health services. Currently there is almost no documented verification of existing issues of occupational health and safety in relation to most industrial workers in Ethiopia in general Akaki Textile and Garment Factory workers in particular. In order to address these shortfalls, the research seeks to find out the occupational health and safety issues confronting Industrial workers in Addis Ababa City Admininistration with special reference of Akaki Textile Factory.

1.3 . Significance of the study

The aim of this research is to examine the practices and challenges of OHS in selected industry for the purpose of establishing the critical issues affecting the overall welfare and safety of industrial workers on selected industry, and thereafter make a recommendation towards addressing the shortfalls.

1.4. Research Questions

This section contains questions that guide the focus of the study in relation to what the

study intends to attain. Therefore, the study will be guided by the following research questions to answer the research problem.

- What are the contemporary occupational health and safety practices confronting workers in the selected industry?
- What are the key health and safety risks faced by product workers in the selected industry?
- What are the major economic costs of work-related injuries and diseases of workers in the selected industry?

1.5 Objective of the Study

The broad objective of the study is to assess health and safety issues regarding the selected industry in AACA.

The specific objectives of the study are assessing:

- Contemporary occupational health and safety practices confronting workers in the selected industry.
- Key health and safety risks associated with the selected industry.
- The socio-economic cost implications of injuries and diseases among injured workers in 2013/14.

1.6. Scope of the Study

This study is delimited to product workers of Akaki Textile and Garment Factory in Addis Ababa City Administration. In more specific terms the Spinning, Weaving, Finishing and dyeing and Cutting and sewing Units were targeted in the factory.

The above categories of works were selected because these units are the highest risky areas as the workers are exposed directly to the cotton, dust and a number of occupational hazards compared with other departments. The study therefore considered the key health and safety risks each of the category faces. The study also tries to examine the economic costs of occupational health injuries and diseases in the above mentioned units. The time scope of the study is six months i.e. from April to September 2014.

1.7 Organization of the Study

The organization and over all content of this study can be described as follows. The First chapter focuses on introduction which includes clarification of concepts and key principles of OHS, statement of the problem, research questions, objective of the study, scope and limitation of the study, research methodology, organization of the study, and operational definition.

The Second chapter focused on the review of literature related to OHS issues in developing countries as a whole with special attention on Akaki Textile and Garment Factory in AACA, Ethiopia. The third and fourth chapters deal with research methodology and data analysis, and presentation respectively. The final chapter concentrates on conclusion and recommendation on the overall study based on the analysis of collected data.

1.8 Operational Definition[1]

Hazard: a physical situation with a potential for human injury, damage to property, damage to the environment or some combination of these

[1] Many of the operational definitions presented on this part are taken from Ousman, OHS injuries at Tendaho Agricultural S.C. (2006).

Incident: an unsafe occurrence arising out of or in the course of work where no personal injury is caused, or where personal injury requires only first-aid treatment.

Labour Inspectorate: a government authority with the task of advising and giving directions on issues concerning the protection of workers and the work environment as well as checking that the protection provided is sufficient.

Occupational accident: an occurrence arising out of, or in the course of, work

which results in:

- fatal occupational injury or
- non-fatal occupational injury.

Occupational Hazards: In this study it refers to the undesirable effects of non conductive occupational environment manifested in the form of physical, chemical, biological, mechanical and psychosocial hazards.

- Physical hazards: That includes assaults, heat, cold UV rays and noise.
- Chemical hazards : That included fumes, dust and gases
- Mechanical hazards : that includes muscular sprain, back ache, joint pain, varicose veins etc.,
- Psychosocial hazards: That includes fatigue, headache, stress, depression and absenteeism.

Occupational Injury: death, any personal injury or disease resulting from an occupational accident.

Personal Protective Equipment (PPE): Utilization of the worker-specialized clothing

or equipment worn by employees for protection against health and safety hazards at the time of interview. Personal protective equipment is designed to protect many parts of the body, that is, eyes, head, face, hands, feet, and ears.

Workers' Representative: any person who is recognized as such by national law or practice

Work-related Disease: a disease with multiple causal agents which may include factors in the work environment.

CHAPTER TWO

RELATED LITERATURE REVIEW

This chapter reviews available literature on occupational health and safety (OHS) practices in developing countries, occupational risks and hazards, economic costs of occupational injuries and diseases, roles and responsibilities in OHS, approaches to improving OHS, International conventions, and the need for workplace OHS.

2.1 Key OHS Issues in Developing Countries

In general, it is possible to say that work-related injuries, illness and deaths has improved from time to time in most developed countries because of better health and safety programmes, improved medical facilities, and active participation of workers in the decision making process on occupational health and safety issues. However, the situation in developing countries is relatively unclear largely because of inadequate accident and disease recognition, record-keeping and reporting mechanisms. For instance, a survey conducted on occupational safety and health by ILO suggests that, 250 million occupational injuries, 160 million work-related diseases and 2 million deaths occur each year resulting in a loss of roughly 4% of the world gross national product due to worker‘s compensation, loss of workdays, interruption of production, retraining, and medical expenses. According to the new estimates of ILO (2005) the number of job-related accidents and illness, which annually claim more than 2 million lives, appears to be rising because of industrlization in some developing countries.

The occupational health problems affecting workers of any developing country are liable to be much more complicated and dangerous as compared to that of developed countries mainly because of the following four reasons:

i. Poor health status due to poverty, overcrowding, illiteracy, malnutrition, higher prevalence of infections, parasite and other diseases, lack of adequate medical and health care facilities and a host of other factors.
ii. Non-industrial illnesses form a major part of the health problem of Garments workers. In fact incidence of many common illnesses like respiratory illnesses (flue bronchitis, cough, and asthma), tuberculosis, peptic ulcer, dysentery etc. are higher among industrial workers as compared to the general population.
iii. Sickness absenteeism the major contributory factor to the total absenteeism.
iv. Lack of any laboratory facilities for monitoring, analyzing and assessing the harmful contaminants in the work environment and their effect on the health of the workers is causing health hazards (Nahar et al., 2010).

The Ghanaian Ministry of Health in Puplampu & Quartey (2012) also identified some OHS challenges in Ghana. These include weak OHS infrastructures, untrained and inadequate OHS professionals, and lack of proper monitoring and surveillances for occupational health and safety diseases and injuries.

In Ethiopia, a study done in Tendaho Agricultural Development Share Company (Osuman, 2007) showed that 783 per 1000 workers were injured in relation to their work. Another study done in Gondar (Abera, 2007), among construction workers and urban factory of Ketena One revealed that 335 per 1000 workers and 200 incidents per 1000 workers respectively.

In addition to this, Zewdie A. et al. (2011) cited Amhara National Regional State BOLSA (2007/8), that Amhara National Regional State, textile factories incidence rate was very high as compared with other sectors. As indicated in the study, textile factories accounted

about 35% of total reported injuries and the working rooms in both Bahir Dar and Kombolcha Textile factories are too hot; there are high speed rotating and unprotected machines and the working time shift causes workers to have sleep disturbance problem were among occupational injury risk factors.

2.2 Occupational Risks and Hazards

There are an unlimited number of hazards that can be found in almost any workplace and are caused by obvious unsafe working conditions, such as unguarded machinery, slippery floors or inadequate fire precautions. These dangerous hazards may be classified as follows:

i. chemical hazards(hazards arising from liquids, solids, dusts, fumes, vapors and gases);
ii. physical hazards(includes hazards such as noise, vibration, fire, poor sanitation radiation and extreme temperatures);
iii. biological hazards(includes hazards such as bacteria, viruses, and infectious waste);
iv. psychological hazards(hazards that resulting from stress and strain);
v. ergonomic hazards are hazards associated with the non-application of ergonomic principles, for example badly designed machinery, mechanical devices and tools used by workers, improper seating and workstation design, or poorly designed work practices(MOLSA, 1997).

Most workers are faced with a combination of these hazards at work. Some of the hazards that apply to the textile sector are explained below:

2.2.1 Noise

The Canadian Centre for Occupational Health and Safety identifies noise as one of the most common occupational health hazards. In heavy industrial and manufacturing environments, as well as in farms, cafeterias, permanent hearing loss is the main health concern. Noise, vibration, ionizing and non-ionizing radiation can all affect health adversely. Between 10 and 30 percent of the workforce in developed countries, and up to 80 percent of the workforce in developing are exposed to noise. Noise-induced hearing loss is one of the most prevalent occupational health effects in garages and construction works. The generally acceptable level of noise which is potentially damaging and result in deafness is 85dBA (Amedofu, 2002). It is therefore necessary to control noise by the use of ear plugs and ensuring workers are not exposed to noise for long hours.

2.2.2 Chemical Hazards

About 100,000 different chemical products are in use in modern work environments and the number is growing (SmartName, 2011). High exposures to chemical hazards are most prevalent in industries that process chemicals and metals, in the manufacture of certain consumer goods, in the production of textiles and artificial fibers, and in the construction industry. Chemicals are also increasingly used in virtually all types of work, including non-industrial activities such as hospital and office work, cleaning, and provision of cosmetic and beauty services. Health effects chemicals include metal poisoning, damage to the central nervous system and liver (caused by exposure to solvents), dermal and respiratory allergies, cancers and reproductive disorders. (US EPA, 2010)

2.2.3 Psychosocial Hazards

Working conditions do not only have physical effects on workers but there are psychological repercussions too which usually result in social and mental problems. According to OATUU (2003), psychosocial hazards cause fatigue, stress and general loss of interest in work. Monotonous work which requires constant concentration, irregular working hours and work carried out at risk of violence can also have adverse psychological effects. Psychological stress and overload have been associated with sleep disturbances, burn-out syndromes and depression.

The lack of adequate security in jobs and the presence of criminal elements also decrease the sense of physical security felt by workers (Johnston et al, 2008).

2.2.4 Ergonomic Hazards

It is not as such difficult to estimate that workers in developing countries are exposed to a heavy physical workload or ergonomically poor working conditions, involving much lifting and moving of heavy items, or repetitive manual tasks. Following are some of ergonomic hazards of textile sector:

- Working positions – standing and/or sitting
- Visual conditions
- Strenuous work
- Design of controls and tools(MOLSA, 1997)

2.3. Occupational Health Impacts

The great variety of occupational health hazards makes quantification of their associated health risks and impacts at the global level very difficult. Some estimates have been

based on the occupational injuries and diseases reported in official statistics notably ILO and World Bank documents. But a large number of injuries and diseases caused by workplace hazards are not reported (Joubert, 2002).

Due to the changes in occupational distribution with development, many countries have experienced a shift from the hazards that characterize work in agriculture, mining and other primary industries, to those of manufacturing industries or service industries. Following such a shift, occupational injuries and diseases could be expected to fall in number and the severity of those that do occur to be less. But, in fact, new occupational disease problems have emerged, leading to an increased incidence of reported occupational disease in certain developed countries. Occupational injuries and diseases have both social and economic costs, their determination of which is in the next section.

2.4 Costs of Occupational Injuries and Diseases [2]

Work-related accidents or diseases impose costs on employers, workers and the community. These include both direct and indirect costs. Some of the direct costs of an injury or illness include items such as the pain and suffering of the injury or illness, the loss of income, the possible loss of a job, health-care costs, payment for work not performed, medical and compensation payments, repair or replacement of damaged machinery and equipment, increased training expenses and administration costs and possible reduction in the quality of work.

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

[2]Much of the information presented in this part is based on ILO's OHS training module (ILO) and MOLSA training manual (1997).

incapacitated workers and the human suffering caused to workers' families. The level of costs borne by each economic agent varies with the severity of the injury or disease. While measures of direct costs are understood and reasonably simple to measure, these costs cover only a fraction of the total cost of work-related injury and disease.

Calculations of economic loss or burden can be based on a number of theoretical models. There is no definite model considered as the best among economists or policy analysts. Two approaches have been reviewed by Biddle (2001), and are considered dominant among the methods used to calculate the costs of injury, illness, or premature death: Cost-of-illness and willingness-to-pay. Both methods have strengths and weaknesses. The theories underlying the approaches as well as their strengths and weaknesses are discussed below:

2.4.1 Cost-Of-Illness

The Cost-of-illness (COI) method estimates the value of an occupational injury, illness, or fatality by summing the value of two components: direct and indirect costs.

2.4.2 Willingness to Pay Method

The willingness to pay approach measures the amount an individual would pay to reduce the probability of illness or mortality. There are various methods of determining an individual s willingness to pay, including surveys, examining the additional wages for jobs with high risks, examining the demand for products that lead to greater health or safety and other related methods (Dorman, 1996)

An essential assumption of this theory is that workers in the labor market know and understand the risks associated with jobs and that they will undertake only the jobs that

are within the limits of their risk tolerance. This implies that workers are willing to accept a certain level of job-related risk in return for a specific level of compensation.

2.4.3 Human Capital Method

Briggs (1999) views the human capital method as one that measures the cost of production, in terms of lost earnings, of a patient or caregiver. For mortality or permanent disability costs, the approach multiplies the earnings lost at each age by the probability of living to that age. The earnings in future years are discounted and often a one percent real annual growth rate in earnings is assumed. The human capital approach often includes the value of household work, usually valued as the opportunity cost of hiring a replacement from the labour

2.4.4 Friction Cost Method

A related method, the friction cost method, measures only the production losses during the time it takes to replace a worker. This approach assumes that short-term work losses can be made up by an employee and the loss of an employee only result in costs in the time it takes a new employee to be hired and trained, known as the friction period. Benichou (2001)

2.4.5 Advantages and Limitations of the Methods

The human capital method, according to Benichou (2001), is the most common approach used to calculate the indirect costs of an illness. A criticism of this approach is that certain groups are assigned a higher value than others. This is because the human capital approach uses wage rates and employment rates (often by age, sex, or race), so certain groups that earn less are consequently assigned a lower value.

Also, the willingness to pay approach attempts to improve these problems, however, this approach is often difficult to implement in cost-of-illness studies. For specific diseases, extensive surveys of people‘s preferences are needed, although the results rely heavily on people‘s responses to very specific hypothetical questions about their willingness to avoid certain illnesses. For communicable diseases, surveys may not fully capture the cost of the disease because of externalities. People only take into account the cost to themselves, without taking into account the societal benefit that having fewer people with a communicable disease benefits everybody because the disease is less likely to spread. Thus, the willingness to pay method is often not feasible for a cost-of-illness study (Kuchler & Golan, 1999).

Kirschstein (2000) criticizes the human capital method for overvaluing the indirect costs, claiming that the productivity losses are often eliminated after a new employee is trained and can replace the former employee. However, the friction cost method is rarely used because it requires extensive data to attempt to estimate only the losses in the friction period. Valuation of the productivity losses is complicated further by firms‘ use of internal reserves of labor during the friction period, which lowers the estimates of losses even more but can be difficult to calculate.

2.5 Occupational Health Management

Occupational health case management is actually a system that tracks each incident that relates to employee health and safety. It integrates the entire plan of an organization into a unified whole that assumes complete responsibility for each employee. This means that it is concerned with prevention as it is with health care after an accident. The goal of Occupational Health and Safety is to do everything that can be done to prevent accidents

and minimize illness. Ultimately, that is all that can be done, but it is also considerably more than has been done in the past (Cruickshank, 2010). In occupational health case theory, the work environment is the first line of defense for worker health and safety. Compliance with Occupational Safety and Health Authority (OSHA) standards is taken for granted, but that is often the starting point for safety. Constant monitoring and auditing of the safety conditions of the workplace is essential. This monitoring includes the individual employee. A health record can be kept on the employee as part of their other employment records. This process starts with a physical examination appropriate to the type of work that is done. It would be followed up by routine safety meetings stressing health related issues such as safety gear and proper lifting techniques (ILO, 2001).

When a health issue develops, either as a result of illness or accident, the employee must be covered by a health plan that is part of the overall health care system. These selected health care providers must do more than just provide medical insurance. They must also be aware of the health and safety situation of the employer as well as the employee. Careful follow up and record keeping of every health situation can provide ideas for improving the environment for others. Occupational health should no longer be taken for granted, but rather be managed and controlled for success in organizations (Cruickshank, 2010).

2.6 Roles and Responsibility in Occupational Health and Safety

According to Doan (2001), the occupational health and safety of employees and visitors to workplace is an important issue for both employees and employers.

2.6.1. Employee's Role

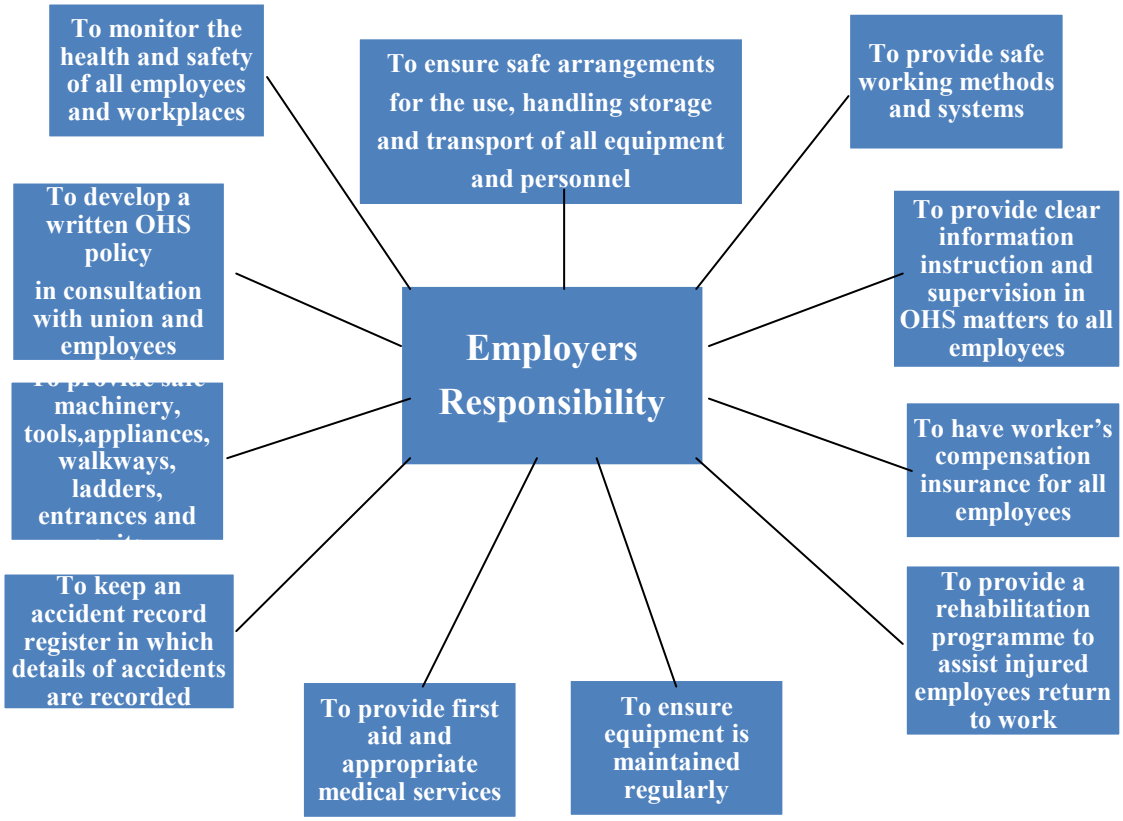
The roles of employers need to be complemented by employees. Specifically, they are supposed to work in a safe manner, be safety conscious on their jobs and co-operate with their employers in the health and safety measures they put in place. They must also work safely to protect themselves and others from injury (GoA, 2008). For example, they must not move or disfigure or spoil signs, tamper with machine guards , and behave in a way that puts others at risk.

All employees share equal responsibility and so must obey all health and safety procedures, including correctly wearing all personal protective equipment provided. They should also know emergency procedures, the location of the first aid kit and report any workplace hazards to employers (OSHA).

2.6.2 Employer's Role

According to GoA (2008), employers have the obligation to ensure that all their employees are protected from health and safety risks arising out of their work activities. This implies that they have to inform the workers of all the known hazards associated with their work, the health risks involved and the relevant preventive and protective measures; take appropriate measures to eliminate or minimize the risks resulting from exposure to those hazards; provide workers with suitable protective equipment, clothing and other facilities where adequate protection against risk of accident or injury to health, including exposure to adverse conditions, cannot be ensured by other means; and provide first aid for workers who have suffered from an injury or illness at the workplace, as well as appropriate transportation from the workplace and access to appropriate medical facilities.

Figure 1: Employers Role in Occupational Health and Safety



Source: Clewett (2008)

An integral part of an employer's duty is to engage in risk management processes in the workplace. This is a system which identifies the occupational health and safety risks that are relevant to a particular workplace. A risk management system should be flexible and up-to-date to reflect the safety issues associated with a company_s daily operations. A risk management system involves identifying hazards, assessing risks, controlling the risks and reporting accidents (Doan, 2001).

2.7. Approaches to Improving Occupational Health and Safety

There are many different systems for supervising and improving occupational safety and

health. Gustavsen (1996) in his study identified three categories of improving OHS namely;

A specification model - where laws and regulations are at the core and the main actors are various types of experts. In Sweden, for example, the Working Environment Act provides for the establishment of a safety committee that plans and supervises safety activities. It also provides for the appointment of one or more workers' safety delegates who have wide powers of inspection and access to information. This combined force is authorized to order work to be suspended when it considers a situation to be dangerous, pending a ruling by the labour inspection service and despite opposition by the employer. No penalty can be imposed on a safety delegate whose decision to have the work suspended is not confirmed by the labour inspector, and the employer cannot claim any compensation for the suspension from the safety delegate or trade union organization.

A procedure-based model- where the potential of a rational systems approach is at the core and the line organization is the main actor, e.g. internal control. In principle, it is a system for monitoring the work environment and for defining remedial action, with a strong resemblance to modern quality control systems (Gustavsen, 1996). The idea is to identify errors and rely on the ordinary line organisation to correct them. Essentially, the point is to bring health and safety into the orbit of ordinary managerial concerns and actions. In return for this involvement, management is given a certain authority to use its own discretion in defining problems and priorities. The role of the labour inspection is defined as systems supervision where the primary point is to ensure that each enterprise has an adequate system in place. In general, it would seem that the participation of workers in the inspection of working conditions and the working environment will

continue to increase, particularly in countries that have introduced "self - inspection regimes" or internal control was introduced in Norway and Sweden during the 1990´s. Such regimes depend, however, on effective and aggressive workers' organizations and their active involvement in the audit process at the enterprise level, which is the centre-piece of any such self inspection.

A developmental model - where the principle of continuous improvement is at the core and the activity is distributed as widely throughout the whole organization as possible. Does the continuous improvement approach give advantages lacking in the two other approaches? Gustavsen (1996) once again argues that it does, this was based on a study of about 1300 Swedish workplaces. The study suggested that if there is broad active involvement, there will be strong positive improvements in work environment conditions as well as in productivity. When health and safety was part of an overall process of improvement and integrated with efforts to promote productivity there was a clear management motivation. The idea of continuous improvement is widespread in working life today. Originally introduced by the Japanese, it has become a globally accepted practice and in most versions active participation from all concerned is a part of the concept. In sum, all three approaches described above are important. While expert competence is necessary in dealing with, for instance potentially toxic substances, work postures can hardly be changed without some kind of participation from those concerned.

2.8 International Conventions

There are several agencies dedicated to improving occupational safety and health. The

most prominent of these are the International Labour Organization (ILO), the World Health Organization (WHO), and the International Organization for Standardization (ISO).

2.8.1 The International Labour Organization

The International Labour Organization (ILO) which seeks to promote safe and decent work in all countries of the world is a member of the United Nations organizations. It is responsible for the formulation of international labour standards in the form of Conventions and recommendations. Since 1919, the International Labour Organization has approved and published nearly 190 Conventions, which are statements of legally binding international treaties related to various issues regarding work and workers. They cover a wide range of working conditions such as hours of work, the right of association for workers, child labour, employment discrimination, labour inspections, maternity leave, health and safety, workers‘ compensation, medical examinations, minimum working age, holidays with pay, and contracts of employment for indigenous workers.

Hogstedt and Pieris (2000) identified the major objective of the ILO in relation to occupational safety and health as enabling countries extend social protection to all groups in society and to improve working conditions and safety and health at work through its InFocus Programme which covers working conditions. The objectives of the Safe Work Programme are;

i. To create worldwide awareness of the dimensions and consequences of work-related accidents, injuries and diseases

ii. To promote the goal of basic protection for all workers in conformity with international labour standards; and

iii. To enhance the capacity of member States and industry to design and implement effective preventive and protective policies and programmes.

2.8.2. World Health Organization (WHO)

The World Health Organization was established in 1948 to improve the health status of working populations. WHO has an occupational health programme with emphasis on data collection and analysis, research, formulation of strategies and recommendations for hazard prevention and control, human resource development with special emphasis on developing countries. It is responsible for offering technical advice and expertise on health and safety by setting hygienic standards, promoting medical services and medical examinations.

WHO‘s way of solving health problems vary substantially according to the national and local needs and conditions, cultural influences, resources and other local factors. Currently, there is a network of occupational health institutes assigned as WHO collaborating centers. The policy objective of this collaboration is a global strategy for occupational health for all‖ with 10 priority objectives. These objectives according WHO (1994a) include; Strengthening of national policies for health at work and development of policy tools, development of healthy work environment , development of healthy work practices and promotion of health at work , strengthening of Occupational Health Services (OHS) , establishment of support services for occupational health , development of occupational health standards based on scientific risk assessment , development of human resources for occupational health, establishment of information systems,

strengthening of research , and development of collaboration in occupational health and with other activities.

2.8.3. International Organization for Standardization (ISO)

The International Organization for Standardization (ISO) is the world_s largest developer and publisher of international standards. It is a non-governmental network of the national standards institutes of 162 countries. It develops standards that are based on the best scientific evidence available, and which are agreed to by consensus among all participating nations (ISO, 2007).

2.8.4. Local Legislations

According to labor proclamation No. 377/2003, the Ministry of Labor and Social Affairs of Ethiopia (MOLSA) is the organ charged with the responsibility to inspect labor administration, labor conditions, occupational health and safety.

A. Constitutionally Protected Labor Rights

The Ethiopian Constitution (adopted in 1994) preserves the protection of certain worker rights. It protects freedom of association and collective bargaining for workers (Articles 42(1) (a) and (3)) and all citizens (Article 31) and the right of women to equal pay (Article 42(1) (d)). It also states that ―[…]workers shall have the right to appropriately defined working hours, breaks, leisure, periodic leave with pay, paid public holidays, and a safe and healthy working environment" (Article 42(2)). It further prohibits forced and compulsory labor (Article 18(3)).

B. The Labor Proclamation

The Labor Proclamation is comprehensive legislation with provisions on rights, administration and dispute resolution processes notable for its strong emphasis on the creation and enforcement of OSH standards. It sets forth a range of general provisions on contracts, termination, wages, hours of work and rest, leave, working conditions, OSH, collective relations, period of limitations and priority of claims, enforcement, and penalties.

C. The Occupational Safety and Health Directive

The OSH Directive, issued by the MOLSA Minister, establishes the duties of employers, rights and duties of workers, responsibilities of the labor inspectorate, and mandatory conditions on overcrowding, sanitation, fire safety, and preparedness. Part II provides guidance on mandatory employer responsibilities; Part III details provisions for ambient working conditions and certain hazards; and Part IV describes specific and general hazards by work practices or types of manufacturing processes, machinery operation or job performance procedures. Part V covers OSH in construction and Part VII covers the agricultural sector and the duties of authorities.

2.9. The Need for workplace OHS

Work plays a central role in people's lives, since most workers spend at least eight hours a day in the workplace, whether it is on a plantation, in an office, factory, etc. Therefore, work environments should be safe and healthy. Yet this is not the case for many workers. Every day workers all over the world are faced with a multitude of health hazards, such as dusts, gases, noise, vibration, and extreme temperatures.

Unfortunately some employers assume little responsibility for the protection of workers' health and safety. In fact, some employers do not even know that they have the moral and often legal responsibility to protect workers. As a result of the hazards and a lack of attention given to health and safety, work-related accidents and diseases are common in all parts of the world and they have claimed the lives of many people. To mitigate this catastrophe OHS plays significant role. OHS is important not only to individual workers and their families, but also to the productivity, competitiveness and sustainability of enterprises or organizations, and thus to the national economy of countries and ultimately to the global economy at large.

In general the health and safety interventions creates conducive environment for workers. This reduces health risks to individuals and the resulting effects on their families and the society at large. A central belief in most of the occupational health promotion literature is that people perform better when they are physically and emotionally able to work and want to work, which in turn leads to higher productivity, which can lead to higher profits.

Work Environment (Healthy and safe) ⇒ Individual (Physical, social and Psychological well-being) ⇒ Workplace (Higher productivity)

An individual‘s work environment is very crucial. The work environment can have a positive or negative impact on the individual. If the environment within the workplace is healthy and secure, which means that if the workplace has sufficient structures and systems that addresses the well-being of the worker, then the worker will be able to perform better and her/his productivity levels will be very high. In other words, the environment of the workplace has an impact on the individual‘s socio psychological

health, which has an impact on the overall output. When we say safe and secure work environment, we are not only referring to the availability of safe and hazard free equipment or tools within the workplace, but also aspects such as human relations within the workplace, which have a direct impact on the physical and psychological health of the individual.

CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

This Chapter deals with design of the study, sources of data, sample population and sampling techniques, instruments of data collection, procedures of data collection, and data analysis.

3.1. Design of the Study

A descriptive survey design was used so as to assess the current practices and challenges of occupational health and safety in selected industrial sector in Addis Ababa City Administration with special reference of ATF. The design was selected on the assumption that it is helpful to gather enough information from many people on the issues under study. The appropriateness of this design for such study was noted by many scholars. For example, Koul (1996) states that descriptive survey design becomes useful particularly where one needs to understand some particular information. Best and Khan (1989) have noted that a descriptive survey research design involves a clearly defined problem and definite objectives.

3.2. Data Sources

In this study, both primary and secondary sources were used to gather adequate information about the existing occupational health and safety issues of workers in ATF. Primary sources were used to get first-hand information concerning the current OHS practices of workers in ATF. The primary sources were Factory workers, Trade union representatives, OHS inspectors (both from MOLSA and AACA BOLSA). The secondary sources were used to strengthen the primary sources. They include books, journals, and articles. The internet was used to avoid the inadequacies of the data and to make the study reliable.

3.3. Sample Population and Sampling Technique

3.3.1. Population

According to Castillo (2009), a research population is generally a large collection of individuals or objects that is the main focus of a scientific query. Workers are selected from four working departments in ATF since a complete survey cannot be undertaken. The sample size for the four working units was determined using the mathematical approach by Miller and Brewer (2003):

$$n=N/ [1+N (\alpha)^2]$$

Where

n-is the Sample size,

N-is the Sampling frame,

a - is the Error margin and

1-is the Constant

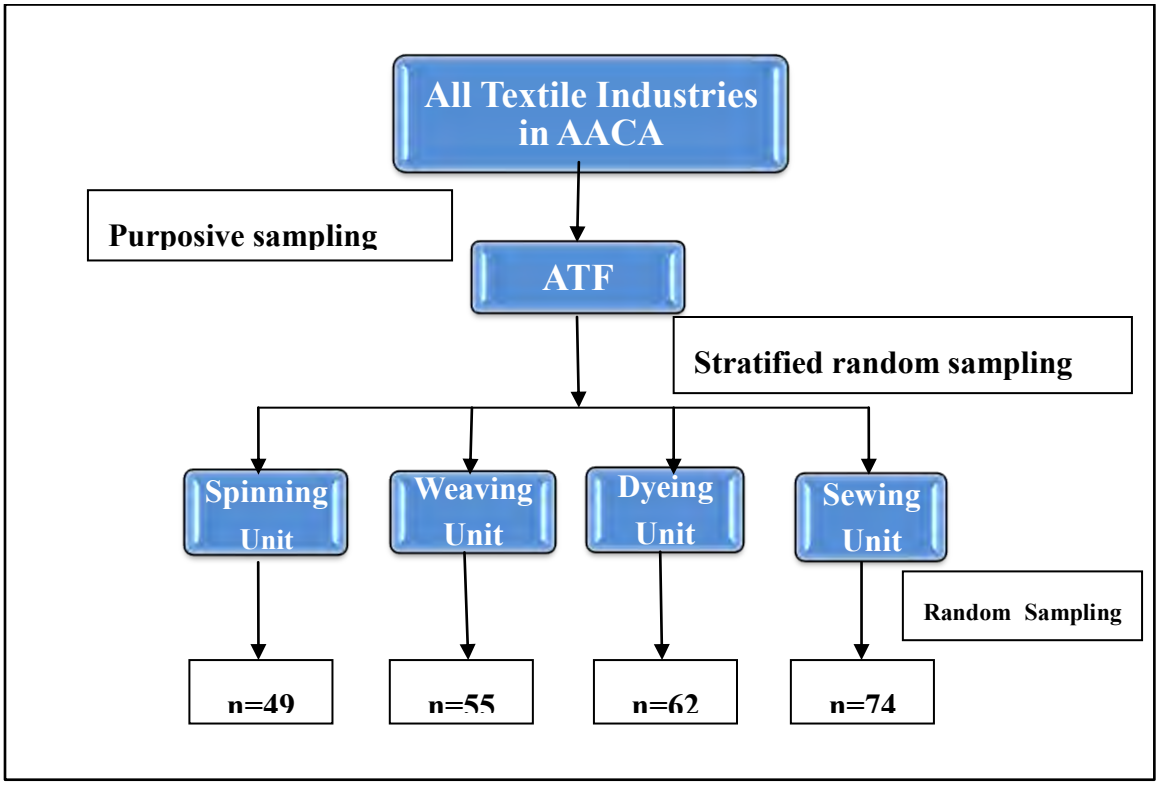
3.3.2. Sampling Technique

A stratified random sampling technique that considered a fair representation of all workers in the factory was employed. The study samples that have been determined in the sample size determination technique were distributed in the four work units fairly according to their worker number proportion. Thus, the spinning unit with 350 full-time workers and 140 contract workers had a sample size of 49 (10% of the total), weaving unit with 400 full-time workers and 150 contract workers had a sample size of 55 (10% of the total), the finishing unit with 500 full-time workers and 120 contract workers had a

sample size of 62 (10% of the total) and the cutting and sewing unit with 740 workers had sample size of 74. Workers registrations were used as sampling frame. To select the study subject the total number of workers in each industry were categorized in to administrative and product workers and further the product workers were grouped in to sections and the study subjects were drown according to their number proportions.

To determine sampling interval and select the first subject, the total number of workers was divided to the total sample size and the first person was selected by lottery method and follow the already determined sequences.

Figure2: Sampling Chart



Source: Field survey, September 2014

3.4. Instruments of Data Collection

Questionnaire, an interview, checklist and document analysis were the main data gathering instruments.

This was because of the need to collect adequate data and for triangulation purpose. Therefore, employing multiple data collection instruments helps the researcher to combine, strengthen and amend some of the inadequacies of the data and for triangulating it (Cresswell, 2003).

3.4.1Questionnaire

Questionnaires were used to collect relevant and first-hand information from key

informants such as factory workers, inspectorates, health and safety officer and trade union representative. The reason why a questionnaire was used was that it is easier to handle and is simpler for the respondents to answer within a short period of time (Koul, 2008).

The items of the questionnaires were mainly close-ended questions and accompanied by some open ended ones. The closed ended questionnaires aid the coding and analysis of responses whilst the open ended facilitate richness and intensity of responses. The questionnaire first prepared in English and then interpreted into Amharic to ensure clarity of understanding by respondents and administered by the researcher and two research assistants who completed grade eleven.

3.4.2. Interview

Structured interview was used to collect data from factory inspectorates and trade union representative. The reason why structured interview was employed was that the procedure to be used is standardized and determined in advance as well as to obtain answers to carefully phrased questions (Koul, 2008). Using this instrument is important to get the required data about the issue under study.

Table 1: Interview

Institutions	Interviewer	Duration of Interview
Factory Inspectorate (MOLSA)	The Researcher*	18 mins.
Factory Inspectorate (BOLSA of AACA)	*	20 mins.
Health and Safety Officer (ATF)	*	25 mins.
TU Representative (ATF)	*	22 mins.

Source: Field Survey, September 2014

3.4.3. Reliability of Research Instrument

According to Polit and Hungler (1993), reliability is the degree of consistency with which an instrument measures the attribute it is designed to measure. The questionnaires that were administered to workers in the various categories were consistent and follow a logical pattern such that responses not contradict or conflict each other. In addition, biases in data collection were reduced by ensuring that at most the questionnaires are self administered by the researcher and two research assistants.

3.4.4. Validity of Research Instrument

The validity of a research instrument determines whether the research truly measures that which it intends to measure. The study seeks to achieve both content and external

validity. Bashir (2008) consider content validity as the extent to which an instrument represents the variables understudy. Questions were based on information gathered during the literature review to ensure representativeness and they are also based on the objectives and the data requirement.

External validity refers to the extent to which study findings are generalized beyond the sample used. Therefore based on the sample and the information gathered the study generalized.

3.4.5. Ethical Considerations

Research requires not only expertise and diligence but also honesty and integrity. Ethics in research refers to the norms for conduct that distinguish between acceptable and unacceptable behavior (David and Resnik, 2010). This helps to protect the rights of respondents. To render this, the rights to anonymity, confidentiality and informed consent were observed. Permission was obtained from the leaders of the various offices as well as individual respondents. Respondents were well communicated about the purpose of the study, the required data and assured that there would be no potential risks or costs associated with the exercise.

3.4.6. Document Analysis

Document analysis was also used to gather necessary information about OHS issues. This was to strengthen the data obtained through questionnaires and interview. Due to this reason, journals, books, and articles were seen because they are important sources of data to explore OHS practices. Supporting this, Best and Khan (1989) have noted that

document analyses are important and relevant sources of data, and useful in yielding the needed information.

3.5. Procedures of Data Collection

To assess the current occupational health challenges and safety practices, first questionnaires and structured interview were developed. Then, they were pretested (piloted) and being administered to 15 Engineering Department workers, 1 trade union representative and 1 health officer of ATF workers. Accordingly, with some modifications and clarifications, the final instruments were developed and used for the purpose. The questionnaires were designed and administered by the researcher and two grade twelve students to factory workers, inspectorate and health and safety officer. An interview was also conducted through disclosing the purpose of the study based on the permission and willingness of the participants by the researcher. Finally, document analysis was made by the researcher himself.

3.6. Data Analysis

Different statistical techniques were employed on the basis of the nature of the data collected. Consequently, the data collected from the respondents were analyzed quantitatively and qualitatively. In analyzing the quantitative data, respondents were categorized and frequencies were tallied. Percentage and frequency counts were used to analyze the characteristics of the population as it helps to determine the relative standing of the respondents. The data obtained through an interview, first summary sheets were prepared and field notes were written and the content of the responses were analyzed.

The documents such as journals, books, and articles were also used in data analysis. To this end, analysis and interpretations were made on the data obtained through questionnaires, interview and document analysis.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

This section of the report addresses the results and discussions of the research. It begins with the background of all respondents and subsequently borders on the health and safety of each work category and ends with the institutional response to occupational health and safety issues.

4.1. Background of Respondents

Data was collected from two major categories which are OHS institutions and ATF workers. The number of respondents for each OHS institution is represented in Table 2.

Table 2: Respondents from OHS Institutions

Institution	Number of Respondents
AACA Factories Inspectorate(BOLSA)	1
MOLSA Factories Inspectorate	1
Health & Safety Officer(ATF)	1
Trade Union Representative	1
Total	**4**

Source: Field Survey, September 2014

From the institutions, key informants who were considered to be side by side with OHS issues were interviewed. It can therefore be observed from Table 2 that, two factory Inspectors (one from MOLSA and one from AACA BOLSA), one labour officer and one Trade Union Representative (TRU) from the factory were interviewed in-charge of OHS and the result of their response will be presented in section 4.3.

A total of 240 questionnaires were administered to the respondents selected from spinning, weaving, dyeing & finishing, and cutting & sewing work units. Table 3 indicates the details of respondents.

Table 3: Work Category of Respondents

Work Category	Permanent	%	Contract	%	Total	%
Spinning Unit	35	15	14	35	49	20.4
Weaving Unit	40	10	15	25	55	22.9
Finishing Unit	50	45	12	22.5	62	25.8
Cutting & sewing Unit	65	30	9	17.5	74	30.8
Total	**200**	**100**	**40**	**100**	**240**	**100**

Source: Field Survey, September 2014

From Table 3 it can be deduced that 83.3 percent of factory workers were permanent where as 16.7 percent of factory workers were contract employees who were providing cheap labour to the factory.

In addition to this the study indicated that majority of respondents was working in cutting and sewing department. This is because the working section has many sub units where product workers engaged in. The study further revealed that participants from spinning department account 49 or (20.4%) which reveal least in number than other respondents under the research.

Table 4: Demographic Characteristics of ATF Workers

Variable	Frequency(n=240)	Percentage
Gender		
Male	110	45.8
Female	130	54.2
Age		
< 30 years	101	42.1
30-50 years	92	38.3
50+ years	47	19.6
	Minimum age: 17 (1.25%)	Maximum Age: 62 (0.83%)
Educational Level		
Illiterate	28	11.7
Can read & write	41	17.1
1 – 8	62	25.7
9- 12	28	11.7
Diploma	63	26.3
Degree & above	18	7.5
Marital Status		
Single	88	36.7
Married	80	33.3
Divorced	45	18.8
Widowed	27	11.2

Source: Field Survey, September 2014

Of all respondents more than half percent are females. This is because the female workers in the cutting and sewing units were mainly females. Further the study uncover there is no age limit for employment in the factory since 1.25 percent of workers were as young as 17 years and 0.83 percent were as high as 62 years. Specifically from Table 4, a greater percentage of 42.1(101) of the workers were below the age of 30 years, this

implies that the factory comprises young and energetic youth whose skills need to be developed and enhanced to ensure the development of the sector. The highest educational level attained by 26.3(63) percent of respondents was diploma which was closely followed by primary education by 25.7(62) percent of respondents. This implies that majority of ATF workers have had some level of education at least to the basic level. As indicated in Table 3, 11.7 percent of respondents had never been to school implying the limited recognition given to education in the industrial sector.

Regarding marital status, 36.7 percent were single closely followed by 33.3 percent being married and 18.8 percent and 11.2 percent divorced and widowed respectively. As the study indicates single respondents in the factory constitute greater number and this could be because of the number of workers who are below the age of 30 comprises 42.1 percent of the total respondents.

Table 5: Working Environment and Economic Characteristics of ATF Workers

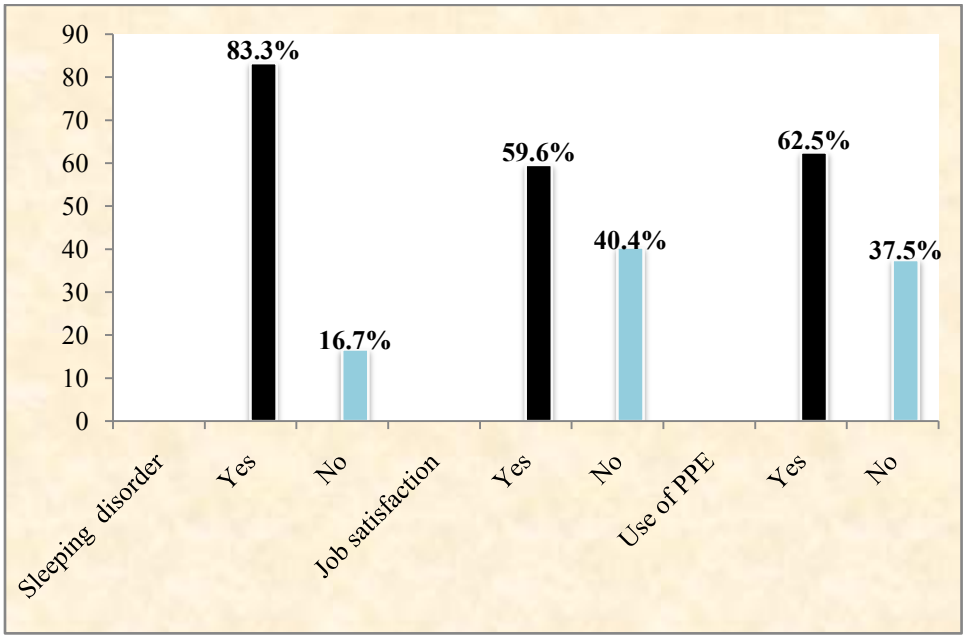
Variable	Frequency	Percentage
Employment Status		
Full time	200	83.3
Contract	40	16.7
Work Hours		
< Eight Hours	-	-
Eight Hours	208	86.7
12 Hours	13	5.4
14 Hours	12	5.0
16 Hours	7	2.9
	Maximum = 16 hours	Minimum = 8 hours
Years of Employment		
< Five Years	120	50
Five – 20 years	80	33.3
Above 20 years	40	16.7
	Maximum = 35 years	Minimum = 6 months
Monthly Salary		
< Birr. 400	80	33.3
Birr 400 – 1500	110	45.8
Birr 1501 - 3000	40	16.7
>Birr 3000	10	4.2

Source: Field Survey, September 2014

From Table 5, 86.7 percent of employees work for 8 hours, 5.4 percent for 12 hours, and 5 percent for 14 hours and the remaining 2.9 percent work for sixteen hours. This shows the kind of irregularity in working hours and the work burden on employees comparable to regular eight working hours. As indicated in Table 5, exactly 50 percent of respondents had working experiences below five years whilst 33.3 percent had between 5 and 20

years. The remaining 16.7 percent had above 20 years of work experience. Available data shows that monthly earnings of employees (both permanent and contract) ranges between a minimum of bir.360 and a maximum of bir.4020. Specifically, 33.3 percent of contract workers were paid below bir.400 a month.

Figure 2: Behavioral Variables of ATF Workers



Source: Field Survey, September 2014

Of studied participants almost 200 (83.3%) of the respondents had sleep disorder at their workplace and the reasons for the disorder were mentioned as working in evening by 41 (59%) participants, excessive heat by 30 (43%), and doing more than one task at a time 18 (26%). More than half of the respondents 143 (59.6%) were satisfied by their current job (Figure 3).

The use of PPE in the factory was not quite similar among workers even though there was PPE delivered to workers in the industry. The majority of the respondents 150(62.5%) were used PPE at their workplace frequently, whereas 90 (37.5%) were not

used any types of PPE; they answered they did not use PPE frequently. Most of the reasons for not using PPE included they were not comfortable to use by 50 (52.1%) participants, lack of provision by 44 (45.8%), and perception of decreased work performance by 38 (39.6%). Among users, ear plug (47.4%), glove (40.4%), and goggles (39.3%) were commonly used PPE.

4.2. Occupational Health and Safety of ATF Workers

The ongoing discussions describe that the ATF workers in the AACA are exposed to a range of hazards including ergonomic hazards, physical hazards, chemical hazards and psychosocial hazards. It is evident from below that; there are no work units in the factory that are free from occupation and health hazards. Table 6 which includes multiple responses gives a summary of hazards faced by the workers.

Table 6: Relationship between Occupations and Health Hazards Exposure in Percentage

Hazards / W. Category	Ergonomic Hazards	Chemical Hazards	Physical Hazards	Psycho-social Hazards	Total (%)
Spinning Unit	**19**	**33**	**32**	**27**	**111(27.3)**
Weaving Unit	**19**	**28**	**29**	**23**	**99(24.3)**
Finishing Unit	**19**	**23**	**30**	**26**	**98(24.1)**
Sewing Unit	**17**	**22**	**39**	**21**	**99 (24.3)**
Total (%)	**74(18.2)**	**106(26.0)**	**130(31.9)**	**97(23.8)**	**407 (100)**

Source: Field Survey, September 2014

From Table 6, physical hazard is the most exposure experienced by all work categories whilst ergonomic hazard though experienced by all workers was the least of all hazard exposure. It is also evident from the table that all hazards are peculiar to all work categories though its degree varies from one unit to the other. In general, the above mentioned occupation and health hazards may be due to lack of safety, duration and types of work. In addition, about 42% of workers belonged to less than 30 years of age group and their work experience might be additional contributory factors.

After identifying the risk exposure of respondents in broad terms, it is necessary to know the specifics of each of these hazards. Therefore Table 7 indicates the kinds of risk exposure across the different work types.

Table 7: Chemical Hazards

W. Category / Hazards	Spinning Unit	%	Weaving Unit.	%	Finishing Unit	%	Sewing Unit	%	Total	%
Dusts	33	67.4	28	50.9	23	37.1	22	29.7	106	44.2
Fumes	6	12.2	12	21.8	17	27.4	22	29.7	57	23.7
Gases	8	16.3	10	18.2	16	25.8	21	28.4	55	22.9
Others*	2	4.1	5	9.1	6	9.7	9	12.2	22	9.2
Total	**49**	**100**	**55**	**100**	**62**	**100**	**74**	**100**	**240**	**100**

* Fire & smoke

Source: Field Survey, September 2014.

From Table 7, dust hazard (44.2) is the most exposure experienced by all work categories whilst fume and gas hazards constituted 23.7 and 22.9% respectively. It is also evident from the table that chemical hazards are peculiar to all category workers. Further the study indicates that spinning and weaving unit workers are the most exposed to dust hazards. Similar findings were made by Mohammed M. et al. (2004). In his study of OHS hazards among Assiut spinning factory workers in Egypt. In his study he indicated that cotton dust, fumes and other work related injuries are the most common hazards in the factory.

Table 8: Physical Hazards

W. Types / Hazards	Spinning Unit	%	Weaving Unit	%	Finishing Unit	%	Sewing Unit	%	Total	%
Vibration	4	8.2	3	5.4	5	8.1	6	8.1	18	7.5
Noise	32	65.3	29	52.7	30	48.4	39	52.7	130	54.2
Light	4	8.2	7	12.7	9	14.5	9	12.2	29	12.1
Heat	6	12.2	8	14.6	8	12.9	3	4.1	25	10.4
Others	3	6.1	8	14.6	10	16.1	17	22.9	38	15.8
Total	49	100	55	100	62	100	74	100	240	100

Source: Field Survey, September 2014

Workers in the cotton work category are major sufferers when it comes to physical hazards. As indicated in Table 8, 54.2 percent of ATF workers had been exposed to noise, 15.8 percent to various injuries and 12.1 percent to light. The remaining 10.4 percent and 7.5 percent were exposed to heat and vibration.

Table 9: Psychosocial Hazards

W. Units / Hazards	Spinning Unit	%	Weaving Unit	%	Finishing Unit	%	Sewing Unit	%	Total	%
Loss of interest	27	55.1	23	41.8	26	41.9	21	28.4	97	40.4
Mental fatigue	12	24.5	18	32.7	17	27.4	18	24.3	65	27.1
Stress	7	14.3	8	14.6	11	17.7	23	31.1	49	20.4
Others	3	6.1	6	10.9	8	12.9	12	16.2	29	12.1
Total	**49**	**100**	**55**	**100**	**62**	**100**	**74**	**100**	**240**	**100**

Source: Field Survey, September 2014.

As indicated in Table 9, 40.4 percent of respondents experienced loss of interest and are not satisfied with their work. The study further indicates that poor treatment from superiors (6 percent) and general lack of interest (40.4 percent) are the two major reasons for their job dissatisfaction. The present study result has supported by a case control study among coal mining factory workers in India (Zewdie A., Dagnew E. and Takele T. in N. Ramendra et al, 2004) reported that workers who were highly satisfied with the existing jobs have lower risk of occupational injury. This can be explained that workers who did not injured have positive thinking about the physical environment and always take necessary safety precautions.

Table 10: Ergonomic Hazards

W. Types / Hazards	Spinning Unit	%	Weaving Unit	%	Finishing Unit	%	Sewing Unit	%	Total	%
Backaches	17	34.6	10	18.2	10	16.1	12	16.2	49	20.4
Skin Infections	19	38.8	19	34.5	19	30.7	17	22.9	74	30.8
Eye Infections	2	4.1	9	16.4	12	19.4	24	32.4	47	19.6
General body pains	9	18.4	13	23.6	15	24.2	18	24.3	55	22.9
Others	2	4.1	4	7.3	6	9.7	3	4.1	15	6.3
Total	**49**	**100**	**55**	**100**	**62**	**100**	**74**	**100**	**240**	**100**

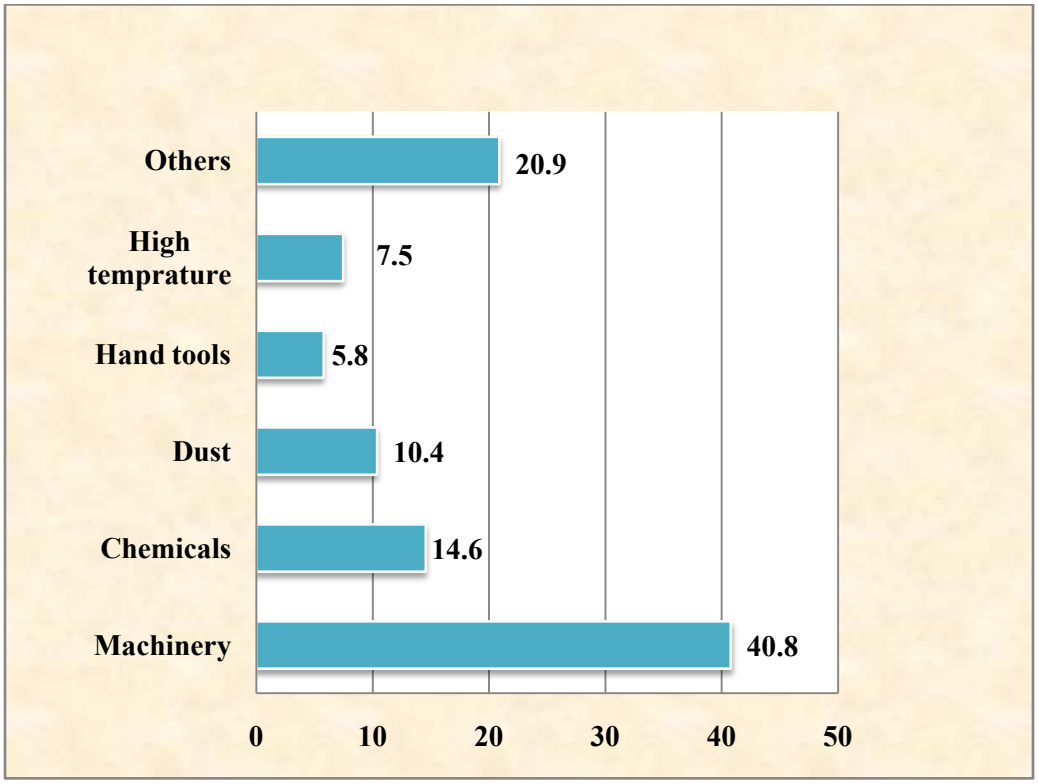
Source: Field Survey, September 2014

Table 10 shows that, 30.8 percent of respondents suffer from skin infections as majority of their work requires a direct contact with skin, 22.9 percent experience general body pains whilst 19.6 percent suffer from eye infections.

Psycho-social hazards cause fatigue, stress and general loss of interest in work. According to Filiatrault et al (2002) to be able to work efficiently one must sleep for not less than eight hours. This is not respected among ATF workers since 2.9 percent of them work for 16 hours, 5 percent work for 14 hours and 5.4 percent work 12 hours a day. This increases the stress level among workers.

In view of these associated risks, majority of workers are not satisfied with their jobs. Those who are not satisfied gave reasons such as low income (55.5 percent), general lack of interest (40.4 percent) and the tediousness of work (27.8 percent).

Figure 3: Common Causes of Injury



Source: Field survey, September 2014

With reference to Figure 4, it can be deduced that machinery, chemicals, dust, high temperature, hand tools slippery floors and long sitting and standing as common causes of textile industry accident. Different studies done in Ethiopia indicated that there are different sources of work-related injuries. For instance, a study done by Aberra F.(1988) in eleven urban industries in Addis Ababa showed that hit by or against objects and falling were the most common causes and similarly, Amhara regional BOLSA(2007/2008) reported that machinery(36.7%), mishandling(15.3%),

falling(14.5%),and hand tools6.2%) were the major causes of occupational injury types among manufacturing industrial workers.

In general, it is possible to agree with Aghera Nirmala D. (2013) who, although describing the situation of an Indian textile factory could be referring to any region‘s textile industry in the developing world.

> *“In the textile industry employees suffer from many diseases of eye, nose, ear, skin and throat. In printing and finishing departments the workers skin is affected by the chemicals used. The workers inhale cotton dust in the carding/winding section, through the ears, mouth and nose, causing different harmful diseases like lung cancer, skin and eye allergies. The yarn dust disperses in the air in the weaving section which affects the workers health and they suffer in different health problems. In mercerizing, folding, bleaching, warping and calendaring sections, the workers suffer from various psychological and physical diseases. For instance, in the folding and warping section, accidents occur because of the slippery floors, and the pressure of time. Often such accidents result in the permanently disability of the workforce. In many industries the workplaces of units don’t meet the required standards as described in the factory act”.*

The above mentioned injuries and diseases have cost implications which impact the lives of workers negatively. Table 11 itemizes the different costs components associated with injuries and diseases.

Table 11: Cost Implications of Injuries and Diseases among ATF Workers in 2013/14

Variable	Spinning Unit	Weaving Unit	Finishing Unit	Sewing Unit	Total (Birr)
Direct Cost (Birr)					
Cost of Treatment	2,160	1,800	1,200	1,680	**6,840**
Indirect Cost					
*Lost Man days	150	120	130	100	**500**
Lost Earnings	1,800	1,440	1,560	1,200	**6,000.00**
Transport Cost	75	60	65	50	**250**
Economic Cost	**4,035**	**3,300**	**2,825**	**2,930**	**13,090.00**

*Lost Man Days not in Birr

Source: Field Survey, September 2014.

From Table 11, it can be deduced that the highest lost man days was 150 among spinning unit workers with an associated lost earnings of birr 1,880. The least economic cost of birr 2,825 was recorded among dyeing and finishing unit workers and the highest of birr 4,035 among spinning unit workers. The total economic cost of injuries and diseases among ATF for the last Ethiopian budget year (2013/14) was 13,090. A survey conducted by the Health and Safety Executive in 2007/2008 on work related illness estimated 34 million lost work days; 28 million due to work-related illness and 6 million due to work-place injury (HSE,2009). One can estimate this in monetary terms and how this seriously affects the profit margins of organizations.

4.3. Institutional Response to OHS

4.3.1. Department of Factories Inspectorate

MOLSA and Addis Ababa City Labor Inspectorates ensure health and occupational safety by regular inspection of workplaces. Inspections are organized at least three times a year to every registered enterprise. This implies that an organisation that fails to register with them by paying their registration fees receives no attention from them. The Inspectorates play an advisory role more than an enforcement role though they have the legal backing to enforce.

According to the OSH Team Leaders, the following challenges are the major once facing their department:

- Inadequate budget allocation
- Poorly served in terms of infrastructure and staff
- No adequate information management system
- No systematic surveillance in place for
    - workplace environment conditions
    - occupational health disease/injury
- There are a few focused studies
- OSH expertise needs development
- No specialized OSH programs at the Universities, etc

4.3.2. Trade Union Representative

From the survey, 45 employees representing 18.8 percent all respondents are paid below the current minimum wage a day. Also, five percent also received unfair treatment from

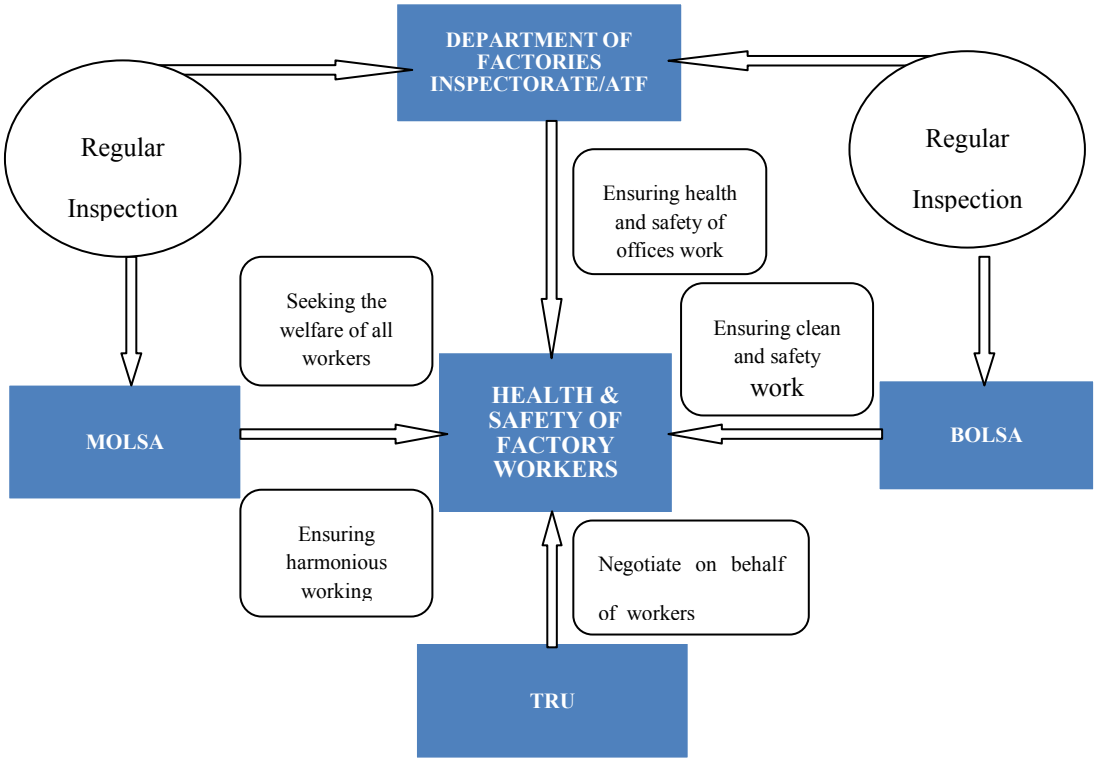
their immediate bosses. Another major problem relates to the termination of employees appointment in unfair manners.

The role of the TUR is to represent employees on OHS issues both inside and outside the factory, seek the welfare of workers and educate them and negotiating on their behalf. According to the representative, their work is made difficult because the government does not see OHS as a major issue.

4.4. Institutional Collaboration in Occupational Health and Safety

It has been widely acknowledged that OHS requires an interdependent approach among concerned ministries agencies and other stakeholders. It was realized that all stakeholders covered in the study had links with each other. However, the Department of factories Inspectorate (DFI) in ATF had a conflicting role with the Addis Ababa City Administration Factories Inspectorate (BOLSA). This is because DFI saw the BOLSA to be interfering in its affairs to the extent that employers call BOLSA for workplace inspection instead of the DFI. This problem is as a result of no clear cut roles and responsibilities of both departments and the overlapping nature of their work. Figure 5 portrays a simplified layout of interaction between the various institutions for ensuring OHS in the industrial sector as discovered from the field survey.

Figure 4: Institutional Collaboration in Occupational Health and Safety



Legend

Inputs to promote OHS

Collaborated Actions

Source: Authors Construct

It is evident from Figure 5 that there is a good institutional set up for promoting health and safety of workers in the industrial sector. In this set up activities like public education, sensitization, regular inspection and negotiation on behalf of workers are all geared towards promoting workers welfare and ensuring harmonious work environment. If this collaboration is strengthened and transferred to other concerned bodies will help curb the safety problems at workplaces.

4.5. Observation Findings

4.5.1. Spinning Department

- Majority of the workers were use PPE.
- No emergency exit signs.
- Fire extinguishers were present and easily accessible.
- The floor was free and no slip hazard.
- Workers used over coats, ear plugs and gloves.
- There is excessive noise and heat
- There is no machine guards
- There were no any safety signs/symbols and/or written precautions that give information on occupational health and safety.

4.5.2. Weaving Section

- Fire extinguishers were present, and easily accessible.
- Floors are clean and not used for storage of materials.
- No emergency exit.
- Electrical cables are in good condition.
- The floor is dry, but not clean.
- There are different hazard signs or symbols.
- The workers used PPEs.

4.5.3. Dyeing and Finishing Unit

- The floor is slippery and not clean.
- Majority of the workers were use PPE.

- No emergency exit.
- There is shower, but not in the vicinity of the department.
- There are different hazard signs or symbols.
- Fire extinguishers were present and easily accessible, but a few product workers in the department told the researcher they don‘t know the operation of the fire extinguisher.

4.5.4. Cutting and Sewing Working Section

- Workers used over coats and gloves
- Floors were kept free of obstructions and were not used as storage for other materials.
- Work areas were free of electrical hazards: no uninsulated wiring or damaged electrical cords, or unsafe use of extension cords.
- There is no dust particle and excessive noise.
- No any hazard sign/symbols were posted in the working section.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This final chapter presents the key findings emanating from the data analysis. Based on these findings, recommendations have been made to inform policy makers and any responsible body. The chapter ends with a conclusion for the entire study.

5.2. Summary of Key Findings

From the survey, the following major findings have been outlined. This has been done according to the objectives of the study.

5.2.1. Nature and Operations of ATF Workers

In this study, from the total study subjects 54.2% are females. Of this cutting and sewing department constitutes majority of female product workers. The survey further revealed that spinning, weaving, and dyeing and finishing unit female workers account 18(13.8%), 16(12.3%),and 38(29.2%) respectively. The sector employed labour as young as 17 years and as old as 62 years. Most (42.1 Percent) respondents however were less than the age of 30 years. It was realised that education was not a requirement in the sector though majority of respondents had some level of education at least to the basic level and 11.7 percent were illiterates. Employment in the ATF is basically done on full-time basis and work is done for a maximum of 16 hours a day.

5.2.2. Key Health and Safety Risks Associated with ATF Workers

Chemical hazards

Dust hazard (44.2) is the most exposure experienced by all work categories whilst fume

and gas hazards constituted 23.7 and 22.9% respectively. Besides this, chemical hazards are peculiar to all category workers. Chemical hazard is the next most exposure experienced by all work categories. Spinning and weaving unit workers are the most exposed to dust hazards.

Ergonomic hazards

All respondents in the four departments were affected in one way or the other by their working postures. 22.9 percent of respondents experience general body pains whilst 19.6 percent suffer from eye infections. A combination of standing, bending and sitting results in waist, knee, feet and general body pains among respondents.

Physical hazards

The major physical hazard workers are exposed to be constant noise from rotating machines (54.2percent). Product workers in spinning department are the major sufferers to physical hazards; noise (54.2%) is the most exposure experienced by all work categories whilst injuries constituted 15.8%.

Psycho-social hazards

40.4 and 27.1 percent of respondents experienced loss of interest and mental fatigue respectively and are not satisfied with their work. Poor treatment from superiors (six percent) and general lack of interest (five percent) are the two major reasons for workers job dissatisfaction.

5.2.3. Costs of Occupational Health Injuries and Diseases in the ATF

The economic cost of injuries and diseases among spinning unit workers was valued at

birr 4035 at 2013/14. This is made up of both direct (birr 2160) and indirect costs (birr 1875) of injuries and diseases. The economic cost of injuries and diseases for weaving unit workers for 2013/14 was birr 3300, total direct and indirect cost of injuries and diseases were birr 1800 and birr 1500 respectively. The economic cost of injuries and diseases among dyeing and finishing unit workers was birr 2825 made up of birr 1200 for direct cost of illness and birr1625 for indirect cost. The direct cost and indirect costs of injuries to cutting and sewing department workers were birr 1680 and birr 1250 respectively. Hence the economic cost of injuries and diseases is birr 2930.

5.4. Conclusion

The size of labour force in the Addis Ababa City Administration in the Industrial sector more especially, the garment and textile sectors is very high. As long as population increases and there is unemployment in the country, employment in the garment and industrial sector will increase. This calls for a comprehensive OHS policy to emphasize the health and safety needs of workers.

Available literature from chapter two revealed the neglect of OHS generally in the developing African countries. This was confirmed by the empirical data from garment and textile workers in developing countries and was realized that little attention given to all activities of OHS. The economic cost of injuries and diseases as indicated in the analysis is alarming and therefore requires immediate attention from employers and employees through the use of PPE_s, and the government by the formulation and implementation of an OHS policy.

5.5. Recommendations

Based on the study findings and the above conclusions the following recommendations & duties are forwarded.

In general we recommend with improving of worker‘s health through: Periodic medical examination should be performed to all workers in the factory not only sample from them, the physician must be present daily in outpatient factory clinic to provide medical services to workers at any time, qualified nurse must be present in outpatient factory clinic to help in worker‘s health promotion and improve health services, first aid measures should be available at any time of day and the managing officer, safety department and health authorities should provide protective measures to workers such as ear plugs, disposable mask, worker clothes, fire protection and observation for using it. Periodic inspection of working environment by industrial hygienist through regular measurement of noise level, illumination, humidity, ventilation and cotton dust concentration. Training and health education programs should be provided to all workers from the start of work and regularly carried out to assist the worker adjustment to the working environment. Emphasizing the correct use of personal protective measures. If possible, the factory should look into the possibility of replacing the old machines with new ones, which is less noisy.

5.5.1. Role of Managements

The duties of managements at a place of employment should include:

- The provision and maintenance of PPE;
- The provision of any information, instruction, training and

supervision that is necessary to protect the health and safety of workers at work; and

- The preparation, labeling and posting of safety signs and equipments at reasonable working sites to improve the knowledge level and safe practice of the workers.

5.5.2. Role of Employees

They should place their safety above their work and insist their employers provide them with PPE and employees should co-operate with their employers in the health and safety measures they put in place and also work safely to protect themselves and others from injury.

5.5.3. Role of Associations

Associations should set rules and regulations that insist on the usage of PPEs by all members and they should also monitor activities of members and penalize employers whose employees go contrary to the set rules and regulations.

5.5.4. Recommendations for Future Research

An in-depth survey on economic cost of injuries and diseases should be considered for future studies and similar studies in the other sectors of the economy (formal and informal) should be done to understand and appreciate OHS issues within the sectors.

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RESEARCH INSTRUMENTS

ADDIS ABABA UNIVERSITY COLLEGE OF BUISNESS AND ECONOMICS

DEPARTMENT OF PUBLIC ADMINSTRATION AND DEVEVELOPMENT MANAGEMENT

TOPIC: THE PRACTICES AND CHALLENGES OF OCCUPATIONAL HEALTH AND SAFETY IN ETHIOPIA: THE CASE OF AKAKI TEXTILE FACTORY.

PLEASE BE ASSURED THAT YOUR RESPONSES WILL BE TREATED WITH UTMOST CONFIDENTIALITY.

SECTION I: QUESTIONNAIRE FOR EMPLOYEES. .

A. BACKGROUND INFORMATION

1. Sex: (1).Male (2).Female 2. Age: ----------

3. Educational level (1).Illiterate (2).can read & write (3).1-8 (4).9-12 (5).Diploma (6).Degree & above

4. Marital Status (1).Married (2).Single (3).Divorced (4).Widowed

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

6. Job category or responsibility? ----------

7. Work experience in the current job category? ----------

8. Monthly salary? ----------

B.WORK-RELATED INJURY

1. Have you ever faced any injury or accident in the past 12 months related to your works? (1).Yes (2) No

2. If the answer is yes for question number one, what kind of injuries or accidents?

1. Piercing	(1).Yes	(2).No
2. Fracture	(1).Yes	(2).No
3. Eye injury	(1).Yes	(2).No
4. Burn	(1).Yes	(2).No
5. Poisoning	(1).Yes	(2).No
6. Backaches	(1).Yes	(2).No
7. Lung disease	(1).Yes	(2).No
8. Neck problems	(1).Yes	(2).No
9. Skin infection	(1).Yes	(2).No
10. Sleeping disorders	(1).Yes	(2).No
11. General body pains	(1).Yes	(2).No

12. Others (specify) ----------

3. What are the causes of the injury or the accident?

1. Machine (1).Yes (2).No
2. Chemicals (1).Yes (2).No
3. Electricity (1).Yes (2).No
4. Slippery floors (1).Yes (2).No
5. Hand tools (1).Yes (2).No
6. Fire (1).Yes (2).No
7. Dust (1).Yes (2).No
8. High temperature (1).Yes (2).No
9. Fumes (1).Yes (2).No
10. Others (specify) ----------

4. Have you hospitalized as a result of injury in the last 12 months?

(1). Yes (2). No

5. How many hours do you absent from work in the last 12 months? ----------

6. If the answer is yes for question number four, what were the medical and non medical costs of the injury and disease? Please complete the table below.

Date	Injury/disease	Medical cost	Nonmedical cost

C. WORK ENVIRONMENT AND EMPLOYEES BEHAVIOR

1. How many hours do you work per day? ----------

2. Is there any supervision in the workplace?

(1). Yes (2). No

3. Have you had any occupational health & safety training?

(1). Yes (2). No

4. Do you have sleeping disorders?

(1). Yes (2). No

5. If yes, what is the reason for this sleeping disorder?

(1). Working more than 8 hrs/day in the enterprise

(2). Engage in additional duties outside the enterprise

(3). Evening/Mid-night working time

(4). Work burden

(5).Other, specify----------

6. Are you happy with your work?

(1). Yes (2). No

7. If No, why? ----------

8. Do you use any Personal Protective Equipment at your workplace?

(1). Yes (2). No

9. If yes, which of the following Personal Protective Equipment(PPE) do you have at your workplace?

(1). Gloves (2).Ear Protectors (3).Mouth & nose protectors (4).Helmet (5).Over coat (6).Goggle (7).Face shields (8).Safety boots

(9).Others specify ----------

10. If not, why?

(1). Absence of PPE (2). No Occupational Health &Safety training

(3). Not convenient (4). Affects health

(5). others specify ----------

This is the end of our questionnaire. Thank you very much for taking time to answer the questions. We appreciate your help.

SECTION II: INTERVIEW GUDIE FOR KEY INFORMANTS

Name of Department: ----------

1. What is your department_s mandate concerning OHS?

2. How often do you go on inspection?

2. Is there any OHS policy for formal workers in Ethiopia?

3. Does your department collaborate with other departments?

4. What are some of the challenges and constraints of ensuring health and safety?

5. What are the common and most important Occupational and Health problems experienced in textile factories?

6. Is there any OHS inspection report?

7. Does the factory have health and safety personnel?

This is the end of our questionnaire. Thank you very much for taking time to answer the questions. We appreciate your help.

SECTION III: OBESERVATION CHECKLIST

No.	Item	Yes	No
1.	Are there any records of all individual workers?		
2.	Is there any occupational health and safety board?		
3.	Any availability of accident and incident records?		
4.	Availability of occupational health inspection reports?		
5.	Does the industry have of health & safety personnel?		
6.	Is there any First Aid Kit with necessary facilities in various work sites?		
7.	Is there any fire fighting equipments?		
8.	Any emergency exit provided?		
9.	Do the employees use the necessary Personal Protective Equipment?		
10.	Is there excessive heat in the workplace?		
11.	Is there excessive noise in the workplace?		
12.	Is there excessive dust in the workplace?		

This is the end of our observation. Thank you very much for taking time to answer the questions. We appreciate your help.

በአዲስ አበባ ዩኒቨርሲቲ የቢዝነስና ኢኮኖሚክስ ኮሌጅ

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ይህ መጠይቅ የ----------እንዴስትሬ ሠራተኞችን ሙያዊ ደህንነት ጤንነትና የሥራ አካባቢ በተመለከተ ጥናት ለማጥናት የተዘጋጀ ነው፡፡

የመጠየቂያ ቅጽ መለያ ቁጥር----------አድራሻ ----------

ቃለ መጠይቁ ከመደረጉ በፊት የተሣታፊዎች ፍቃደኛነት መጠየቂያ ቅጽ

ሰላምታ፣ እንደምን አሉ? እኔ አቶ/ወ/ሪት ----------እባላለሁ፡፡

እዚህ የመጣሁት ይህን ጥናት የሚያካሂደው የአዲስ አበባ ዩኒቨርሲቲየሕዝብአስተዳደርና ልማት አመራር የትምህርት ክፍል ቡድን አባል ሆኜ ነው፡፡

ከዚህ በመቀጠል ከሥራ ጋር በተያያዘ ባለፉት አስራ ሁለት ወራት ውስጥ የደረሰብዎት ጉዳቶችን በተመለከተ የተወሰኑ ጥያቄዎችን ልጠይቅዎት እወዳለሁ፡፡

ከእርስዎ የሚገኘው መልስ በሀገራችን ለሚከናወነው የሙያ ደህንነት ጤንነትና የሥራ አካባቢ አገልግሎት ለማሻሻል ከፍተኛ እገዛ ይኖረዋል፡፡

ከእርስዎ የምናገኘውን ማንኛውንም መልስ በሚስጥር እንጠብቃለን፡፡ ከዚህ ጥናት ጋር በተያያዘ በማንኛውም ጊዜና ቦታ ሥምዎ እንደማይጻፍና እንደማይጠቀስ ልንገልጽልዎ እንወዳለን፡፡ በአጠቃላይ መጠይቁ ወደ ሰላሳ ደቂቃ ገደማ የሚወስድ ሲሆን በጥናቱ የምናሳትፍዎት የእርስዎን ሙሉ ፈቃደኝነት ስናገኝ ብቻ ነው፡፡ በመጠይቁ ሂደት ለመመለስ የማይፈልጉትን ጥያቄ ያለመመለስ መብትዎ የተጠበቀ ነው፡፡

በጥናቱ ለመሳተፍ ፍቃደኛ ነዎት?

1. አዎ (መልስዎ አዎ ከሆነ ወደሚቀጥለው ጥያቄ ይሸጋገሩ)
2. የለም (ፍቃደኛ ያልሆኑበትን ምክናያት ቢገልጹልን ----------)

የጠያቂ መለያ ቁጥር ---------- ሥም ----------

ፊርማ ---------- ቀን ----------

የተቆጣጣሪ ሥም ---------- ፊርማ---------- ቀን -------

ምርመራ---------- ኮድ----------

ክፍል አንድ፡- ማህበራዊና ሥነ ህዝባዊ ገጽታዎችን በሚመለከት

1. ፆታ

    1. ወንድ 2. ሴት

2. ዕድሜ (በዓመት)

    1. <30 2.30-50 3. > 50

3. የትምህርት ደረጃ

    1. መጻፍና ማንበብ የማይችል/ የማትችል
    2. መጻፍና ማንበብ የሚችል/ የምትችል
    3. የመጀመሪያ ደረጃ ትምህርት (1-8) ያጠናቀቀ/ች
    4. ሁለተኛ ደረጃ ትምህርት(9-12) ያጠናቀቀ/ች
    5. ዲፕሎማ
    6. ዲግሪና እና ከዚያ በላይ

4. የሥራ ክፍል ----------

5. አሁን ባሉበት የሥራ ቦታ ስንት ዓመት አገልግሉ?

    1. < 5 ዓመት 2. 5-20 ዓመት 3. ከ 20 ዓመት በላይ

6. የወር ደሞዝ ----------

    1. ከብር 400 በታች 2. ከብር 400 - 1500

    3. ከብር 1501 - 3000 4. ከብር 3000 በላይ

ሁለት ፡- የሥራ ቦታ ጉዳትን በተመለከተ

1. ባለፉት አስራ ሁለት ወራት ውስጥ ከሥራ ጋር በተያያዘ የደረሰበዎት ጉዳት አለ?

1.አዎ 2. የለም

2. መልስዎ አዎ ከሆነ የጉዳቱ ዓይነት?

1.መወጋት 7. የሳምባ ህመም

2. ስብራት 8. የአንገት ጉዳት

3.ዓይን ላይ የደረሰ ጉዳት 9. የቆዳ መመረዝ

4. መቃጠል 10. የአንቀልፍ ችግር

5. መመረዝ 11. አጠቃላይ የሰውት ህመም

6. የጀርባ ህመም 12. ሌላ ካለ ይጠቀስ----------

3. የጉዳቱ ምክናያት

1. በሚንቀሳቀሱ ማሽኖች 8.ከፍተኛ ሙቀት

2. በተለያዩ ኬሚካሎች 9. ማንኛውም ዓይነት ጨረር

3. ኤሌክትሪክ 10. ሌላ ካለ ይጠቀስ----------

4. የሚያንሸራትት ወለል ----------

5. የእጅ መሣሪያዎች ----------

6. እሳት

7. አቧራ

4. በደረሰብዎ ጉዳት በጤና ተቋም ተኝተው ታክመዋል?

1. አዎ 2. የለም

5. ከሥራ ጋር በተያያዘ ጉዳት ባለፉት 12 ወራት ውስጥ ከሥራ የቀረበት ቀን ብዛት.....

6. ለጥያቄ አራት መልስዎ አዎ ከሆነ እባክዎ ከጉዳቱ ጋር በተያያዘ ያወጡትን ወጪ በሰንጠረዡ በተመለከተው መሠረት ይሙሉ

ቀን	የጉዳት ዓይት ወይም ህመም	የህክምና ወጪ	የትራንስፖርትና ሌሎች ወጪዎች

ክፍል ሦስት፡- የሥራ ቦታን እና የሠራተኛ ባህሪን በተመለከተ

1. በቀን ምን ያህል ሰዓት ይሰራሉ?

1. < 8 ሰዓት 2. 8 ሰዓት 3.12 ሰዓት 4. 16 ሰዓት

2. በሥራ ቦታቁጥጥር ተደርጎ ያውቃል?

1. አዎ 2. የለም

3. የሥራ ቦታ ደህንነትን በተመለከተ አዲስ ሆነው ሲቀጠሩ ወይም በአዳዲስ አሰራሮች ወይም በሌሎች ለውጦች ምክናያት ሥልጠና ወስደው ያውቃሉ?

1. አዎ 2. የለም

4. የእንቅልፍ ችግር አለበዎት?

1. አዎ 2. የለም

5. መልስዎ አዎ ከሆነ ምክናያቱን ቢገልጹልን? ----------

6. በሚሰሩት ሥራ ደስተኛ ነዎት?

1. አዎ 2. ደስተኛ አይደለሁም

7. መልስዎ ደስተኛ አይደለሁም ከሆነ ምክናያቱን ቢገልጹልን?

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8. በሥራ ቦታዎ የጉዳት መከላከያ መሣሪያዎች ተጠቅመው ያውቃሉ?

1. አዎ 2. የለም

9. ለጥያቄ ለምንት መልስዎ አዎ ከሆነ ምን ዓይነት መሣሪያዎችን ነው?

1. ጓንት
2. የጆር መከላከያ
3. የአፍና አፍንጫ መከላከያ
4. የጭንቅላት መከላከያ
5. የሥራ ልብስ
6. የብየዳ መነፅር
7. የፊት መከላከያ
8. ቦቲ ጫማ
9. ሌላ ካለ ይጥቀሱ -------

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10. የማይጠቀሙ ከሆነ ምክናያቱ ምንድን ነው?

1. የመከላከያ መሣሪያዎች ባለመኖራቸው
2. የደህንነትና ጤና ትምህርት ስለማይሰጥ
3. ለአጠቃቀም ምቹ ስላልሆነ
4. የደህንነትና ጤና ጠንቅ ስለሚያስከትል
5. ሌላ ካለ ይጥቀሱ ----------

ይህ የጥያቄዎቻችን መጨረሻ ነው፡፡ጊዜ ወስደው እነዚህን ጥያቄዎች በመመለስ ላደረጉልን ትብብር በጣም እናመሰግናለን፡፡