



College of Medicine and Health Science

Employees' awareness and compliance with occupational safety and health regulations in Rwanda: Evidence from UTEXRWA manufacturing company

A dissertation submitted in partial fulfillment of the requirements for the degree of

MASTER OF PUBLIC HEALTH

By

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DECLARATION

I, MUJAWAMARIYA Providence, do hereby declare that this work has never been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the dissertation contains no material previously published or written by another person except where due reference is made in the thesis itself.

Sign

Date

ABSTRACT

Background of the study: Organizations have both legal and ethical commitment to supply healthy and safe working environments as well as ensuring the total well being of their workers. The provision of any health and safety program differs according to the location and size of the organization, the nature of work being performed and type of employees. Organizations depend on workers as working partners and colleague members of the organization's community. By decreasing the rates and severity of occupational accidents, diseases and stress related-illness, and by increasing the quality of work for their employees, organizations become significantly more efficient.

Research objective: This study aims to explore the awareness strategies and compliance with Occupational Safety and Health (OSH) practices among employees of the UTEXRWA manufacturing company based in Kigali, Rwanda.

Methods: The study adopted a descriptive research design where data was collected from across respondents among the company employees and managers who were the primary sources of quantitative data. A structured questionnaire was used to collect data from 110 employees in the production departments. A qualitative approach (key informant interviews) was used to compliment the quantitative data. In addition, on-site observation was also carried out inside the textile company's factory focusing on health and safety measures in place for the workers.

Results: The results from the data showed that the company has an OHS policy; on the other hand 60.9% of the respondents were not aware on the organization's existing OSH policy. The study also showed that 99.1% of the respondents were not skilled on occupational safety and health practices. A strong majority of the respondents (66.4%) indicated that the main source of information related to OSH was their supervisors. The company keeps records and maintains registers for accidents experienced at the workplace; however the company doesn't submit accident reports to government labour inspectors. The study showed that the management of UTEXRWA provides personal protective equipment (PPE) and 98.2% of the respondents indicated that PPE were available during working activities and 91.8% were motivated by using PPE to protect their clothing and other personal effects. The study also showed that accidents do happen at the workplace and that 41.8% of the respondents have been exposed to hazards and physical injuries and that the cause of hazards was the lack of adequate trainings on OSH practices.

Conclusion: The analysis indicated discrepancies between the policies and practices that the employer understands and has reported to be in place to meet basic requirements and the policies and practices that employee reports to be in place. The study revealed that there is a compliance gap in the company related to government occupational safety and health regulations.

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DEDICATION

I dedicate this research project to my husband, Mr. SHINGIRO Aimable, my mom Kantengwa Suzanne and my siblings with whose support and encouragement I made it this far in my studies.

LIST OF ABBREVIATIONS AND ACRONYMS

OSH	Occupational Safety and Health
ILO	International Labour Organization
PPE	Personal Protective Equipment
OSHA	Occupational Safety and Health Act
NIOSH	National Institute for Occupational Safety and Health
OSHRC	Occupational Safety and Health Review Commission
NHIO	National Health Insurance Organization
MIFOTRA	Ministry of Public Service and Labour
PWD	People living With Disabilities
RSSB	Rwanda Social Security Board
MoH	Ministry of Health
WHO	World Health Organization
IRB	Institutional Review Board
CMHS	College of Medicine and Health Sciences
USA	United State of America
US	United State
CSPRO	Census and Survey Processing System

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CHAPTER 1: INTRODUCTION

1.1 Definition of key terms

“Occupational Safety and health” Is defined as an area involved with protecting the Safety, Health and welfare of people connected in work or employment.

“Occupational Accident” Refers to work or any other related accident that occurs at the work place which may cause injury.

“Occupational injury” Is defined as any personal injury, illness or death resulting from an Occupational accident.

“Occupational disease” Is defined as any disease developed as a result of an exposure to risk factors arising from work activity

“Occupational fatality” Is defined as a death that happens while a person is at work or performing work related tasks.

Hazard: Is something (e.g. condition, situation, practice, behavior) that has virtual to cause damage, including injury, disease, death, environmental, property and equipment harm. A hazard can be a thing or a situation.

Risk: Risk is defined as the probability that exposure to a hazard will lead to negative results or more simply, a hazard attitudes no risk if there is no exposure to that hazard.

Compliance: Compliance means conformity to or acting according to a certain accepted standards.

Health: The World Health Organization (WHO) has specified health, as a state of a full complete physical, mental and social well-being and not simply the absence of disease or disability.

1.2 Background of the study

Enterprises face great challenges in managing occupational risks. Limited resources, little knowledge about risk management process and deficiencies in organizational processes are often identified in the literature as important obstacles to occupational safety and health (OSH) compliance.

Occupational health and safety (OSH) with a fundamental approach of preventive health practices is a field where activities take place that aim to define worker’s health problems and provide the protection of workers’ health during their work life.(1).

According to ILO (International Labour Organization), occupational health is attempted at the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations. It also deals with the prevention amongst employees of departures from health produced by

their working conditions, the protection of workers in their employment from hazards resulting from factors adverse to health and the position and maintenance of worker in an occupational environment suitable to his/her physiological and psychological capacities. Occupational health, which advocates the adaptation of each working person to his/her job, remains neglected in most developing countries under the pressure of overwhelming social, economic, and political challenges. The objective of occupational health, which is the prevention of disease; health, can be performed through health education, specific protection, early diagnosis and treatment and rehabilitation for disabilities.

In past years, employers were not affected with the health and safety of their workers at work. An employee was not provided with safety and health equipment or training and s/he risked getting hurt at work during the time s/he carries out his/her obligations. Countries including Rwanda are in the process of improving management standards for occupational health and safety. An understanding of the impact of these systems is therefore timely.

Safety and health in the workplace have become an integral component to the viability of businesses for the employers, labor unions, governments and environmentalists in general. The need for safety is an intrinsically human concern. Every person whether one is employed or not, either in the workplace or outside the workplace, has the intrinsic need to be safe. Workers, as adult individuals, are also accountable for every decision they make with regard on securing their own health and safety in every social settings.(2).

The International Labor Organization (ILO) acts in the interests of the worker and embraces the idea that workers' points of view need to be heeded and given equal status with those of other stakeholders in the workplace in ensuring sound business and employment development. Worker's perspectives need to be considered in devising and carrying out health and safety measures at workplace.(2). Due to globalized economic trends, international organizations like the International Labor Organization have established standards to help regulate and bring about improved workplace conditions and services.(3).

The subject of health and safety in the workplaces covers a wide spectrum of issues. Among them are issues such as (4): i) Psychological safety such as stress, fears and attitudes , ii) Criminal and sexual harassment in workplace, iii) Working with hazardous chemical and mineral , iv) Working within harmful workplace emissions , v) Manufacturing of harmful substance and innovations and vi) Safety precautions, safety communication measures and personal protection equipment. An impaired worker in countries like the United State, for example, may have to advocate obtaining indemnity, which in most cases is not

successful and the cost of doing so has even prevented employees from going to tribunal. However, the ILO made recommendations in 1959 on the basis of this principle: “Occupational health services should be established in or near a place of employment for the purpose of: protecting the workers against any health hazards arising out of work or conditions in which it is carried on, contributing towards workers physical and mental adjustment, and contributing to the establishment and maintenance of the highest possible degree of physical and mental wellbeing of the workers”.

The employer has responsibility to protect the employees from all health hazards that may pose a threat to their safety and health.(5). This can include the responsibility to train and equip employees to meet health and safety standards, and to provide a healthy working environment for their employees.

Safety hazards are those aspects of the work environment that have the potential of instant and sometimes severe harm to a worker, for example the loss of hearing, eyesight or body parts, as well as cuts, sprains, bruises, broken bones, burns and electric shock. Safety hazards also include aspects of the work environment that have the potential of bringing long-term harm to a worker. Noxious gases and related substances, for example, can cause cancer or other diseases attributable to these substances or pollutants (including fumes) transmitted from machinery and industrial processes. Typical health hazards to health professionals in their quest to provide healthcare services include toxic and carcinogenic chemicals and dust, often in combination with noise, heat and other forms of stress.(6). Other health hazards include physical and biological agents. The interaction of health hazards and human organisms can occur either through the senses, by absorption through the skin, by intake into the digestive tract via the mouth or by inhalation into the lungs.

In workplace situations, occupational accidents may arise from three dimensions: the task being done, for instance malfunctioning machines, inadequate protective equipment, and working conditions which arise from poor lighting, fatigue, excessive working hours and employee mistakes that affect either employee or others.

Government plays a significant part in health and safety because it legislates to improve health and safety factors. In India, for example, it is mandatory under the Factories Act of 1948 to appoint safety officers in factories with a workforce of one thousand (1,000) or more.

The statistics on accidents at construction sites in Malaysia show that the construction industry is one of the critical sectors that requires immediate overhaul from the current site safety practices. (7).

In southern Africa, the practice of occupational health and safety (OSH) is itself multi-faceted and caught between the Ministry of Health (MoH) and the Ministry of Labour, although in many cases the Ministry

of Labor has assumed responsibility. Despite the poor coverage of OSH, 4 southern African countries have demonstrated a certain level of commitment to OHS illustrated by their ratifications of International Labor Organization (ILO) conventions concerning health and safety. Of 4 countries reviewed, Zambia has the highest number of ratifications of ILO technical conventions with 36, followed by South Africa with 17, Zimbabwe with 15, and lastly Botswana with 6. However, these endorsements still fall far below the ILO's 177 technical conventions.(8).

The Labour Act 2003, Act 651 of the Republic of Ghana, states "it is the duty of an employer to ensure that every worker employed by him/her works under satisfactory, safe and healthy conditions. It is noteworthy mentioning that some organizations have placed responsibility for employee health and safety with their Chief Executive Officers. This approach is typical of smaller organizations with threats or risks in this area or with mid-size organizations with fewer threats or risks. Large organizations that are aware of the health and safety of their employees often set up safety departments usually under the purview of their human resource management team. For example, in the United States of America (USA), a safety director should be appointed for every two thousand (2000) workers.

In Tanzania, its constitution, the United Republic of Tanzania Constitution, Articles 13 – 29, highlights the basic rights to work. The earliest legislation, in Tanzania regarding OHS (The Factories Ordinance Cap. 297) was promulgated in 1950 and became operational from January 1952. This legislation laid emphasis, however, on the protection of workers' health in factories, leaving most of the other sectors uncovered. A new piece of legislation in Tanzania, The Occupational Health and Safety Act No. 5 of 2003, came into effect on 1st August 2003, repealing the Factories Ordinance Cap 297 of 1950. The objectives of this new Act is to provide for the safety, health and welfare of persons at work in factories and other places of work, and also to provide for the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with activities of persons at work. Employees today are central to achieving competitive advantages.(9). This reality has led to the need for health institutions and other organizations to link their strategic goals and objectives in order to improve health service delivery and develop organizational cultures that foster innovation and flexibility. It must be noted that legislation and changed attitudes towards employees will make safety and health a priority areas for many organizations. In the organization's role of "managing bottom lines" there is realization that support and commitment to employee safety and health is ultimately cost effective.

1.3 Problem statement

Modernization and advance technological development both in developed and developing countries are causing a threat by failing to ensure the safe and environmentally friendly working environments in the work places. The unsafe work environments are potentially affecting the health and wellness to the global work force.

To ensure the workforce is healthy and safe, there is a dire need to establish and promote the environment of a “safety culture” in institutions of work in accordance with international standards on Occupational safety and health. The data shows that globally, a worker dies every 15 seconds from a work-related accident or disease, and in the same time period 153 workers have a work-related accident. Every day, 6,300 workers die globally, as a result of occupational accidents or work-related diseases due to occupational hazards. Every year, around the world there are more than 2.3 million deaths, and there are an additional 317 million accidents on the job resulting in extended absences from work, which negatively affects productivity and profit for the organizations involved.(2).

In sub-Saharan Africa, the occupational-related fatality rate is 21 per 100,000 workers per year with an accident rate of 16,000 annually. This means that each year 54,000 workers die and 42 million work-related accidents take place that cause at least three days’ absence from work.(1). There is a serious lack of health and safety policy in workplaces as illustrated by governments in most countries making it a policy including in Africa.(10).

In Rwanda, the occupational fatality and accident rates are not known due to reporting system gaps observed in past years. The 2012 national OSH survey carried out by MIFOTRA estimated that the number of occupational fatalities in the year 2012 had increased six to seven times over the number in 2007. It also estimated that the number of injuries in 2012 was almost four times greater than the number in 2007 and that occupational hazards has cost Rwanda approximately 1,400,190,808 Rwf (1.4 billion Rwf) over six years (2003 to2009/2010).(11).

In terms of human resources, Rwanda has a very limited number of professionals & experts in OSH, and an insufficient number to handle the various OSH issues at all levels.

Despite the fact that the government of Rwanda has put in place legislation to safeguard safety and health of workers, the number of accidents in workplaces has continued to increase. There is a need to determine why the number of accidents and fatalities are rising, indeed unacceptable, compare to develop and even to other developing countries. It is very important to find any loopholes in enforcing the requirements of current safety laws and regulations, and any weaknesses in inspecting and auditing workplace sites. One study in Malaysia revealed that inspection and examination of workplaces by occupational safety and

health officers occurred in 52.2% of the workplaces, which is low and could be perhaps one of the factors responsible for lack of full compliance.(12).

The level of compliance with OSH standards by employees also should be studied and analyzed to determine the effectiveness of implementing the occupational safety and health measures at worksites. Further there is a problem created by a lack of understanding the problems faced by companies in complying with occupational health and safety laws and regulations. It is likely that laws and regulations need to be more strictly implemented in order to ensure safety and health in the workplace. In this regard, compliance by the companies should be studied as well to explore the limitation of companies regarding their capabilities or the problems they face that havenot been previously brought to the surface for discussion.

The research presented here attempted to undertake a structured inquiry at the UTEXRWA textile factory in Kigali, which is one of the biggest textile industries in Rwanda. Industries are a potential source of hazards since employees are exposed to toxic chemicals that pose a wide range of health and physical hazards to the employees. Hazardous materials have caused sickness, injury and even death. Risks include skin injuries and infections, skin cancers, allergies, asthma, chemical burns, reproductive problems, birth defects, asphyxiation, injuries to internal organs, various cancers and even death. For this reason, the correct use and maintenance of the appropriate safety protective equipment is vital in the event, for example of hazardous materials spillages, leaks and other accidental exposure in order to protect workers.(13).

The lack of occupational health and safety awareness and management systems may lead to unexpected compensation costs, mainly by ignoring the notion that prevention costs are much lower than compensation costs, as shown in several cases in industries in the country. It is anticipated that this study will provide a basis for improvements in the occupational safety and health system at UTEXRWA and more widely in other factories.

1.4 Study objectives

This study aims to explore the awareness strategies and compliance with Occupational Safety and Health practices among employees of UTEXRWA.

Specifically, it seeks:

1. To identify OSH awareness strategies in promoting the health of workers of UTEXRWA
2. To determine OSH compliance practices among employees of UTEXRWA
3. To identify OSH hazards experienced by employees of UTEXRWA

1.5 Research questions

1. What are OSH awareness strategies used by the company in promoting the health of employees of UTEXRWA?
2. What OSH compliance practices do employees of UTEXRWA use?
3. What OSH hazards do employees of UTEXRWA experience?

1.6 Significance of the study

The importance of this study can be understood in various ways. The study will provide bases for the formulation of effective occupational safety and health (OSH) policies in manufacturing industries in Rwanda (drawing from the case of UTEXRWA). The study will also provide the opportunity for employees and employers to understand their specific and respective roles in safety and health practice within the workplace. It will also provide recommendations to other institutions in Rwanda to adopt in the formulation of effective safety and health measures in their institutions as well. The study will serve as reference material for policy makers in making future decisions concerning safety and health practices and policies in Rwanda.

1.7 Study limitations

This study has been done in only one textile industry in Rwanda; the external validity is limited. This study use cross-sectional survey study design, and as such it doesn't help to determine cause and effect-relationships.

Time limitation affected the research project. Every section of this research was given a timeframe within which it had to be accomplished. However, the researcher carried out the research activities at the same time as meeting other academic obligations. Also the period for research data collection was quite short.

Financial constraints existed in the course of the research, as the researcher spent a significant amount of money printing and photocopying relevant research materials, paying allowances to research assistants, paying transport cost to the workplace site to gather information, for data entry, and for printing the research results, among other expenses.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter pays special attention to the subject of occupational safety and health (OSH) as applied in Rwanda and the manufacturing industry UTEXRWA. It begins with a review of the origin of the legal framework provided in regulation OSH 1800. It continues with a brief historical development of safety, health and environment practices, the nature of manufacturing industry and finally the Occupational Safety and Health (OSH) measures that are applied in manufacturing industries for improved safety and health management in the company.

For the purpose of making a meaningful and realistic conclusion on the data drawn from the study, it is important that a closer look is taken at similar works done on occupational health and safety with reference to job performance and review some of the literatures relevant to the study, for comparison, confirmation and differences to be laid bare. Therefore, this chapter is meant to contain the review of various literatures considered to be relevant to the study.

2.2 Occupational health and safety

Safety hazards are defined as those aspects of the work environment that have the potential of immediate and sometimes violent harm to an employee; for example, loss of hearing, eye sight, or body parts, as well as cuts, sprains, bruises, broken bones, burns and electric shock.(9).

The Cambridge Advanced Learner's Dictionary defines "welfare" as "well-being". Therefore, health and safety are strictly aspects of employee welfare, which have been separately and historically identified as being significant areas of welfare provision.

Health hazards are those aspects of work environment that slowly and cumulatively (and often irreversibly) lead to deterioration of an employee's health; for example: cancer, poisoning and respiratory diseases. Typical causes include physical and biological hazards, toxic and carcinogenic dusts and chemicals and stressful working conditions.(14).

2.3. Regulations/ guidelines under occupational safety and health in Rwanda

The regulations address requirements related to general administrative matters and broad health and safety rules. The OHS Code specifies detailed technical standards and health and safety rules that work site parties must comply with to fulfill their obligations. Technical requirements cover areas such as chemical hazards, equipment safety, first aid, harassment and violence, and noise to name a few.(14).

The OHS Act, the regulations and the OHS Code provide “rules” to help keep your work site healthy and safe. The OHS Act gives the government authority to make regulations and codes (or rules) about health and safety in the workplace.

OHS legislations aims to reduce work related injuries and diseases by changing workplaces and work practices.(15). The OHS Act contain minimum requirement which employers must comply with in order to guarantee the safety of personnel. Organizations are under increasing scrutiny from suppliers, contractors, shareholders, government and among other actors in the economic environment.(16).

In 1970, the US Congress created OSHA, a Federal Government Agency, mandating the Agency to promulgate and enforce standards for workplace health and safety. At the same time, Congress established the National Institute for Occupational Safety and Health (NIOSH), the mission of which is to advise OSHA, employers, and workers about current knowledge and research on workplace health and safety; and the Occupational Safety and Health Review Commission (OSHRC) which provides appellate (legal) review of enforcement actions taken by OSHA. Several OSHA standards require employers to prepare and implement written plans to keep employees safe. Examples include OSHA standards for respirator use, control of blood-borne pathogens, and selection and deployment of personal protective equipment (PPE). Safety and Health at Work was promulgated. The law entails a number of requirements aimed at creating a culture of prevention of occupational hazards in the country. Compliance with this law is enforceable in all companies operating in Peru.(17).

To meet the objectives of the law, a prevention strategy must be developed with clear levels of responsibility: Government through inspection and supervision, Company through prevention, Worker through participation. For the first time an OSH Policy applying to all sectors of the economy has been articulated in Rwanda. The Policy proposes legislation to be enacted to create an integrated National OSH System in accordance with ILO C187 - Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187). This Policy applies to all Public and Private Sectors. Multiple approaches will no doubt be required to overcome challenges related to ensuring compliance with OSH legislation. The Government is committed to increasing and improving compliance with OSH legislation, through OSH inspection as a basic requirement in the implementation of an OSH management system.

The following actions shall be undertaken: i) Improving coordination among Public interdepartmental inspectors; ii) developing responsibilities of OSH Inspectors; establishing OSH Inspectors at District level; iii) developing prevention-oriented services advice backed up with sanctions; iv) developing the use of professional procedures for targeted enterprises; v) publishing Annual Reports on inspection results & analyses indicating the level of compliance in the implementation of OSH; vi) stocktaking of OSH

inspectors, improving their quality & quantity at National and District levels and improving inspectors' function as OSH inspectors, partners and tutors in companies.

2.3.1 Guiding Principles on occupational safety and health

The core principles informing the National Policy on Occupational Safety and Health are: Universal coverage – OHS legislation must cover workers and employers in all sectors of the economy and in all forms of employment relationships; Universal application of core rights and duties – the core rights and duties of employers and workers in relation to OSH must be spelt out in legislation; Prioritization of prevention and the promotion of a culture of prevention – all accidents and Health incidents are preventable; Appropriate and fair compensation and rehabilitation benefits – the provision of meaningful, accessible and equitable compensation and rehabilitation to workers in all sectors of the economy and in all forms of employment relationships; Application of the “polluter pays” principle - employers bears the cost of accidents and disease in their workplaces, including the cost of medical treatment, compensation and rehabilitation.(11). The OHS legislation puts many duties on the employer. Failure to comply with safety duties and responsibilities are considered as criminal offences in some cases and as such punishable by penalties or imprisonment or both depending on the severity of such violation. Stakeholders may also sanction organizations that are not compliant to safety regulations. Such sanction may negatively affect long-term sustainability of an organization.

2.3.2. Rwanda Social Security Organization

Rwanda's OSH legislation makes it the responsibility of employers to carry out sanitary and hygienic measures in the work environment. Insured persons, who in their work environment are in contact with harmful substances such as poisonous gases, radiation, etc., must have a medical check-up at least once a year by the National Health Insurance Organization (NHIO). Article 88

Persons employed in the place of work should have the physical ability appropriate for the type of work assigned to them. Employers are required to arrange for a medical check-up before their employment. If, after recruiting those covered by this law, it is found that the aforesaid were not fit and able for the assigned work at the time of recruitment, that the employer was negligent in making a medical check-up and as a result, the insured is involved in an accident or his illness is aggravated, the National Health Insurance Organization and this organization shall carry out the provisions of this law with respect to the insured, and the expenses related thereto shall be demanded and collected from the employer according to Article 50 of this law Article 90.

For the purpose of supervising the proper performance of Medical duties resulting from implementation of this law three medical insurance experts selected by the Minister of Health, and Medical Education,

will be made members of the Technical Council of the National Health Insurance Organization mentioned in Article 4 of the law for provision of medical treatment for government employees.(15).

Changes in the degree of disability will require revision of the amount of pension in the following cases article 93.Total disability pension shall, in case of cessation of the conditions of total disability, be terminated immediately on resumption of work by the pensioner. In case of a reduction of the degree of work-related disability to the measure mentioned in Article 73 to 74 of this law, depending on the case, either a work related partial disability pension or compensation for the loss of limb shall be paid. A work related partial disability pension mentioned in Article 73 of this law is subject to review within five years from the date of pension is established. If it is found in such review that the insured has ceased to meet one of the stipulated conditions, his pension will be terminated, and if Article 74 of this law covers him, he will receive the compensation mentioned in the said Article. In cases where the degree of partial disability resulting from work increases, and such increase is due to the accident which caused the disability, the partial disability pension, depending on the case, shall either be changed to a work-related total disability pension, or the amount of partial disability pension shall be increased.

2.4. Evolution of occupational health and safety

Globally, OHS is generally a new discipline that is still in its infancy stage, as reflected by the accident and occupational diseases statistics and the low global access to Occupational Safety and Health (OSH). Despite the huge negative effects on the lives of working people, OSH has remained an island whose existence has always been recognized but with no concerted efforts toward support. Rwanda is no exception to this, as evidenced by the significant gaps in human resource capital, training, and education and programmatic approaches in the workplace.

In the late 19th and early 20th centuries, employers ran their businesses as they saw fit to make profit. Employee safety and health were not their concern. In fact, in official terms these things were nobody's concern. Occupational safety and health remains a key consideration for US employers, since each year nearly 5,000 employees die as a result of workplace injuries, while roughly 6 million workers suffer non-fatal workplace injuries, at an annual cost to US businesses of more than \$125 billion. The past several years have also seen an increasing focus on employers' Duty of Care for their overseas workers, with many publications stressing both employers' ethical duties and the legal liabilities associated with failing to keep these workers safe.(18).

In the U.S, injured employees had to litigate to obtain compensation for their injuries. The cost of doing so effectively prevented employees from going to court. Besides, employees were rarely successful since,

under common law, if the employee knew of the hazards the job entailed or if the injuries were brought about as a result of the negligence of the employee or a co-worker, the employer was not liable.

From these origins, there has emerged an approach and practice with regard to health, safety and welfare issues. The national safety council had been established in 1913 in the U.S. after safety conscious managers and engineers spearheaded its founding (major disasters led to changes in thinking). Significantly the International Labour Organization (ILO) provided that occupational health services should be established in or near a place of employment for the employee welfare.(19).

Rapid industrialization in the past two decades has brought fast economic development in Taiwan for example. However, the risks of work-related diseases, injuries and accidents have increased with the economic growth. A total of 25,851 occupational injuries including 740 deaths were reported in 1993, which resulted in a direct compensation payment and indirect costs of one billion US dollars.

The Directorate of Occupational Medicine at the Venezuelan Institute of Social Security reported that in 2008, only 54,858 workplace accidents were reported, which means less than 50% of the accidents in the workplace.(14). The failures in the Venezuelan system of labor statistics, as well as the issue of underreporting, have made it impossible to quantify the real impact of accidents and occupational diseases on the working population. The 2006 statistics showed that the occupational fatality rate for accidents was 15.6 per 100,000 people in Venezuela, which is very high compared with the United Kingdom at 0.8 per 100.000 inhabitants; Sweden at, 1.4 per 100.000 inhabitants; and Switzerland at, 2.0 per 100.000 inhabitants.(20).

Occupational accidents and diseases impose an enormous cost to Rwanda and are among hindrances of development. With this regard, Rwanda has taken different measures to attacking these challenges. Rwanda is a Member of ILO since 1962 and has ratified a number of conventions in relation with OSH. Rwanda has also conducted a survey on OSH National Profile in 2012 to come up with an image of OSH in the Country.

The Country Profile on OSH conducted by the Ministry of Public Service and Labour in 2012 revealed that the number of occupational injuries increased numerically in a recent six years periods as follows: 35 (2007), 82 (2008), 93 (2009), 112 (2010), 118 (2011) and 138 (2012). The number of occupational fatalities also on increased in the same period: 41 (2007), 84 (2008), 114 (2009), 194 (2010), 264 (2011) and 263 (2012). OSH Country Profile also revealed that the amount of money (Rwf) spent on Occupational Hazards in a seven years periods was Rwf175,581,001 (2003), Rwf182,985,999 (2004), Rwf182,932,862 (2005), Rwf162,567,520 (2006), Rwf215,999,138 (2007), Rwf232,185,746 (2008) and Rwf247,938,542 (2009). The OSH Country Profile further revealed that among OSH preventive measures in place, the existence of sanitary convenience was at highest level with 94.3% and existence of OSH

Policy was at the lowest level with 3.8% in the organizations reviewed. For occupational hazards, OSH Country Profile revealed that ergonomic lighting, ergonomic ventilation, physical thermal and chemicals/-petrochemicals were very low and ergonomic length of work hours was moderate in the organizations reviewed.(11).

2.7 Responsibilities of employers and employees in occupational safety and health

Both employers and employees have the responsibility to look after health and safety at work. Employers have the main duties to prevent risks to their workers by putting in place protective measures including safe ways of working, safe equipment, suitable personal protective equipment and information, instruction and training for workers. But the law also requires workers play their part and help their employer to protect them: i) Taking care of their own and other people's safety and health; ii) Cooperating actively with their employer on safety and health; iii) Following the training they have received for doing their job safely, and for using equipment, tools, substances etc.; iv) Telling someone (employer, supervisor or worker representative) if they think the work itself or inadequate safety measures is putting anyone's safety and health at risk. The legal requirements reflect the reasons why workers should get involved to help raise health and safety standards for themselves and their workmates.(21).

Firstly, health and safety is about stopping them from getting harmed by work. And secondly, employees need to know the risks in their workplace and should contribute to managing them.

Employers first need to promote a health and safety culture, which supports worker participation. But workers should not then limit their participation to passive cooperation and following safety rules. If workers are to get the most effective protection for their own health and safety, they need to make full use of the worker participation arrangements at their workplace.

Various ways that workers can have and get involved include: Raising issues and making suggestions during meetings, team talks, training sessions, one-to-one talks with supervisors or managers; Taking part in any consultation activities. This could mean taking part in surveys or participating in suggestion schemes or safety competitions; Being involved in equipment trials, e.g., trials for selection of personal protective equipment; Volunteering to take part in occupational safety and health activities such as working groups; Reporting accidents, near misses or anything else they think could be unsafe, unhealthy or obstructive, but also pointing out any ideas for improvements; Speaking with their worker representative, if they have one, and participating in any activities they organize (meetings, surveys, etc.). Consider volunteering to be a worker representative; Contributing to health and safety news in the company newsletter; Applying the knowledge received in training to work tasks; Setting a good example to new recruits and helping them on the health and safety aspects of their work.(19).

According to European Agency for Safety and Health at Work, workers are to get the most effective protection for their own health and safety; they need to make full use of the worker participation arrangements at their workplace.

2.5 Employee's attitude toward occupational safety and health at the workplace

According to a recent report of MIFOTRA, employees have responsibilities which include taking reasonable care to protect their own health and safety and, in most cases, that of their co-workers.

It is the duty of all employees to take care of their own Health and Safety, as well as that of other employees who may be affected by their actions or negligence at work; give information to Labour Inspectors and OSH staff MIFOTRA; wear prescribed safety clothing or use prescribed safety equipment where necessary; report unsafe or unhealthy conditions to the employer or labour inspector as soon as possible; report as soon as practically possible an incident that may affect their Health or cause an injury, they shall report that incident to the employer and authorized person or the labour inspector/OSH experts as soon as possible; carry out any lawful order given and comply with the health and safety rules and procedures laid down by the employer or by any other authorized person in the interest of Safety and Health; execute good housekeeping in the workplace and ensure that there is no Health and Safety hazard due to bad housekeeping and Make sure that there is a place for everything and everything is in its place.(11).

The MIFOTRA reports also Identify the following as employees' basic rights under the joint responsibility model; the right to know about workplace safety hazards, the right to participate in the occupational health and safety process, the right to refuse unsafe work if they have "reasonable cause" to believe that the work is dangerous.(22).

"Reasonable cause" usually means that a complaint about a workplace hazard has not been satisfactorily resolved, or a safety problem places employees in immediate danger. If performance of a task would adversely affect health and safety, a worker cannot be disciplined for refusing to do the job.(23).

2.6 Effect of trainings on OSH in improvement of compliance among employees

A study has assessed the effect of first aid training on occupational safety and health behavior in industries, intervened to reduce workers' willingness to engage in risky behavior at work and reduce their willingness to tolerate for unsafe situations.(24). The finding was similar to the research done by (22) who reported that managerial respondents feel that training is crucial to improving safety performance. Employees reported saying that formal programs are needed and that informal training is a significant contribution to their knowledge of work safety and health (25). The informal training referred to by the employees is undocumented trainings they received outside a classroom setting, such as on-the-job

training, co-worker mentoring and supervision. Little investigation has been reported into effectiveness of safety and health training programs, and evidence suggested that trainings is beneficial.(25).

In Peru, training programs in occupational safety and health are carried out through postgraduate programs in different public and private universities located mainly in Lima.(7).

The following are the main training programs:Specialty in occupational and environmental medicine, master program in occupational and environmental medicine, master program in occupational and environmental health, Master program in ergonomics, specialty in occupational nursing, master program in prevention of occupational hazards. Many OSHA standards, particularly the “vertical standards,” require workers be trained to recognize and control hazards to which they may be exposed, and that such training be documented and considered “effective.” Although OSHA would not be able to cite lack of training about hazards that occurred (except only during foreign travel), employers would still be wise to ensure that training provided to employees, whether on-shore or overseas, is documented, consistent, and complete, according to American College of Occupational and Environmental Medicine

The quality of the training programs for some occupational health professionals may require standardization and quality assurance because the training and development agencies are also the professional bodies. In South Africa, medical doctors can receive occupational health training through a 2-year part-time diploma course offered as a combination of distance learning and/or block release in various universities or a formal 4-year specialty training recognized by the College of Medicine South Africa.

An employer is obliged to train workers on health and safety in the workplace including the correct use of equipment. A Workplace Health and Safety Committee is responsible to provide advice on health and safety training programmes and adjustment of such programmes; to examine documents specifying, for each training activity, the duration and the means allocated to achieve it and to ensure its effective implementation; and to ensure that all appropriate measures are taken to provide training of workers and upgrade their skills in the field of occupational health and safety (Articles 90-91 of the Law regulating Labour in Rwanda, 2009 (i.e., the Labour Code), and Article §7 of the Ministerial Order N°02 of 17/05/2012 on Determining Conditions For Occupational Health And Safety)

2.8 Compliance with Occupational Safety and Health Regulations

Safety and health concerns everyone in an establishment, although the main responsibility lies with management in general and individual managers in particular.(26). People working in an organization are supposed to perform specific roles regarding occupational safety and health, which are summarized in the paragraphs bellow. Compliance means conformity to or acting according to certain accepted standards. The framing of the safety and health regulations under regulatory package does not stem from theory, but

from the technological, social and cultural level of the country.(14). This concerns the compliance with any regulation achievable in any enterprise to which it applies.

Management develops and implements health and safety policies. The policy statement should underline the ultimate responsibility of top management for health and safety performance of the organization. The policy must among other things demonstrate the top management's commitment to protection of the organization's employees from hazards at the workplace and indicate how this protection will be provided. Telling supervisors to "watch for spills" and employees to "work safety" is futile if everyone thinks management is not serious about safety.(27).

Management also has the duty of monitoring and evaluating health and safety performance and taking corrective action as necessary. As an accident prevention mechanism, safety engineers should design jobs so as to remove or reduce physical hazards, while managers and supervisors should insure that employees wear personal protective equipment (PPE). Managers are also directly responsible for ensuring that employees are conscious of health and safety hazards and do not take risks. It is necessary to deliver the message that safety and health is important, as long as this supplements, rather than replaces other initiatives.(26).

Management should ensure that employees have elementary skills in emergency procedures, first aid and firefighting.(10). It is also important for management to ensure that occupational health programmes are designed to minimize the impact of work related illnesses arising from work. Good housekeeping practices to keep premises and machinery clean, control of noise, fatigue and stress, pre-employment medical examinations and surveillance of worker's health to ensure that potential health risks are identified in good time are some of the health programmes that should be implemented by management to ensure compliance.

Employees should be aware of what constitutes safe working practices as they affect them and their fellow workers. While management has the duty to communicate and train individuals, employees have a duty to take account of what they have heard and learned about the way they carry out their work. Health and safety representatives deal with health and safety issues in their areas and are members of safety and health committees. Safety committees advise on health and safety policies and procedures, help in conducting risk assessments and safety audits and make suggestions on improving health and safety performance.(10).

It should be borne in mind that it is employers that set down working conditions: they choose the premises, equipment and substances with which work is to be performed and thus they are the parties responsible for avoiding any danger to the safety and health of their workers. While setting down the working conditions, an employer should comply with specific obligations provided in legislations.(28).

This study will be carried out to assess the degree of compliance at workplaces in Rwanda with certain legal requirements concerning occupational safety and health.

2.9 Theoretical Framework

In June 1998 the International labor conference adopted a declaration on fundamental principles and rights at work and its follow up that obligates members states to respect, promote and realize freedom of association and the right to collective bargaining, the elimination of all forms of forced or compulsory labor, the effective abolition of child labor, and the elimination of discrimination in respect of employment and occupation. Article four of the occupation safety and health convention, 1981 (No. 155) states that each member shall, in the light of national conditions and practice, and in consultation with the most representative organizations of employers and workers, formulate, implement and periodically review a coherent national policy on occupational health and safety and working environment.

The literature on workplace safety and health management systems revealed that much of the subject has been covered in different parts of the world. The ground thus covered tends to focus predominantly on psychological factors at workplace, safety concerns at workplace, workplace politics, workplace spirituality, epileptic medication at the workplace, safety climate at workplace, exposure to chemicals and perceptions of risks. (29).

2.9.1 Conceptual framework

This section deals with the relationship between two variables making the research topic. These variables are referred to as independent variables which influences the dependent variables.

Conceptual frameworks are structured from a set of broad ideas and theories that help a researcher to properly identify the problem they are looking at, frame their questions and find suitable literature.(30). For this case therefore the research was to find out how occupational health and safety management systems are implemented in work places in UTEXRWA manufacturing industry. See Figure 1, next page,

Independent variables

Organizational Policy on OSH

- Implementation
- Compliance
- Worker's medical surveillance

OSH knowledge and skills

- Awareness
- Hazard identification
- Risk assessment

Existing OSH measures

- Provision of PPE
- Trainings on OSH mechanism
- Safety committee

Budget allocated to OSH

- Financial compensation
- Resources used during accident
- Resources used to purchase PPE

Dependent variables

Compliance with OSH

- Reduction of accidents
- Reduction of OSH related disease
- Reduction of absenteeism
- Reduction of work related stress
- Improve worker's life condition

Figure 1: Conceptual framework

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter deals with research methodology providing a rational explanation of the nature and source of data collected. The methodology includes techniques for study design, setting the target population, the sampling frame, and the sample size and choosing the sampling techniques, as well as selecting the data collection instruments and determining the data collection procedures. The study followed a quantitative approach design with elements of a qualitative approach to validate the quantitative data.

3.2 Study design

This research used cross-sectional survey study design; it defined the frequency and distribution of a health problem. As this study is trying to answer the questions of “who” and “what”, a descriptive study design is required in order to present data in a meaningful way. Descriptive research helps “to understand the characteristics of a group in a situation of interest, aid in thinking systematically about aspects in a given situation, offers ideas for further probing and research, and/or helps make certain simple decisions.(31).

This research made use of both qualitative and quantitative data gathered through the administration of a questionnaire by conducting interviews and by conducting on-site observation focused on workers’ health and safety inside the textile production units of Rwanda’s UTEXRWA Company.

3.3 Target population

The target population of the study consists of all regular employees who had been employed by UTEXRWA to work in various production departments/units and have at least of one year on the job at the firm including head of departments and managers of UTEXRWA.

UTEXRWA was chosen because it has a large number of workers and it is one of the large textile companies in the country producing Rwanda’s first commercial silk-fabrics. Further, this industry might be a potential source of industrial and occupational health hazards since employees might be exposed to various kinds of substances used for the textile.

3.4 Sampling frame

Sampling is a scientific process of selecting a statistically adequate number of elements to represent a population in an experiment. The researcher therefore took the population as indicated above-all employees enrolled in the production department who had been employed by UTEXRWA and have at

least one year of experience and who have an implied role in safety compliance in this manufacturing industry. The sampling frame was constituted as a list of all staff currently working at UTEXRWA who was assigned numbers from 1 to the last 408 for anonymity.

3.5 Sample size and sampling techniques

In survey methodology, sampling is the selection of a subset (a statistical sample) of individuals from within a population, to estimate characteristics of the whole population.

Systematic sampling has been undertaken, systematic sampling is a probability sampling method where the respondents are chosen from a target population by selecting a random starting point and selecting other respondents using a fixed “sampling interval”. Sampling interval is calculated by dividing the entire population size by the desired sample size.

The minimum sample size is calculated using Cochran’s Sample Size Formula

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where

n_0 = the size minimum of the sample

z = level of confidence (=1.96 to the threshold of 95%).

p = Baseline level of the selected indicator

In the absence of real data from a recent study on the Employees' awareness and compliance with occupational health and safety regulations in Rwanda, it is preferred to assign this parameter the value of 50%, which gives the highest sample size needed for this study.

e = Margin of error; the acceptable margin error is of 8%. This means that the estimated values are within the range of $\pm 8\%$ of actual value.

$$n_0 = (1.962)^2 * 0.5(1-0.5) / (0.08)^2 = 150$$

Second, adjust for the size of the population using the following equation (remembering that this only has an effect for small and moderate sized populations):

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

Where N= 408 employees

$$n = 150 / (1 + (150 - 1) / 408) = 109.87432 \pm 110$$

The required sample size for the survey is therefore 110 respondents.

The researcher therefore collected quantitative data from 110 employees in the production departments.

3.6 Data collection instruments

The study was based on primary data that has been collected through the use of the following instruments:

Questionnaires: The researcher developed the questionnaire according to four standards: the ILO convention 187, the OSH system at national level, the OSH system at establishment level and compliance with ISO 45001. A well-structured questionnaire was used to collect data at the site with questions related to awareness and compliance with occupational health and safety regulations in UTEXRWA. The questionnaire was designed to get responses to the key research questions and answers related to the performance indicators developed.

The design of the employee's questionnaire was based on the expected outcomes, objectives and indicators developed. It collected quantitative data. The validity and reliability of the questionnaire ensure that errors are minimized during data collection.(32).

All questions were translated into Kinyarwanda from the original English questionnaire; both questionnaires in both languages were used based on the language in which the respondent is most fluent and based on their preference.

The questionnaire contained 5 blocks which are: Social demographic information and Economic status, level of compliance, awareness strategies, Trainings and level of satisfaction using a set of 45 questions.

Key Informant Interview: A discussion was conducted with managers of UTEXRWA because they are in charge of the OSH implementation processes and employees are under their control for delivering on OSH. In this case, questionnaires were designed to help in assessing what managers do related to OSH. A semi-structured questionnaire contained open-ended questions was used to prompt discussion or conversation with respondents and elicit data about a subject. The interview was designed to gather valid

and reliable information through gathering the responses of the respondent to a planned sequence of questions. The discussion provided the researcher with a better understanding of the key issues concerning the topic under study.

Interviews solve the problem of misunderstanding the questions in the questionnaires. Misunderstanding was largely avoided because the interviewer was present to explain any question that the respondent did not understand. Data was recorded or collected in writing notebooks by the interviewer. A format or template for collecting verbal responses was prepared to ensure responses are noted on all questions to be asked.

Personal observation: The researcher undertook personal observation through the UTEXRWA company general environment to examine the design, hazards, equipment use, comfort, provision of exits and entrances, waste disposal, signage and promotional material for OSH and any other feature related to OSH that were visible. The researcher again visited the departments/units selected to understand the OSH system in place and to observe evidence of employees complying with safety measures in the discharge of their duties.

A checklist has been made to observe the compliance with OSH practices in UTEXRWA:

- Using Personal Protective Equipment
- General environment
- Waste disposal system
- Hazards exposed to employees
- Hygiene and sanitation
- First aid boxes
- Lighting and ventilation
- Fire extinguishers
- Posters on OSH
- Comfort
- Emergency exit
- Signage
- Document records

3.7 Data collection procedures

The study involved the use of a number of methodological techniques and tools for assessing the OSH systems at UTEXRWA. These included administration of the questionnaire, interview questions and observation guidelines. Data collection is an important aspect of any type of research study; inaccurate data collection can impact the results of a study and lead to poor results. It is critical to relate the research

questions with the method and type of data to be collected. The data was collected through individual questionnaires, discussions (interviews) and site visit (*in situ*). The research focused on primary data to answer the identified research questions.

The researcher conducted a pre-testing of the draft questionnaire with few potential respondents in an informal manner before following up with the full-scale questionnaire administration. The aim of the pilot study was to estimate the time to complete the questionnaire, determine the clarity and understanding of the questionnaire and to confirm feasibility of the questionnaire administration. The participants of the pilot study were not included in the main study.

Questionnaire Administration

Questionnaires are commonly used to collect important information about a population. A standardized questionnaire was used to cover all the sampled respondents and covered all areas of interest to the research; the standardized questionnaire was administered to all selected respondents selected randomly to be in the sample.

A list of all employees currently working in the production Department who had been employed by UTEXRWA prior to April 2018 was prepared before data collection commenced in order to provide an updated sample frame for selecting the sample. A systematic sampling technique was used. The systematic sampling was done to identify 110 employees from the population defined above. To select the employees to be interviewed in the production Departments of UTEXRWA, a systematic sampling method was used following these steps:

- Listing of all employees currently working in production Departments who had been employed by UTEXRWA before April 2018 in ascending order (1 to X)
- Selection of 110 employees using systematic sampling method.
- Determine the sampling interval step (K) which equals to N/n (with N = the total number of all employees currently working in production Departments who had been employed by UTEXRWA before April 2018;
- n = number of 110 employees to be interviewed
- Then, the first number (i) of selection will be selected at random ranging from 1 to k;
- Employees sampled are those carrying the numbers i ; $i+k$; $i+2K$ and so on... $i+(n-1)K$
- It will therefore be sufficient to add the number K to the row of the previous employee to obtain consecutive employees indicated to be interviewed.

After selecting the 110 responding employees, they were invited to a private room at the UTEXRWA production facility where they were given instructions for filling out the questionnaire by themselves.

The information collected was entered into the data application developed in Cspro (Census and Survey Processing System). The data collected were quantitative data and were analyzed using content analysis. This is an approach that includes sorting and coding raw data and the use of STATA software for organizing the data into similar themes. Quantitative data was analyzed and the findings presented and organized in tables for easy understanding.

Primary Data

Primary data is the data that is collected first hand by the researcher. This is mainly the data that collected from the UTEXRWA Company that was studied to inform the researcher on the issues at hand.

N= Final sample size

K= Sampling interval

3.8 Data analysis

The analysis of the data collected was done at the end of the data collection. The responses were classified and summarized on the basis of the information provided by the respondents. The analysis was done using both qualitative and quantitative tools. With the quantitative tools the use of STATA, Microsoft excel, figures, tables, statistical tools such as graphs, charts, diagrams were used, whereas qualitative made use of descriptions, analysis of feedback from interviews.

3.9 Ethical considerations

As an ethical consideration, permission was pursued after from IRB of College of Medicine and Health Sciences (CMHS) and to the various bodies that were involved in the study. The ethical approval was presented to the honor of UTEXRWA. A permission to carry out study in UTEXRWA Company was granted to the researcher. The purpose of the study was explained to officials and those who participated to respond to questionnaires and interviews.

CHAPTER 4: RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter covers the presentation of responses, analysis and findings of data collected from diverse sources, i.e, questionnaire, interview and personal observation.

The researcher in attempt to collect data relevant to the study distributed one hundred and ten (110) copies of questionnaires to the employees of UTEXRWA in production unit which means that the total number of questionnaires admitted were 110 copies. All questionnaires were filled complete and returned.

As a result, presentation, analysis and conclusion of the study were based on one hundred and ten (110) of questionnaires as below under the various headings:

4.2 Socio-demographic characteristics of the study participants

A total of 110 employees of UTEXRWA were surveyed in this study. The mean age was 34.5 years and SD was 8.3. Considering their gender, 53.6% (59) were female while males were 46.4% (51). The majority of the study population was married with the proportion of 70% (77) while only 30% (33) were single. Employees who participated in the study have attained only primary and secondary education with the proportions of 54.5% (60) and 45.5% (50) respectively. Considering the income, the majority earn less than 50,000 Rwandan francs per month with proportion of 81.8% (90) and 18.2% (20) earn between 50,000 and 70,000 Rwandan francs. (Table 1)

Table 1: Socio-economic and demographic information of the study participant

Characteristics	Frequency	Percentage
Age (Mean, SD)		(34.5, 8.3)
Sex		
Female	59	53.6
Male	51	46.4
Marital status		
Single	33	30
Married	77	70
Education level		
Primary	60	54.5
Secondary	50	45.5
Religion		
Catholic	45	40.9
Protestant	54	49.1

Adventist	11	10
Monthly personal income		
< 50,000	90	81.8
50,000 -70,000	20	18.2
Total	110	100

4.3 UTEXRWA OSH Awareness strategies in promoting the health of workers

As a complement to the quantitative part of the research, qualitative data have been collected. Structured interviews were conducted with UTEXRWA managers, including human resource staffs, the Director of finance, supervisors and heads of different departments of the company.

The results from qualitative data showed that the company has an OHS policy with respect to the laws of MIFOTRA (Ministry of Public Service and Labor). *“In the development of the policy, there is involvement of worker representatives and managers as well as heads of departments with the guidance of MIFOTRA representative with involvement of other stakeholders”*. Said the respondent

The company shares all necessary information from different departments and the OSH budget is allocated taking into consideration the severity of risks for departments.

Numerous awareness strategies have been highlighted as the main key findings and are summarised in the following paragraphs:

1. It provides Personal Protective Equipment (PPE) to the employees where necessary, for example those who work with cotton are provided with masks; those who climb high are provided with helmets for their protection and those who are exposed to chemicals are given gloves.
2. The company has first aid equipment kit and trained personnel to provide first aid. The company gives all equipment to the heads of departments who select the employees who need them the most; supervisors and heads of department are in charge of employees.
3. The company assigns heads of departments and supervisors to be the ones in charge of OSH; they teach workers about risks, and the importance of safety measures. They also check and monitor if workers comply with the policy. Supervisors work closely and daily with employees, which is why they are given responsibilities. Supervisors are in charge of teaching workers about OSH, but sometimes a labor inspector come and teach workers about safety and health in appropriate way.

The company does keep records and maintains a register of those who have experienced a hazard in the workplace; it shares its annual report on hazards with employees. However the company doesn't submit accident reports to Labour inspectors, as the numbers of accidents are minimal at the company. Workers do experience injuries, but the company has all necessary equipments and trained personnel to deal with

those injuries. If necessary the company takes the employees to the hospital. The company is a member of RSSB and pays insurance premiums for workers' coverage. For those employees who have experienced an injury, the company first provides first aid and the company then gives employees compensation. Beyond that, the company reports cases of permanent disability to the RSSB and the company informs workers that they should have compensation in that case.

The company doesn't have an expert officer in charge of occupational safety and health. OSH compliance is done using department heads and supervisors, as noted above. *"The challenges that the company faces is that it doesn't have an expert officer responsible for occupational safety and health: the supervisors are in charge of OSH and most of time they didn't receive trainings in OSH"* said one respondent.

"The company should do more: It should be planning to train workers in OSH, engage a professional officer for occupational safety and health, and promote OSH monitoring and inspection in order to comply with OSH requirements in order to comply with OSH" said that respondent.

"Employees' are informed that if there is an accident which cannot be treated with first aid, the company takes that person to the hospital, and if there is a parmanent disability the company reports to RSSB and requests to be paid, using the company policy which it pays RSSB to manage". Said the respondent

Another challenge is that employees do not know the company budget allocated to occupational safety and health. Further, the company doesn't conduct worker's health surveillance to have baseline data.

A researcher carried out on-site observation in various company departments, starting with the administration department, which houses different sections. There the company has put in place good ventilation and good lightening systems, and fire extinguishers in case of fire outbreak. The company revealed that the national police carry out inspection on fire extinguishers, check to see if they are expired or if they work properly. The company invites a representative from RSSB (Rwanda Social Security Board) to do inspections on safety and health issues at workplaces.

Two on-site observation visits were made in the production department. The company has 6 departments in the production area, and all departments work in the same building, though in different areas, there is a weaving department, a spinning, a garment, a processing, a packing and a store management department.

The researcher observed that all departments are located very close to each other and the ventilation system is very poor; with each section has only one fan. The production rooms don't have enough windows and the windows are very small for the high number of the staff. More than 400 employees work in the production section of the factory, which is very small for this number of people including production machines. One place on the factory that is closer to the production section contains black water; there is no drainage system for cleaning the place, which may contribute to hygienic problems.

Waste disposal systems are insufficient. There is only one dust bin at exit door, while at least one bin should be located in each department; waste bins are not labeled to indicate whether it contains infectious items or not, so that it can be handled with care. There is no system of indicating caution any dangerous places to alert employees throughout the factory floor.

No posters were observed to remind workers either how to use fire extinguisher, or about hygiene or about other necessary occupational safety and health practices and regulations.

There is no emergency exit in case of outbreak of fire; there is no pathway reserved for people living with Disabilities (PWD). Furthermore, there was no smoke detector that may alert the workers in case of fire.

4.3.1 Occupational Safety and Health policy at the workplace

To establish the awareness strategy with Occupational Safety and Health policy at the workplace, the OSH policy is an important guiding document used by the company to promote the health of workers. This study was on the right track to identify the availability of the policy of the company and to know whether workers use it as their guidance in implementing safety measures at the workplace, 27.3% (30) indicated that there is an organizational Policy on OSH. On the other hand 60.9% (67) were not aware of the existing organizational policy on OSH and 11.8% (13) indicated that they don't know. Those who indicated that there is a copy of OSH policy were 20% (6), those who said that there is not, were 53.3% (16) and those who said that they don't know were 26.7% (8). Those who responded that the implementation of OSH policy at the workplace is partially implemented were 27.3% (30), those who said that they don't know were 72.7% (80). Those who responded that there is a staff in charge of OSH were 11.8% (13) and those who responded that there is no staff in charge of OSH were 88.2% (97). Those who indicated that inspection of OSH is done daily were 7.7% (1) and those who responded that inspection is done at no definite or fixed time were 92.3% (12). Apparently, 73.6% (81) reported the absence of OSH committee at their workplace, 16.4% (18) responded that there is a presence of OSH committee and 10% (11) reported that there is no OSH committee at the workplace. (Table 2)

Table 2: Awareness strategy with Occupational Safety and Health policy at the workplace

Policy existence and implementation	Frequency	Percentage
Existence of an Organizational Policy on OSH		
Yes	30	27.3
No	67	60.9
Don't know	13	11.8
Copy of OSH policy available		
Yes	6	20
No	16	53.3
Don't know	8	26.7
Implementation of OSH policy at the workplace		
Partially implemented at the workplace	30	27.3
Don't know	80	72.7
Presence of the staff in charge of OSH		
Yes	13	11.8
No	97	88.2
Frequency of inspection on OSH of the employees		
Daily	1	7.7
No definite time fixed	12	92.3
Presence of OSH committee		
Yes	18	16.4
No	81	73.6
Don' know	11	10
Total	110	100

4.3.2 Trainings on Occupational Safety and Health at the workplace

The study sought to determine whether training was a determinant for the effectiveness of occupational safety and health at workplace. With regard to the OSH training, the study showed that 99.1% of the respondents were not trained on OSH practices in the work place.(Table 3).

Table 3: Trainings on OSH among employees

Variables	Frequency	Percentage
Ever trained on OSH		
Yes	1	0.9
No	109	99.1
Total	110	100

4.3.3 Training on first Aid

The study sought to determine whether availability of equipment and trained personnel for first aid had an influence on the effectiveness of OSH. There is a well-equipped first aid kits at the workplace and 98.2% (108) emphasized that there is a trained personnel to provide first aid in case of need. To assess the awareness of employees, if an employee got an injury at the workplace, 43.6% responded that they ask for professional rescuer’s help: on the other hand, 60.9% (67) responded that they rescue the employees right away and 1.8% (2) indicated that they have to make sure about their own safety before rescuing. (Table 4)

Table 4: Ability to provide first aid among employees

Availability of First Aid kit and personnel trained for first aid	Frequency	Percentage
The Presence of a well-equipped first aid kit		
Yes	110	100
No	0	0
The Presence of a responsible person trained to provide First Aid		
Yes	108	98.2
No	2	1.8
Ability to rescue the employee right away		
Yes	67	60.9
No	43	39.1
Inform professional rescuers		
Yes	48	43.6
No	62	56.4
Total	110	100

4.3. 4 Sources of information related to OSH among employees of UTEXRWA

In order to determine the main source of information that employees have related to OSH, respondents indicated their responses to a variety of questions. A strong majority of the respondents 66.4% (73) reported that the main source of information related to OSH was from supervisors, 15.5% (17) indicated that they have received information related to OSH from the media, 0.9% (1) reported that the source of information related to OSH was from material data sheet, and 28.2% (31) reported that there is no source of information related to OSH at UTEXRWA. (Table 5)

Table 5: Awareness on the source of information on OSH among employees of UTEXRWA

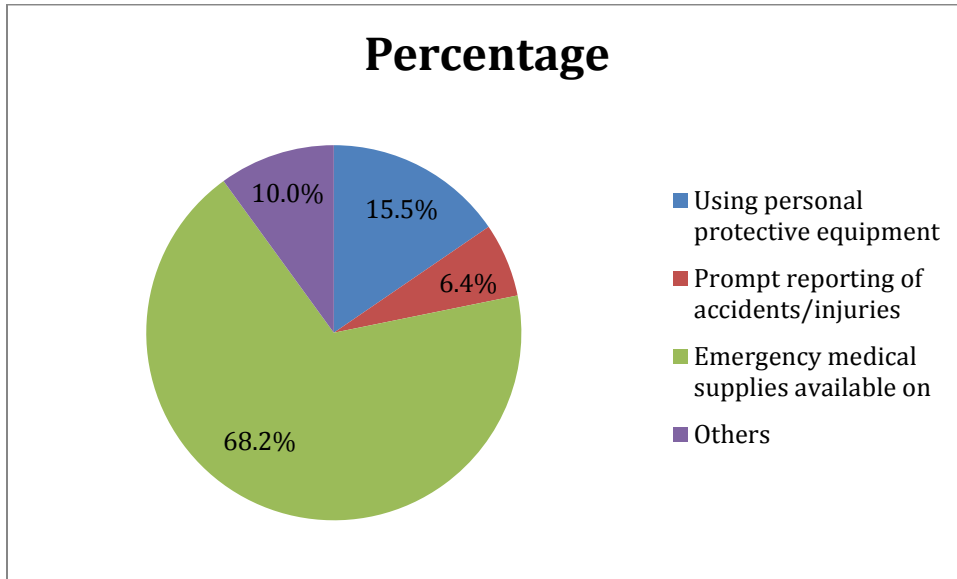
Source of information related to OSH	Frequency (n=110)	Percentage
Posters		
Yes	0	0
No	110	100
Material data sheets		
Yes	1	0.9
No	109	99.1
Media		
Yes	17	15.5
No	93	84.5
Employee in charge of OSH		
Yes	0	0
No	110	100
Supervisors		
Yes	73	66.4
No	37	33.6
Nowhere		
Yes	31	28.2
No	79	71.8

Note: Answers were overlapping since a respondent could choose more than one source of information.

4.3.5 Existing health and safety measures at UTEXRWA

In order to establish whether employees of UTEXRWA were aware of the existence of the existence of Occupational Safety and Health measures at the workplace, the respondents responded to questions on this topic. 15.4% (17) respondents reported that there is use of personal protective equipment, 6.4% (7) reported there is a way to report accidents/injuries and 68.1% (75) reported that emergency medical supplies are available. (Figure 2)

Figure 2: Existing occupational health and safety measures at UTEXRWA



4.4 Compliance with OSH among employees of UTEXRWA

Based on the results from observation, management of UTEXRWA provide personal protective equipment including body suits (e.g: apron), boots, masks, gloves, etc. among employees. Employees who work in store wear boots; however employee don't wear masks and they are more exposed to hazards with particles from the cotton and dusts from different section with the work they do, e.g. spinning department works with cotton.

Employees don't wear goggles during working activities. The researcher also observed that the place is very loud and all departments were located on the same floor, it has been observed that employees don't wear earmuffs. The chairs they use during the work are not ergonomic chairs and yet they sit on them 8 hours a day/ 6 days a week.

The researcher also made observation on hygiene and sanitation, soap and clean water in the department were not available, toilets were not generally clean and hand washing is not promoted. Apparently, the production department that houses five departments is not clean.

The departments have access to a first aid box with all necessary equipments and are used by all employees from the production department.

There are workable fire extinguishers in all the departments; nevertheless some of them didn't have fire retardant, while others were working though employees didn't receive trainings on using fire extinguishers.

It was obvious that employees don't work in easy environment; they were not comfortable during data collection, supervisors were around as well as other authorities.

4.4.1 Personal Protective Equipment compliance

To determine the compliance with OSH regulations among employees of UTEXRWA, respondents were required to indicate the availability and use of PPE. In terms of the availability of personal protective equipment, 98.2% (108) responded that adequate PPE is available at the workplace, 46.3% (50) responded that they use masks, 35.2% (38) use gloves and 99.1% (107) use the body suits. (Table 6)

Table 6: Availability and use of personal protective equipment

Variables	Frequency	Percentage
Availability of adequate PPE (n=110)		
Yes	108	98.2
No	2	1.8
Masks (n=108)		
Yes	50	46.3
No	58	53.7
Gloves (n=108)		
Yes	38	35.2
No	70	64.8
Body suits (n=108)		
Yes	107	99.1
No	1	0.9

4.4.2 Condition leading employees to use PPE at the workplace

In order to determine the awareness of the employees of UTEXRWA about the working conditions that led them to the use of PPE, the questionnaire inquired about a number of aspects. 37.3% respondents have reported that they use PPE in condition of dusts, 10.9% use PPE during maintenance activities, 15.5% use PPE when exposed to harmful substance and 87.3% use PPE during working activities. (Table 7)

Table 7: Condition leading employees to use PPE at the workplace

Condition	Frequency	Percentage
Noise		
Yes	0	0
No	110	100
Dusts		
Yes	41	37.3
No	69	62.7
During maintenance activities		
Yes	12	10.9
No	98	89.1
Exposed to harmful substance		
Yes	17	15.5
No	93	84.5
Welding		
Yes	0	0
No	110	100
During working activities		
Yes	96	87.3
No	14	12.7
Total	110	100

4.4.3 Motives of the employees on the use of PPE

The study sought to determine on the motivation of employees using PPE at the workplace. Of the respondents who participated in this study, 10.9% indicated that they are motivated to use PPE to avoid personal harm and injury, 49.1 are motivated to use PPE for self-protection, 91.8% were motivated to use PPE because they want to protect clothing and personal effects, 23.6% are motivated to use PPE to avoid intoxication and 1.8% are motivated by general knowledge to use PPE during their work performance.(Table 8).

Table 8: Motives of the employees on the use of PPE

Motives	Frequency	Percentage
Avoiding personal harm and injury		
Yes	12	10.9
No	98	89.1
Self-protection		
Yes	54	49.1
No	56	50.9
Protecting clothing and personal effect		
Yes	101	91.8
No	9	8.2
Avoiding intoxication		
Yes	26	23.6
No	84	76.4
During the performance of work		
Yes	2	1.8
No	108	98.2
Total	110	100

4.4.4 Employees awareness on Occupational Safety and Health

The study investigated the employees' awareness on Occupational Safety and Health requirements. Respondents were required to indicate the importance of Occupational Safety and Health, 83.6% (92) indicated that the importance of OSH is employees' health and safety in the workplace and 16.4% (18) indicated that the importance of OSH is both employees and employers' health and safety in the workplace. (Table 9)

Table 9: The importance of Occupational Safety and Health

Importance OSH	Frequency	Percentage
Employees' health and safety in the workplace		
Yes	92	83.6
No	18	16.4
Employers' health and safety in the workplace		
Yes	0	0
No	110	100
Both employees and employers health and safety in the workplace		
Yes	18	16.4
No	92	83.6
Total	110	100

4.4.5 Presence of pre-employment medical check-up certificate

The study sought to determine the effectiveness of medical check-up. The respondents were asked if they undergone pre-employment medical check-up and respondents didn't undergo pre-employment medical check-up, only 0.9% (1) have undergone pre-employment medical check-up. (Table 10)

Table 10: Presence of pre-employment medical check-up required by UTEXRWA

Variables	Frequency	Percentage
Pre-medical check up		
Yes	1	0.9
No	109	99.1
Total	110	100

4.4.6 Possession of medical insurance among employees of UTEXRWA

The respondents were further asked if they possess medical insurance and a strong majority of the respondents 80.9% (89) agreed that they possess medical insurance and they indicated that those insurances are provided by themselves, only 19.1% (21) of the responded indicated that they don't possess medical insurance. (Table 11)

Table 11: Possession of medical insurance among employees' of UTEXRWA

Variables	Frequency	Percentage
Possession of medical insurance (n=110)		
Yes	89	80.9
No	21	19.1
Total	110	100
Who provides insurance (n=89)		
UTEXRWA	1	1.12
Yourself	88	98.88
Total	110	100

4.5 Hazards experienced at the workplace

Overall, the goal of hazard identification is to find and record possible hazards that may be present in the workplace. Manufacturing businesses are plagued by common risks when trying to manage workplace incidents. Here are common safety hazards that can be found in manufacturing industries; Hazardous materials, chemicals, fire outbreak, radiation, electrical hazards, stress, heat, noise, etc. Based on hazard a identification procedure which is: Physical work environment, equipment materials or substances used, work task and how they are performed, work design and management. (33).

Based on records observation, it has been observed and confirmed by respondents that the common hazards experienced by employees are injuries and based on hazard identification procedures, employees are more likely to develop cardio-pulmonary diseases due to exposure to dust and particles from the cotton they use during their working activities.

The respondents were asked to indicate the hazards experienced at workplace. From 110 employees of UTEXRWA who participated in this research, they were asked if they have been exposed to hazards at UTEXRWA workplace since they were engaged, 41.8% (46) responded that they have been exposed to the hazard and 58.2% (64) responded that they haven't been exposed to the hazards. (Table 12)

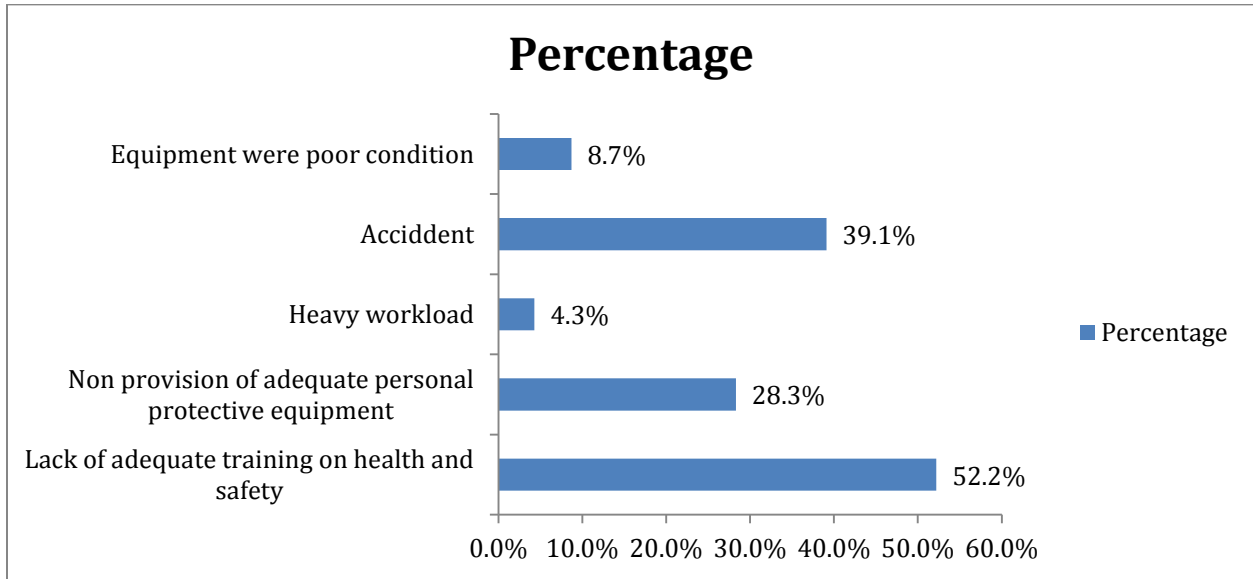
Table 12: Hazards experienced at the workplace

Variables	Frequency	Percentage
Exposure to hazard at the workplace		
Yes	46	41.8
No	64	58.2
Total	110	100

From participants who said that they have been exposed to hazards, 52.2% responded that the cause of hazard was lack of adequate training on health and safety, 28.3% responded that the cause of hazard was non provision of adequate personal protective equipment, 4.3% responded that it was because of heavy

workload, 39.1% responded that it was because of accidents and 8.7% responded that it was caused by poor condition of equipment. (Figure 3)

Figure 3: Causes of hazards experienced by employees’ of UTEXRWA



4.6 Level of satisfaction with Occupational Safety and Health at the workplace

To determine employees’ level of satisfaction with occupational safety and health conditions at the workplace, the respondents rated their experience. 90.91% (100) reported that they are dissatisfied with the current occupational safety and health measures put in place at UTEXRWA and 9.1% (10) reported that they are strongly dissatisfied. 29.9% (32) reported that they are satisfied on how the authorities of UTEXRWA handle the issue of hazards the employees’ may meet at the workplace while 70.9% (78) reported that they are dissatisfied. (Table 12)

Table 12: The level of satisfaction with Occupational Safety and Health at the workplace

Level of satisfaction	Frequency	Percentage
Level of satisfaction with the current OSH measures put in place at UTEXRWA		
Dissatisfied	100	90.9
Strongly dissatisfied	10	9.1
Level of satisfaction on how the authorities of UTEXRWA handle the issue of hazards the employees may meet at workplace		
Satisfied	32	29.9
Dissatisfied	78	70.9
Total	110	100

4.7 Impact of occupational safety and health on the job performance

The study examined the effectiveness of the company's compliance with safety measures. The respondents were asked to indicate the effectiveness of safety policies and the impact of OSH on the job performance at the workplace. 51.8% (57) indicated that effective OSH policies can reduce accidents while 4.5% (5) indicated that it could reduce the cost of compensation to injured employees. 19.1% (21) indicated that it can reduce labour or employee's turnover, 41.8% (46) indicated that corporate image of the organization is enhanced and 83.6% (92) indicated that it would improve the life condition of employees. (Table 13)

Table 13: importance of complying with safety measures

Impact of occupational health and safety on job	Frequency(n=110)	Percentage
Reduces accidents		
Yes	57	51.8
No	53	48.2
Reduces cost of compensation to injured employees		
Yes	5	4.5
No	105	95.5
Labour or employee absenteeism is reduced		
Yes	21	19.1
No	89	80.9
Increase the credibility of the organization is enhanced		
Yes	46	41.8
No	64	58.2
Improvement of the life conditions of employees		
Yes	92	83.6
No	18	16.4

Note: Answers were overlapping since a respondent could choose more than one impact on occupational health and safety on job

4.8 Improvement on Occupational Health and Safety at the workplace

The study inquired into the effectiveness of Occupational Safety Health policies at UTEXRWA. 8.2% (9) of respondents suggested that the way they should improve OSH at the workplace is to engage a safety expert to re-design OSH policies for the organization, 0.9% (1) suggested that they should do a constant review of health and safety practices and records, 5.4% (6) suggested that they should improve on good housekeeping and sanitation, 60% (66) suggested that they should create an environment for staff to freely report on OSH and 24.5% (27) suggested that they should improve supervision and safety management. (Table 14)

Table 14: Suggestion for improvement on Occupational Health and Safety at the workplace

Suggestions for improvement	Frequency	Percentage
Engage a safety expert to re-design OSH policies for the organization	9	8.2
Constant review of health and safety practices and records	1	0.9
Improve on good housekeeping and sanitation	6	5.4
Create an environment for staff to freely report on OSH	66	60
Improve supervision and safety management	27	24.5
None of the above	1	0.9
Total	110	100

4.9 Results Discussion

To establish the awareness strategy with Occupational Safety and Health policy at the workplace, the OSH policy is an important guiding document use by the company to promote the health of workers. From the findings, compliance with safety measures and practices was found to be insufficiently and inadequately applied in the UTEXRWA manufacturing company. Evidence suggested that management of UTEXRWA put a low priority on safety measures that are needed to prevent accident and to promote health working condition for employees. The study revealed that 27.3% were aware on the organizational policy on OSH; however, 60.9% were not aware on the existing organizational policy on OSH. (34) It said that organizations that are committed to health and safety have policies that guide both management and employees in ensuring that working environment is injury and hazards free for their workers, and in order for the policy to be implemented it is important to integrate it with the organization strategy as health and safety policy forms part of the business strategy, and also the continuous improvement circle that drives a company towards excellence.

Regarding the use of PPE to avoid hazardous substance, the study revealed that there is a lack of awareness among employees regarding the use of PPE, the results showed that employers were aware of their responsibilities of providing PPE, 98.2% of the respondents indicated that Personal Protective Equipment are available at the workplace, and 91.8% indicated that they are motivated with using them to protect their clothes, while 10.9% of the respondents were motivated to use PPE to avoid the risk that would expose them to hazardous substances at the workplace. This means that UTEXRWA employees' awareness level of the importance and the use of protective equipment is less. The study also revealed that the type of Personal Protective Equipment used is body suit as it was confirmed with 99.1% of the respondents, compared to gloves (35.2%) and masks (46.3%) ; To confirm the study findings, a study highlighted that occupational safety and health administration (OSHA) requires the use of personal protective equipment (PPE) to reduce employees' exposure to hazards as the last resort when engineering and administration controls have failed in reducing the exposures to accurate levels. However, if PPE is to be used, a PPE programme should be initialized and maintained. The programme should include identification and evaluation of hazards in the workplace, selecting an appropriate PPE to be used, maintenance of PPE and its use. Also, employees should be trained on how the PPE is used.(35).

The same study in Taiwan also found that employers were more aware of their responsibility in the regulation of posting safety warnings, personal protection and providing safety and health equipment; however, they were less aware on their responsibilities in fully preventing worksite injuries and accidents. (36).

This study revealed that there is non-compliance with employees' trainings and awareness on safety and health work conditions. Employees who participated in this study, 99.1% of the respondents indicated that they didn't receive any training since they were engaged in the UTEXRWA manufacturing company; employers also admitted that there is no system that monitors Occupational Safety and Health issues at workplace. Safety training has three major purposes: employees should be told about and understand the nature of the hazards at the workplace; employees need to be aware of the safety rules and procedures and the need to be persuaded to comply with them.(37). Managers have a vital role in helping their people to learn and develop.(14). Most learning takes place on the job but it will be more effective if managers provide the coaching, guidance and support worker's needs. To do this they need to know about induction training, how to ensure continuous learning and personal development planning processes. In induction training you are involved in helping worker to learn everytime you welcome new employees, plan how they are going to acquire the experience required, preferably as recorded in a learning specification provided for them to carry out and see that the plan is implemented. A study carried out on realization of occupational safety and health as a fundamental human right in Kenya emphasized that every employee has a right to education and awareness on OSH regulations in order to promote a safe work.(38). It was revealed that the lack of knowledge and perception had negative impact in controlling occupational injury and accident, less awareness also cause work related injury and accident in Taiwan. (36). (38) It said that health and safety trainings is paramount in acquisition of skills and knowledge and change of attitudes as causes of accidents in the workplace, how to work in a safe environment is highlighted and information on how diseases can be prevented is provided. Management and other employees must be trained to improve safety standards in the workplace.

Generally, employers fail to comply with the national regulation of monitoring employees on performing pre-employment medical check-up and employees' are not aware about this regulation, of the 110 employees interviewed in the study, 99.1% of the respondents didn't undergone pre-employment medical check-up. The law in Taiwan not allowing employers to hire an unfit worker is not job discrimination but a consideration of protecting the worker from the exposure to a hazardous environment. Generally, most pre-employment physical exam provides only a regular exam. A specific exam would not be provided unless the job-applicant is to work in a hazardous environment.(36). Occupational medical examination are medical examinations of employees that are aimed at the prevention of health risks that may arise from their occupation.(39). Medical insurance is not provided by the company, yet the national regulations said that the company has to provide medical insurance to the employees' according to the Ministry of public service and labor, employees pay it for their own, This means that the company doesn't comply with this regulation. However, a similar study in Peru revealed that pre-employment physical

examination is the pre-requisite to hire on a job, and if someone is not physically fit, they should not put that person in dangerous site that should accelerate his/her condition.(17).

A significant number of employees (41.8%) responded that they had been exposed to the hazards and they said that these exposure had happened due to lack of trainings and lack of adequate protective equipment at UTEXRWA Company. The managers of UTEXRWA doesn't have a system which monitor occupational safety and health measures in order to protect employees from any kind of hazards and enable employees to be fully aware of hazards that may arise at the workplace. Therefore, it is imperative that every incident be investigated and recorded to prevent a recurrence and eliminate the risks.(40). If incidents are not reported or recorded, they will not be known to the management, which results in accidents going unnoticed; thus as a result no measures are taken to prevent a recurrence of the same accidents in the future.

In conclusion, based on evidence taken from UTEXRWA, employees from manufacturing industries in Rwanda are less knowledgeable in Occupational Safety and Health measures than they should be, and that they only partially comply with OSH practices. Awareness of OSH is one of the most important factors for sound compliance with OSH regulations. Measures towards improving the awareness of OSH regulations and practices are warranted in order to promote the workers' safety and health in Rwanda.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

Following the design of this research project, data collection was undertaken and analysis of both quantitative and qualitative data was done. The analysis indicated discrepancies between the policies and practices that the employer understands and has reported to be in place to meet basic requirements and the policies and practices that employee reports to be in place. There is common knowledge about what practices are needed, but there is a gap as the parties have not put the OSH plan fully in place. The study revealed that there is a gap, in compliance with occupational safety and health regulations in the manufacturing companies in Rwanda- using evidence from UTEXRWA. The level of compliance needs to be improved. To achieve this, improvements are needed in the administration of the safety and health system in Rwanda. The study showed that there is a deficiency regarding trainings that employees receive from the company on OSH. There is need for companies to increase the resources allocated to OSH and to ensure the budget of OSH made clear to workers; there should be more emphasis on the budget as it will ensure that trainings are provided to employees' and even to supervisors. Frequent safety assessments and closer supervision of the employees during working sessions can also improve OSH awareness in the working place.

The assessment of compliance with safety regulations demonstrated that UTEXRWA manufacturing company has a gap in preventing accidents at workplaces and also in dealing with emergencies. It is expected that organization should be well prepared to deal with emergencies in order to mitigate injuries, loss of life and property. Hygiene and sanitation matters are basic requisite for any working environment. The prevailing compliance is not good enough as these leave workers highly vulnerable to occupational diseases. Non-compliance with health regulations has a direct bearing on the productivity of workers. It also portrays poor image of the organizations and its mission.

It is not enough for the company to provide good safe and health work conditions. The employer must also ensure that the employees are aware of the OSH regulations and that the employees know the importance of a safe and healthy work environment. The non-compliance can be attributed to the limited trainings on safety and health, with insufficient cooperation by employees on the OSH committee, as many of the responded reported that there is no OSH committee and no OSH officer as well. The number of reported accidents is still high. However the administration acknowledged that many accidents occurred through but only recorded those that caused serious injuries to the employees.

The study showed that employees are not complying with the use of Personal Protection Equipment; In addition to the non-compliance of employers by not providing employees with adequate PPE. There is also a gap in basic health information on employees as they don't carry out medical check-up to know their health status, and also the company doesn't comply with providing regular medical check-ups.

5.2 Recommendations

The researcher proposes continuous education and trainings, seminars and workshop on OSH for all workers of UTEXRWA; they should put up OSH information posters and publish materials on safety to increase safety consciousness in the mind of workers. Employees should be made aware that safety and health practices are the responsibilities of both management and workers, which will go a long way to make the work into an area safe.

The study also recommends that the management of UTEXRWA Company should put more emphasis on adequate use of personal protective equipment as these contribute to a clear working environment for employees leading to the safety of workers, and they should raise the awareness on the importance of using PPE so that employees should wear PPE daily during their work activities. Overall managers should put more effort into supervision of OSH as well to make the system better. Management should put warning notices on dangerous sites and equipment or post signs about potential hazardous situations to make employees aware of potential dangers.

Management should share hazard and risk information with workers including those workers on adjoining premises and with all sub-contractors coming on-to the main factory premises. Disseminating risk information is important in ensuring the safety and healthy working environment and contributes to prevent accidents and injuries that may arise in the workplace.

The study recommends that the company should put in a place a system that encourage employees to do medical check-up before they start work in order to know their health status, and also the management should provide medical insurance to all employees.

The study recommends the management to provide workable fire extinguishers to the required places. The management should train workers in the effective and efficient use of fire extinguishers; they should also have a free phone call in case of emergency.

It is also recommended to put proper water and soap at least in each department to promote hygiene and sanitation.

This research recommends that more research is needed in this area to produce a comprehensive OSH policy for use by project developers and governments and create worldwide awareness of the dimensions and consequences of work-related accidents, injuries and diseases.

The government should institute monitoring teams that should check periodically whether the organization complies with national policies.

5.3 Areas for further research

The study recommends that a similar research be carried out in other industries other than manufacturing industries since each industry is unique in terms of their core activities, expertise and staffing capabilities. These issues affect the performance in terms of compliance with safety regulations.

Other studies should be carried out to capture factors that influence implementation of OSH that were not captured in this study. For example:

- Factors associated with non-compliance of Occupational Safety and Health at the workplace.
- Interventions to prevent injuries and reduce environmental and occupational hazards in the workplace

This will enable establish the extent of compliance with occupational safety and health regulations in the country at large. The outcome will help the government to formulate or strengthen a policy on Occupational Safety and Health Management System and also to improve the inspection.

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APPENDICES

Appendix 1. Consent form-English version

Ethical considerations

Prior to the start of each interview, the researcher will take time to explain to participants the objectives of the study, the procedures, risks and benefits as well as their rights. After these explanations, a researcher will seek for participant's consent for the participation in the study.

Consent form

Introduction

My name is....., I am a Student at University of Rwanda, College of Medicine and Health Sciences, public health master's program. A researcher is conducting this study to assess the awareness and compliance with occupational health and safety regulations in Rwanda: Evidence from UTEXRWA manufacturing company. In times past, employers were not concerned with the health and safety of their employees at work. An employee was not provided with safety and health equipment or trainings and s/he risked getting hurt at work during the time s/he carries out his/her duties. Both developed and developing countries including Rwanda are in the process of developing management standards for occupational health and safety. In order to explore the awareness and compliance of OSH, the researcher decided to conduct this research to understand challenges employees face and identify possible solutions and hence contribute to improve health and safety of workers.

Process of the Activity

In case you accept to participate in this study, we shall ask you questions and we will keep them confidential, those questions will be regarding of awareness and compliance with occupational health and safety regulations in UTERXWA. This activity will approximately take 30 minutes of your time.

Specific objectives of the study

You have been selected randomly to be part of this study as one of the employees' of UTEXRWA who works in production unit and has at least one year of experience. To this end, we will ask you questions regarding socio- economic and demographic information, compliance on OSH practices, trainings and how satisfy you are about OSH practices they use in UTEXRWA.

Right to participate or withdraw

Participation in this study is voluntary, you are free to participate. You can decide not to be part of this study and you will lose nothing if you do not participate in this study. In case you accept to participate, you will be free to stop the interview in case you do not feel comfortable or for any other reason. To confirm your willingness to participate, you will be requested to sign the consent form which is a proof of your own decision to be part of the study.

Potential Risks and Benefits

This study does not entail any procedure that is invasive and thus there is no potential risk in participating in this study, you may find some questions which you feel not comfortable for you to respond, you may decline to answer any specific question or completely refuse to participate, your participation is completely voluntary, your participation in this study will help us to understand a lot about OSH practices in Rwanda. We would greatly appreciate your help in responding to these questions even though we are unable to provide you with any monetary or other incentives.

Confidentiality

All data obtained through the interview will be strictly kept confidential. Your name will never be used in connection with your interview responses and your name will not appear in any reports. Only research study team members will have access to your responses.

Accept to Participate

After understanding that the information requested for only aims at profiling the status of Occupational Safety and Health in UTEXRWA and after understanding that the information will be kept confidential and used for the purposes of this research only; I agree to support this research and answer questions below:

Access to Additional information related to protection of participant’s rights

During and after the participation in this study, you can seek for additional information about the study by contacting the researcher of the study,

Mujawamariya Providence (tel: 0788590943)

Whenever you believe that your rights have not been respected or violated during the study, you can contact

UR/CMHS e-mail: researchcenter@ur.ac.rw

Certificate of consent

I have understood the information provided above and have been informed that the participation in this study is voluntary and depends on my own decision. I am informed that I can stop the participation to this study anytime without any impact.

I agree to take part in this study

Names of the participant:.....Signature/Fingerprint.....

Names of the data collector.....Signature.....

Appendix 2. Consent form-Kinyarwanda version

Inyandiko yo kwemera kubushake kugira uruhare muri ubu bushakashatsi

Ni uruhe rurimi mwifuza ko twaganiramo? Ikiyirwanda-icyongereza

Uyoboye ikiganiro asome

Muraho, nitwa..... nifuzaga kugirana namwe ikiganiro kubushakashatsi ndi gukora kubijyanye n’ubuzima n’umutekano ku kazi. Nkaba ndi umunyeshuri muri Kaminuza y’Urwanda ishami ryigisha iby’ubuzima, nkaba ndigukora master’s mubijyanye n’ubuzima rusange (public health) Mubihe byatambutse, abakoresha ntago barebwaga cyane n’ubuzima n’umutekano ku kazi by’abakozi babo. Abakozi ntabwo bahabwaga ibikoresho bikwiye byo kurinda abakozi impanuka ku kazi cg se amahugurwa bikaba byatuma abakozi bashobora kugirira ibyago bikomotse ku kazi. Mu bihugu byateye imbere ndetse ni ibiri mu nzira y’amajyambere biri mu nzira zo gushyiraho ingamba zihamye zijyanye n’ubuzima n’umutekano ku kazi. Mu rwego rwo gushaka byimbitse uko ubuzima n’umutekano ku kazi bikorwa, umushakashatsi yahisemo gukora ubu bushakashatsi murwego rwo kumva neza ingorane abakozi bahura nazo no kwerekana ibisubizo bishoboka kugirango dutanze imbere ubuzima n’umutekano w’abakozi ku kazi

Imigendekere y’ubushakashatsi

Nimwemera kwitabira ubu bushakashatsi, turababaza ibibazo kandi ibisubizo byanyu bizagirwa ibanga. N’ibibazo n’amakuru mufite ndetse n’imyumvire y’abakozi kubijyanye n’amategeko, ubuzima n’umutekano by’abakozi muri UTEXRWA.

icyo ubu bushakashatsi bugamije

Mwatoranjwe kuburyo bwa tombora kugirango mugire uruhare muri ubu bushakashatsi, nk’umukozi ukorera ikigo cya UTEXRWA kandi ukaba ukora mu gashami gakora ibintu bitandukanye kandi ukaba nibura umaze umwaka ukora muri ako gashami, ni mwemera kwitabira ubu bushakashatsi turaza kubabaza ibibazo bijyanye n’imyirondoro yanyu, icyo mukora, icyo muzi kubijyanye n’ubuzima n’umutekano ku kazi, amahugurwa mwabonye, ndetse nuko mubona uko ubuzima n’umutekano bikorwa ku kazi hano muri UTEXRWA

Uburenganzira bwo kuva cyangwa kwikura mubushakashatsi

Kugira uruhare muri ubu bushakashatsi ni ubushake bwanyu busesuye. Gufata icyemezo cyo kwitabira ubu bushakashatsi cyangwa kutabwitabira, nta ngaruka iyo ariyo yose bizabagiraho mubirebana na service musanzwe muhabwa mukazi kanyu. Igihe cyose mwabishaka, ku mpamvu iyo ariyo yose, mushobora guhagarika kugira uruhare muri ubu bushakashatsi. Kwemeza ko mwemeye kwitabiriyeye ubu bushakashatsi, turabasaba gusinya ku nyandiko y’inyemeza bushake ku kiganiro tugirana, akaba aricyo kimenyetso cyo’uko mwemeye kubushake kugira uruhare muri ubu bushakashatsi.

Ingaruka n’akamaro ko kwitabira ubu bushakashatsi

Mu by’ukuri kwitabira ubu bushakashatsi ntangaruka bizabagiraho. Bimwe mu bibazo tubaza bishobora gutuma mwumva mutamerewe neza, icyakora mufite uburenganzirabwo kudasubiza ibibazo

bibabangamiye, kwitabira ubu bushakashatsi n'ubushake bwanyu busesuye. Kwitabira ubu bushakashatsi bizadufasha kumenya byinshi byerekeye ubuzima n'umutekano w'abakozi mu kazi mu Rwanda. Uruhare rwawe rero n'ingenzi cyane, tukaba tugusaba kwitabira ubu bushakashatsi, kabone nubwo ntahembo muhabwa kubera kwitabiriyemo ubu bushakashatsi.

Ibyerekeye ibanga kumakuru yanyu

Tuzakora ibishoboka byose kugirango kugira uruhare kwanyu n'ibyo mwadusubije muri ubu bushakashatsi bigirwe ibanga. Amakuru yanyu yose azaba ahagarariwe na numero y'ubushakashatsi aho kuba izina ryanyu. Amazina yanyu ntaho azagaragara mu gihe tuzaba dushyira ahagaragara ibyavuye mubushakashatsi; kandi amakuru muduha azaba ashobora kugerwaho gusa n'abashinzwe ubu bushakashatsi.

Uburenganzira bwo kubazwa

Maze gusobanukirwa ko amakuru abazwa muri iyi nyandiko agamije gusa ubushakashatsi bwo kumenya uko ubuzima n'umutekano ku kazi mu Gihugu, maze gusobanukirwa kandi ko amakuru ntanga azagirwa ibanga kandi agakoreshwa muri ubu bushakashatsi gusa, Nemeye gufasha ubu bushakashatsi nsubiza ibibazo bikubiye muri iyi nyandiko.

Nimero mwahamagara muramutse mugize kuri ubu bushakashatsi cyangwa hari amakuru mwifuzaga kumenya, hagati cyangwa na nyuma y'ubu bushakashatsi:

Mujawamariya Providence (tel: 0788590943)

Ku byerekeye n'uburenganzira bwawe ku bijyanye no kwitabira ubu bushakashatsi wakwandikira

UR/CMHS e-mail: researchcenter@ur.ac.rw

Mbese hari ikibazo mwaba mwifuzaga kumbaza ku byerekeye ubu bushakashatsi?

Amagambo ahamya kwemera kwitabira ubu bushakashatsi ku bushake

Ibibazo narimfite birebana n'ubu bushakashatsi byasubijwe byose kandi nanyuzwe n'ibizubizo nahawe. Niyemeje kwitabira ubu bushakashatsi. Mapwe kopi y'inyandiko yemeza ko nemeye kwitabira ubushakashatsi kubushake bwange.

Amazina ye:umukono:

Amazina y'uyoboye ikiganiro..... umukono:

Appendix 3. Semi-Structured questionnaire for UTEXRWA employees

OHS Research Questionnaire (employees):

A. Socio-economic and demographic information

1. Sex:

- a) Female
- b) Male

2. How old are you?

3. Marital status:

- a) Single
- b) Married
- c) Divorced
- d) Separated

4. What is the highest level of education you completed?

- a) No education,
- b) Primary
- c) Secondary
- d) University or other higher education,
- e) Vocational training

5. What is your religion?

- a) Catholic
- b) Protestant
- c) Adventist
- d) Muslim
- e) Other, please specify.....

6. Years of service:

- a) 1-3 years
- b) 4-6 years
- c) 7-9 years
- d) 10 or more years

Economic status:

7. What is your occupation in UTEXRWA?

8. Personal income

- a) < 50,000
- b) 50,000 – 70,000
- c) 70,001-90,000
- d) 90,001-110,000
- e) >110,000

B. Level of compliance

9. What is the importance of occupational safety and health?

- a) Ensure employees' own health and safety in the workplace
- b) Ensure employers' own health and safety in the workplace
- c) Ensure both employees' and employers' own health and safety in the workplace
- d) Other, please specify.....

10. Does UTEXRWA have an Organizational Policy on Occupational Safety and Health?

- a) Yes
- b) No
- c) Don't know

11. If yes, Does UTEXRWA has a written copy of occupational health and safety policy of the organization?

- a) Yes
- b) No
- c) Don't know

12. Does this policy being implemented at the workplace?

- a) Yes
- b) Partially implemented
- c) No

13. Does the enterprise have an employee in charge of occupational safety and health?

- a) Yes
- b) No

14. If yes, how often is inspection of occupational safety and health conducted on your worksite?

- a) Daily
- b) Monthly
- c) Quarterly
- d) Biannually
- e) No definite time fixed
- f) Never happen

15. Does UTEXRWA have a safety committee?

- a) Yes
- b) No
- c) Don't know

16. Where do you get information on occupational safety and health?

- a) Posters
- b) Material data sheets
- c) Media
- d) Employee in charge of OSH
- e) Supervisors
- f) Nowhere

g) Other, please specify.....

17. Who participate in the development and implementation of occupational safety and health measures?

- a) Employees
- b) Employers
- c) Both employees and employers
- d) Other, please specify.....

18. Does your department have First Aid box with enough equipment?

- a) Yes
- b) No

19. Is there a responsible person trained to provide First Aid?

- a) Yes
- b) No

20. What do you do if one of your employees is exposed to toxic gas and becomes unconscious in the worksite?

- a) Rescue the employee right away
- b) Make sure about your own safety before rescuing
- c) Ask for professional rescuers' help
- d) Other, please specify.....

21. Do you have adequate protective equipment and in good condition?

- a) Yes
- b) No

22. If yes, select Personal Protective Equipments you use in UTEXRWA?

- a) Safety helmet
- b) Ear muffs and ear plugs
- c) Masks
- d) Gloves
- e) Safety boots and rubber boots
- f) Full body suits
- g) Safety glasses
- h) Please other, specify.....

23. In which condition do you use them?

- a) Excessive Noise
- b) Dusts
- c) During maintenance activities
- d) Exposed to harmful substance
- e) Welding
- f) Sewing
- g) Other, please specify.....

24. What motivate you to use personal protection equipment?

- a) To avoid personal harm and injury
- b) To protect one's self
- c) To be a model employee
- d) To protect clothing
- e) To avoid intoxication
- f) During the performance of work
- g) Other, please specify.....

25. Who is responsible for purchasing and maintaining safety and health equipment in the UTEXRWA worksite?

- a) Employers
- b) Employees
- c) Both employers and employees
- d) Other, please specify.....

26. Who is responsible for providing personal protection for work in UTEXRWA?

- a) Employees
- b) Employers
- c) Both employees and employers
- d) Other, please specify.....

27. What remind you to put on Personal Protective Equipment?

- a) Posters on safety warnings at the required site
- b) Experienced in harm and injury
- c) Employee in charge of OSH
- d) Nothing
- e) Other, please specify.....

28. Have you ever exposed to hazards in this workplace at UTEXRWA since you were engaged?

- a) Yes
- b) No

29. If not →32, what kind of hazards you have experienced?

- a) Accident
- b) Injury
- c) Exposed to harmful substance
- d) Other, please specify.....

30. if yes, what was the cause of the hazard?

- a) Lack of adequate training on health and safety
- b) Non provision of adequate personal protective equipment
- c) Ignorance on health and safety matters
- d) Heavy workload
- e) Accident
- f) Equipment were in poor condition
- g) Other, please specify.....

31. if yes, have you reported the hazard to the line manager of UTEXRWA?

- a) Yes
- b) No

32. If yes, what actions were taken to forestall the occurrence of the same hazards in the future?

- a) The case was referred to a committee
- b) Investigation was instituted and I was invited
- c) Report issued, causes identified and report formed part of the company's subsequent safety meeting
- d) Nothing
- e) Other, please specify.....

33. Did you undergo a pre-employment medical check-up required by UTEXRWA?

- a) Yes
- b) No

34. If yes, how regularly do you have a medical checkup?

- a) Quarterly (every 3 months)
- b) Biannually (every 6 months)
- c) Annually (once a year)
- d) No definite time fixed

35. What are your feelings on your own health condition?

- a) Very good

- b) Normal/Average/Moderate
- c) Poor/bad

36. Do you have any medical insurance?

- a) Yes
- b) No

37. If yes, who provide the medical insurance?

- a) UTEXRWA
- b) Government
- c) Yourself
- d) Other, please specify.....

C. Trainings

38. Have you ever received any OSH trainings?

- a) Yes
- b) No

39. If yes, how regular are the trainings organized at UTEXRWA for workers on occupational health and safety procedures and requirements?

- a) Quarterly
- b) Biannually
- c) Annually
- d) No definite time fixed for training

40. What specific health and safety issues are discussed during the employee trainings?

- a) Hazards identification
- b) Reporting accidents
- c) Safety and management skills
- d) Trainings in emergency procedures
- e) Early warning skills
- f) Skills on accident communication
- g) Other, please specify.....

D. Level of satisfaction

41. Indicate your level of satisfaction with the current occupational health and safety measures put in place at UTEXRWA

- a) Strongly satisfied
- b) Satisfied
- c) Dissatisfied
- d) Strongly dissatisfied

- e) Not in existence

42. Indicate your level of satisfaction on how the authorities of UTXERWA handle the issue of hazards the employees may meet at workplace

- a) Strongly satisfied
- b) Satisfied
- c) Dissatisfied
- d) Strongly dissatisfied
- e) Not in existence

43. What safety measures that is currently in place in UTEXRWA?

- a) Safety training as part of orientation start of employment
- b) Using personal protective equipment (e.g., gloves, boots, glasses, clothing, etc)
- c) Prompt reporting of accidents/injuries by supervisors to a person who must take action and make a report
- d) Reliable safe removal of gases and fumes through venting to outside
- e) Adequate safe areas around dangerous machines
- f) Regulations (rules) about lifting of heavy boxes and other heavy objects
- g) Emergency medical supplies available on site
- h) None of the above
- i) Other, please specify.....

44. What UTEXRWA management should do to improve occupational health and safety at the place of production organization?

- a) Engage a safety expert to re-design occupational health and safety policies for the organization
- b) Constant review of health and safety practices and records
- c) Improve on good housekeeping and sanitation
- d) Create an environment for staff to freely report on occupational health and safety
- e) Improve supervision and safety management
- f) None of the above
- g) Other, please specify.....

45. How do safety policies affect job performance at the workplace?

- a) Reduces accidents
- b) Reduces cost of compensation to injured employees
- c) Reduce likelihood of death of employees
- d) Labour or employee turnover is reduced
- e) Corporate image of the organization is enhanced
- f) None of the above
- g) Others, specify.....

Appendix 4. OSH Questionnaire Kinyarwanda version:

A. Amakuru ajyanye n'imyirondoro y'ubazwa

1. Igitsina

- a) Gore
- b) Gabo

2. Ufite imyaka ingahe?

3. Iranga mimerere ryawe n'irihe?

- a) Ingaragu
- b) yashatse byemewe n'amategeko/Bibanira kubushake
- c) yatandukanye n'uwo bashakanye byemewe n'amategeko
- d) yatandukanye n'uwo bashakanye kubushake
- e) umupfakazi

4. N'ikihe kiciro cy'amashuri warangije?

- a) Ntiyize
- b) Amashuri abanza
- c) Amashuri yisumbuye
- d) kaminuza
- e) Amashuri y'imyuga
- f) Ibindi, bivuge

5. Idini ryawe n'irihe?

- a) Abagatulika
- b) Abaporoso
- c) Adventist
- d) Abayisiramu
- e) Ibindi, sobanura.....

6. Umaze imyaka ingahe muri uyu murimo

- e) Umwaka 1 kugeza kuri 3
- f) Kuva ku myaka 4 kugeza kuri 6
- g) Kuva ku myaka 7 kugeza kuri 9
- h) Kuva ku myaka 10 no hejuru yayo

Amakuru ku murimo:

7. Ukora murimo ki muri UTEXRWA?

8. Agaciro k'amafaranga winjiza muri uyu murimo

- a) < 50,000
- b) 50,000 – 70,000
- c) 70,001-90,000
- d) 90,001-110,000
- e) >110,000

B. Level of compliance

9. Utekereza ko gahunda y'ubuzima n'umutekano mu kazi ari iki?importance

- e) Kwita ku buzima n'umutekano by'abakozi aho bakorera
- f) Kwita ku buzima n'umutekano by'abakoresha aho bakorera
- g) Kwita ku buzima n'umutekano by'abakozi n'abakoresha aho bakorera
- h) Ikindi, Kugisobanura.....

10. Ese Utexrwa yaba ifite gahunda yanditse yo kwita ku buzima n'umutekano by'abakozi?

- i) Yego
- j) Oya
- k) Simbizi

12. If yes, ese, iyo gahunda yaba ishyirwa mu bikorwa aho mukorera?

- d) Yego
- e) Ishyirwa mu bikorwa igice
- f) Oya

13. Ikigo cyaba gifite umukozi ushinzwe gahunda yo kwita ku buzima n'umutekano by'abakozi?

- a) Yego
- b) Oya

14. Niba ahari, ni kangahe isuzumwa rya gahunda yo kwita ku buzima n'umutekano by'abakozi ku kazi rishyirwa mubikorwa aho mukorera?

- g) Burimunsi
- h) Buri kwezi
- i) Buri mezi atatu
- j) Kabiri mu mwaka
- k) Rimwe mu mwaka
- l) Nta gihe kizwi
- m) Nta na rimwe

15. UTEXRWA igira komite ishinzwe kwita ku buzima n'umutekano by'abakozi?

- a) Yego
- b) Oya
- c) Simbizi

16. Nihehe mukura amakuru arebana n'ubuzima n'umutekano by'abakozi?

- a) Ama fiches amanitse ahantu hagaragara

- b) Ibitabo bikubiyemo amabwiriza y'abakozi
- c) Itangazamakuru
- d) Ku mukozi ushinzwe ubuzima n'umutekano by'abakozi ku kazi
- e) Abayobozi bacu
- f) Ntaho
- g) Ibindi, sobanura.....

17. Ese ninde ugira uruhare mu itegura n'ishyirwa mubikorwa rya gahunda yo kwita kubuzima n'umutekano by'abakozi aho bakorera?

- a) Abakozi
- b) Abakoresha
- c) Bombi, abakozi n'abakoresha
- d) Abandi, sobanura.....**

18. Ese mu gashami ukoreramo hari agasanduku k'ubutabazi bw'ibanze n'ibikoresho bihagije?

- a) Yego
- b) Oya

19. Hari umukozi ubishinze kandi wahuguriwe gutanga ubutabazi bw'ibanze?

- a) Yego
- b) Oya

20. Ese ukora iki mu gihe mugenzi wawe ahuye n'ikibazo giturutse ku myuka ihumanya agata ubwenge muri mukazi?

- a) Kumutabara ako kanya
- b) Kubanza kureba uko umutekano wanjye umeze mbere yo kumutabara
- c) Gutabaza abakozi bazobereye mu by'ubutabazi
- d) Ikindi, sobanura

21. Mufite ibikoresho bibarinda ibyago mu kazi bihagije kandi bifite ubuziranenge?

- c) Yego
- d) Oya

22. Niba mubifite, hitamo ibikoresho bibarinda ibyago mukazi bikoreswa hano muri UTEXRWA?

- i) Ingofero ikomeye ikingira umutwe
- j) Ibikingira amatwi
- k) Ibituma udahumeka umwuka mubi
- l) Gukingira intoki ukoresheje ibikoresho bya bugenewe
- m) Kwambara imyambaro yabugenewe y'akazi
- n) Ibikoresho bikingira ibirenge

- o) Ama lunette akingira amaso
- p) Ikindi, sobanura.....

23. Ese ibyo bikoresho mubikoresha ryari?

- a) Urusaku rukabije
- b) Ivumbi
- c) Mugihe hari gukorwa ibikowa by'ubwubatsi
- d) Mugihe wegereye ibintu byangiza ubuzima
- e) Gusudira
- f) Kudoda
- g) Ikindi, sobanura.....

24. Ese n'iki kigutera gukoresha ibikoresho byo kurinda abakozi impanuka mukazi?

- h) Kwirinda ibyago cg gukomereka
- i) Kwirinda kubwawe
- j) Kuba intangarugero kubandi bakozi
- k) Kurinda imyambaro cg ibindi byakwangiza
- l) Kwirinda imyuka ihumanya
- m) Urimukazi ka burimunsi
- n) Ibindi, sobanura.....

25. Ese ninde ushinzwe kugura no gufata neza ibikoresho byo kurinda abakozi impanuka mu kazi hano muri UTEXRWA?

- a) Abakoresha
- b) Abakozi
- c) Bombi, umukozi ndetse n'umukoresha
- d) Undi, sobanura.....

26. Ese ninde ushinzwe gutanga ibikoresho byo kurinda abakozi impanuka mukazi hano muri utexrwa?

- e) Abakoresha
- f) Abakozi
- g) Bombi, abakozi n'abakoresha
- h) Undi, sobanura.....

27. Ese n'iki kikwibutsa kwambara ibikoresho birinda impanuka mu kazi?

- a) Ibyapa biburira abantu, ahabugenewe
- b) kuba warigeze kugirira ibyago mukazi cg warakomeretse
- c) k'umukozi ushinzwe ubuzima n'umutekano by'abakozi mu kazi
- d) ntacyo
- e) ibindi, sobanura.....

28. Kuva watangira gukora hano muri UTEXRWA, hari ubwo wigeze ugira ibyago biturutse mu kazi ? (hazard)

- c) Yego
- d) Oya

29.N'ubuho bwoko by'ibyago wahuye nabwo mukazi

- a) Impanuka
- b) Gukomereka
- c) Guhura cg kwegera ibintu bihumanya umuntu
- d) Ibindi, sobanura.....

30. Niba waragiriye ibyago mu kazi, ucyekako byari byatewe n'iki?

- h) amahugurwa adahagije ku bijyane n'ubuzima n'umutekano mu kazi
- i) kudahabwa ibikoresho bihagije byo kurinda abakozi mu kazi
- j) Ubumenyi bucye ku bijyanye n'ubuzima n'umutekano mu kazi
- k) Akazi kenshi
- l) Impanuka isanzwe
- m) Ibikoresho bitameze neza
- n) Ibindi, sobanura.....

31. Waba waramenyeshije ibyago wagize mu kazi ku muntu ubishinzwe muri UTEXRWA?

- c) Yego
- d) Oya

32. Niba ari yego, ni iki cyakozwe mugufata ingamba zo gukumira ibyago mu kazi kugirango zitazongera kubaho mu bihe biri imbere?

- f) icyo kibazo cyajyanywe muri komite ishinzwe ubuzima n'umutekano w'abakozi muri UTEXRWA
- g) Narahamagajwe mugushakisha icyateje impanuka
- h) Ibyo bibazo byeretswe ubuyobozi, impamvu yabiteye yaragararajwe kandi byamenyeshejwe ubuyobozi bwa UTEXRWA
- i) Ntacyo
- j) Ibindi, sobanura.....

33. Wigeze ukoresha isuzumwa risesuye ku buzima(medical check-up) mbere yuko utangira akazi ubisabwe na UTEXRWA?

- a) Yego
- b) Oya

34. Niba ari byo, isuzumwa risesuye kubuzima urikoresha kangahe mu mwaka?

- e) Buri mezi atatu
- f) Buri mezi atandatu
- g) Rimwe mu mwaka
- h) Nta gihe kizwi

35. Ese wumva ubuzima bwawe buhagaze gute muri iki gihe?

- d) Bumeze neza cyane
- e) N'ibisanzwe mu rugero
- f) Ntago bumeze neza

36. Ese ufite ubwishingizi bwo kwivuzwa ubwo aribwo bwose?

- a) Yego
- b) Oya

37. Niba ubufite, bwatanzwe na nde?

- a) UTEXRWA
- b) Leta
- c) Wowe ubwawe
- d) Ibindi, sobanura.....

C. Amahugurwa

38. Ese wigeze uhabwa amahugurwa ajyanye n'akazi mugomba gukora ndetse n'ubuzima n'umutekano kukazi?

- c) Yego
- d) Oya

39. Niba aribyo, ayo mahugurwa atangwa kangahe hano muri UTEXRWA kubakozi, kubijyanye n'ubuzima n'umutekano mu kazi, uko atangwa ndetse n'ibikenewe?

- a) Buri mezi atatu
- b) Kabiri mu mwaka
- c) Rimwe mu mwaka
- d) Ntagihe kizwi amahugurwa atangirwaho

40. Mu gihe cy'amahugurwa n'izihe ngingo mwibanzeho zirebana n'ubuzima n'umutekano mu kazi?

- h) Kumenya ibyago biza mukazi

- i) Kumenyeshya impanuka zabaye
- j) Ubumenyi kubijyanye no kubungabunga umutekano mu kazi
- k) Amahugurwa ajyanye n'ibyago biza bidateguje mu kazi
- l) Ubumenyi ku kuburirwa ibyatera ibyago mu kazi
- m) Ubumenyi kuguhana amakuru ku mpanuka
- n) Ibindi, sobanura

D. Uko bishimira ubuzima n'umutekano mu kazi bikorwa

42. Watubwira uburyo wishimira uko ingamba zifatwa hano muri UTEXRWA kubijyanye n'ubuzima n'umutekano mu kazi zikorwa?

- a) Ndabyishimiye cyane
- b) Ndabyishimiye
- c) Simbyishimiye
- d) Simbyishimiye na gato
- e) Simbizi

43. Ni gute wishimira uburyo uwahuye n'ibyago mukazi yitabwaho n'ubuyobozi bwa UTEXRWA?

- a) Ndabyishimiye cyane
- b) Ndabyishimiye
- c) Simbyishimiye
- d) Simbyishimiye na gato
- e) Simbizi

44. Ese n'izihe ngamba zafashwe zijyanye no kwita kubuzima bw'abakozi muri UTEXRWA? (ibisubizo byinshi birashoboka)

- a) Guhabwa amahugurwa ajyanye no kwita ku buzima n'umutekano ku mukozi ugitangira umurimo
- b) Abakozi bafite ibikoresho bibarinda impanuka (urugero., ibyambarwa mu ntoki, inkweto zabugenewe, amataratara, imyambaro yoku mubiri,)
- c) Umukoresha amenyekanisha byihuse impanuka/ gukomeraka ku mukozi ushinze gukemura icyo kibazo akanakora inyandiko
- d) Gusohora imyuka yanduza n'imyotsi hakoresheje umuyoboro uyijyana hanze
- e) Gushyira umutekano uhagije hafi y'imashine zishobora guteza ibyago.
- f) Gushyiraho amabwiriza yo guterura ibintu biremereye
- g) Gushyira ibikoresho by'ubutabazi bwihuze aho abakozi bakoreraga
- h) Ni byose byavuzwe
- i) Ntanakimwe muri ibyo
- j) Ibindi, sobanura.....

45. Ese n'iki ubuyobozi bukora kugirango buzamure ibijyanye n'ubuzima n'umutekano ku kazi muri UTEXRWA?

- a) Gushyiraho inzobere kugirango ishyireho amabwiriza ajyanye n'ubuzima n'umutekano ku kazi mu cyigo

- b) Kugenzura bihorarho ibikorwa by'ubuzima n'umutekano ku kazi ndetse no kwandika ibyabaye
- c) Kongera ibijyanye n'isuku n'isukura
- d) Gufasha abakozi kwisanzura kugirango bajye bamenyekanisha byoroshye ibijyanye n'ubuzima n'umutekano wabo ku kazi
- e) Kongera ubugenzuzi kubijyanye n'umutekano mu kazi
- f) Nta na kimwe muri ibyo
- g) Ikindi, sobanura.....

46. Ese ni gute amabwiriza nyayo ajyanye n'ubuzima n'umutekano ku kazi afite impinduka mw'ikorwa neza ry'akazi hano muri UTEXRWA?

- a) Bizagabanya impanuka ku kazi
- b) Bizagabanya ikiguzi gitangwa kubagiriye ibyago mu kazi
- c) Bizagabanya impfu z'abakozi zishobora guturuka ku kazi
- d) Gusimburanya abakozi bizagabanuka
- e) Izina ry'ubucuruzi rizajya hejuru
- f) Byose byavuzwe
- g) Ntacyo ubuyobozi bakora
- h) Ibindi, sobanura.....

Appendix 5. In-depth interview guide for UTEXRWA managers

Key informant interviews (Qualitative)

1. Does the company have a written policy on Occupational Safety and Health?
2. How does the company comply with National Laws and Regulations on Occupational Safety and Health?
3. Which measures does the company have for identifying hazards?
4. How does the company conduct an Occupational Safety and Health Risk Assessment?
5. How does Occupational Safety and Health part of Organizational Planning in UTEXRWA?
6. How the company organizes monitoring and evaluation of occupational safety and health control measures?
7. Does the enterprise have an employee in charge of occupational safety and health? If yes how does he/she work?
8. How does the enterprise conduct health workers' monitoring of surveillance?
9. How workers are provided with Personal Protective Equipment (PPE)? How do you organize substitution and maintenance of PPEs?
10. How does the Enterprise organize the budget allocation for Occupational Safety and Health?
11. How is employees' awareness on Occupational Safety and Health work?
12. How does the company organize worker's training on how to perform their duties as well as Occupational Safety and Health?

13. How do you insure workers for occupational injuries?
14. How does the company prepare the recording and reporting of occupational Accidents, Diseases and Deaths to Labour inspection?
15. What mechanisms do you have for ensuring compliance with Laws and Regulations on Occupational Safety and Health?
16. How the company helped workers who had accidents or injury at the worksite?
17. What challenges the UTEXRWA Company meet on OSH?
18. What should be done to promote occupational safety and health in this company?

Appendix 6: Kinyarwanda version

ikiganiro cyimbitse n'abakoresha

1. Ikigo gifite Politike izwi yo kwita k' ubuzima n'umutekano by'abakozi ku kazi?
2. Kubahiriza Amategeko y'Igihugu yerekeye Ubuzima n'Umutekano ku kazi bikorwa gute?
3. N'izihe ngamba ikigo cyafashe mu kumenya no gukumira ibyago ku kazi?
4. Ikigo gikora isuzuma ry'ibishobora gutera abakozi ibyago mu buhe buryo?
5. Ni gute ikigo gishyira mu igenamigambi ryacyo ibyerekeye Ubuzima n'Umutekano ku kazi?
6. Ikigo gikurikirana ishyirwamubikorwa ry'ibikorwa byo kubungabunga ubuzima n'umutekano ku kazi by'abakozi mu buhe buryo?
7. Hari umukozi ushinze ubuzima n'umutekano ku kazi mu kigo? Niba ahari akora gute?
8. Abakozi bapimishwa kwa muganga ku byerekeye indwara zikomoka ku kazi mu buhe buryo?
9. Ni gute abakozi bahabwa ibikoresho bibarinda impanuka/ umukoresha asimbuza ibikoresho birinda abakozi impanuka gute?
10. Ikigo giteganyira ingengo y'imari yerekeye ubuzima n'umutekano ku kazi mu buhe buryo?
11. Ni gute Kumenyeshya abakozi amakuru yerekeye Ubuzima n'Umutekano ku kazi bikorwa?
12. Amahugurwa abakozi bahabwa ku bijyanye n'akazi bagomba gukora ndetse n'ubuzima n'umutekano ku kazi ategurwa gute?
13. Guteganyiriza abakozi ku bijyanye n'ibyago bikomoka ku kazi bikorwa gute?
14. Kwandika impanuka, indwara n'impfu bikomoka ku kazi ndetse no kuzimenyekanisha mu Bugenzuzi bw'umurimo bikorwa gute?
15. N'izihe ngamba mufite zigamije ishyirwa mu bikorwa ry'Amategeko n'Amabwiriza ku byerekeye Ubuzima n'Umutekano ku kazi?
16. Abakozi bahuye n'ibyago ku kazi mu kigo cyanyu bafashijwe gute?
17. N'izihe ngorane muhura nazo zijyanye n'ubuzima n'umutekano by'abakozi ku kazi?
18. N'iki ubona cyakorwa kugirango ubuzima n'umutekano by'abakozi mu cyigo cyanyu bigende neza?