ASSESMENT OF WORKERS' HEALTH AND SAFETY AT WORKPLACES: A CASE OF THE WENTWORTH RESOURCES LTD AND OLAM IN MTWARA MUNICIPALITY

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A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF MASTER OF HUMAN RESOURCE MANAGEMENT (MHRM) OF THE OPEN UNIVERSITY OF TANZANIA

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CERTIFICATION

The undersigned certifies that, he has read and hereby recommends for examination a dissertation entitled: ***"Assessment of Workers' Health and Safety at Work Place: A Case Study Wentworth Resources Ltd and OLAM in Mtwara Municipal"*** in partial fulfillment of the requirement of the award of degree of Master of Human Resource Management (MHRM) of the Open University of Tanzania.

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Dr. Cosmas Haule

(Supervisor)

……..…….

Date

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DECLARATION

I, Neema Mwaisaka, declare that this dissertation is my own original work and that it has not been present and will not be presented to any other university for a similar or any other degree award.

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Signature

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Date

DEDICATION

To my parents Mr. Nsajigwa and Mrs. Magreth Mwaisaka for their authoritative parenting, my beloved son Clarence, my brothers Ipyana, Gwakisa and Ulimboka, and my friends Henry Shimo, Victor Melchades and James Bakari for their moral and material support that enabled me to complete on the field and this report.

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ABSTRACT

The study aimed to assess the perceptions of workers' towards occupational safety and health administration (OSHA) measures that are employed at the workplace in Mtwara Municipality, Tanzania. The study intended to: examine workers level of understanding of the OSHA measures at OLAM and Wentworth Resource Limited, identify common health problems at OLAM and Wentworth Resources Limited, assess the workers' level of vigilance in securing their personal safety and health in the workplace and assess the OLAM and Wentworth Resources Limited compliance with the OSHA stipulations. The study involved 60 respondents from two companies namely OLAM and Wentworth Resources in Mtwara Municipality who provided their opinions on the study theme. Both qualitative and quantitative methods were employed in data collection analysis and presentation. These methods ensured methodological triangulation and maximize the quality of data collected. The study found out that the workers at the study organization have a high level of understanding of the OSHA measures. Despite that, the study revealed that workers have experienced diseases such as sore throat, cough, and others have suffered from shortness of breath, including accidents, backache, muscle tear (soft tissue trauma), and twisted ankle. Moreover, the study noticed that a high percentage of the respondents displayed a high capacity for vigilance of securing their safety and health at workplaces. Thus, the study recommends that both employers and employees should provide education about personal hygiene. Lastly, the employer should adopt teaching programs among all levels of management to raise awareness about health and safety.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER ONE

1.0 INTRODUCTION

1.1 Introduction

This chapter presents introductory information about assessment of workers' health and safety at work places in Tanzania. The main focus is the background to the problem, statement of the problem, objectives of the study, research questions, and significance of the study, limitations and delimitations of the study.

1.2 Background to the Problem

Safety and health in the workplace have become an integral component to the viability of business for employers, labour unions, governments, and environmentalists in general (Macintosh and Gough, 1998; Anderson and Gough 2004). The subject of safety and health in the workplace covers a wide spectrum of issues. Among them are issues such as working with hazardous chemicals and minerals, exposure to contagious diseases and passive smoking. Naturally, a need for safety is an intrinsically human concern. Every individual in life, whether one is employed or not, both at the workplace and outside the workplace has the intrinsic need to be safe. In this case, workers, as mature individuals, are responsible for every decision they make with regard to securing their own health and safety in every social setting (Bennet, 2002).

Today's workplace is different, diverse, and constantly changing. The typical employer or employee relationship of old has been turned upside down. Workers are living in a growing economy and have almost limitless job opportunities. This

combination of factors has created an environment where the business needs its employees more than the employees need the business. It is the quality of the employee's workplace environment that most impacts on the level of employee's motivation and subsequent performance (Arthur *et al*., 2001).

Due to globalized economic trends, the subject of safety in the workplace has taken on such importance that international conventions instituted the international organization for standardization to help regulate and bring about improved workplace conditions and services (Zwetsloot, 2003). Cointreau (2004) contends that health and safety measures have become one of the most important facets of the business world today. Human resources have enjoyed increasing importance as the focus of studies in human well-being and work satisfaction. Cointreau (2004) continues to argue that municipal waste is produced as a result of economical productivity and consumption. It includes non hazardous wastes from households, commercial establishments, institutions, markets, and industries. For example, waste collectors in Palestine use old equipment and virtually no dust control or worker protection. With the existing management system of solid waste, Palestine faces an increasing solid waste management problem (Cointreau, 2004).

Over the past few decades several health and safety laws have been passed to ensure the safety of workers and protect them from hazards in the workplace (Smallman, 2001). The Occupational Safety and Health Act of 2003 require employers to provide a workplace that is free of hazards and to comply with occupational safety and health standards. The Occupational Safety and Health Act of 2003 created the

Occupational Health and Safety Administration (OSHA) to enforce these standards and to provide information on safety and health, training and assistance to employers and workers. Occupational health is a preventive activity aiming at identification, assessment and control of hazardous factors at the workplace and generation of competent and effective actions to ensure a healthy work environment and healthy workers (URT, 2008). Such activity cannot be carried out with primary health care competence alone; specialized occupational health competence and knowledge of the real needs (e.g. knowledge on industrial and other chemicals, physical factors at work, ergonomics, safety, work psychology, occupational medicine) of the working life are needed.

In response to the global and intrinsic need of ensuring health and safety at work place in Tanzania, the Occupational Health and Safety Authority (OSHA) was established under Executive Agencies Act No. 30 of 1997 and as the custodian of Occupational Health and Safety Act No.5 of 2003. The primary objective of Occupational Safety and Health Authority (OSHA) is to ensure creation and maintenance of ideal work environments which are free from occupational hazards that may cause injuries or illness to all employees in work environment. This will be achieved by promoting appropriate occupational health and safety practices in order to eliminate accidents and occupational diseases, and ultimately raise productivity (URT, 2008).

The Occupational Safety and Health Authority is the sole government agency charged with the responsibility of ensuring that acceptable minimum standards of

health and safety of workers are maintained at workplaces. It therefore endeavours to improve the quality of services delivered, increase the coverage and introduce new services to its customers. Besides, it strives to promote, enhance and maintain the working population's good health and safety for enhanced productivity and contribute to national development. Employers are responsible for protecting the health and safety of their employees. With this regard, the present study intends to assess workers health and safety workplaces in Tanzania.

1.3 Statement of the Problem

Wentworth Resources is an independent energy company with gas production and a committed oil and gas exploration programme in the Ruvuma Basin of southern Tanzania and Northern Mozambique. The Company and its concession partners are exploring over 14,000 km² of the prolific Ruvuma Basin. Wentworth Resources and its partners own two producing natural gas fields; a gas processing plant; a gas receiving plant; and a 27 km pipeline system. Wentworth Resources is publicly-traded on the Alternative Investment Market of the London Stock Exchange (AIM: WRL) and the Oslo Stock Exchange. Despite the continued efforts in improving working conditions and the rapid development of safety and health technologies for the workplace, work-related hazards continue to exist in almost all occupations. The World Health Organization (WHO) noted that 1.7 million people worldwide die annually of work related injuries and illnesses (ILO, 2005). In addition, 268 million non-fatal workplace incidents and 160 million work related injuries and illnesses are reported annually (Magendaz, 2004). The increase in hazard is attributed to low public awareness on health and safety regulations. This alarming situation has

sparred health and safety experts in many organizations and other stakeholders to find ways to balance and create safe working environment. Thus, OLAM and Wentworth Resource Limited, like other companies in Tanzania, have adopted the globally accepted OSHA regulatory standards for safety and health administration in the workplace.

The trends of work related diseases and injuries at OLAM and Wentworth Resources have either not been documented or not properly researched. Issues related to perceptions of workers towards occupational safety and health administration (OSHA) are unknown or not detailed. That being the case the Municipal Director of Mtwara- Mikindani Municipal Council directed industries within the municipality to make sure that they adhere to OSHA regulations and stipulations. Industries were obliged to undertake adequate measures to minimise work-related health and safety problems (URT, 2010).

Thus this made Wentworth resources and OLAM ideal organization for the study since they are only big industries in Mtwara. Therefore, this study intends to abridge this gap towards occupational safety and health administration (OSHA) measures that are employed at the workplace in Mtwara Municipality.

Due to the fact that, issues of safety and health at OLAM and Wentworth Resources are still not clearly detailed and documented, this study think it is now the right time to critically assess the perceptions of workers towards occupational safety and health administration at OLAM and Wentworth Resources in Mtwara Municipality.

1.4 Research Objectives

1.4.1 General Objective

The general objective of this study was to assess the perceptions of workers towards occupational safety and health administration (OSHA) measures that are employed at the workplace in Mtwara Municipality.

1.4.2 Specific Objectives

(i) To examine workers level of understanding of the OSHA measures at OLAM and Wentworth Resource Limited.

(ii) To identify common health related problems at OLAM and Wentworth Resources Limited

(iii) To assess the workers' level of vigilance in securing their personal safety and health in the workplace.

(iv) To assess the OLAM and Wentworth Resources Limited compliance with the OSHA stipulations.

1.5 Research Questions

(i) What are workers level of understanding of the OSHA measures that are applied at OLAM and Wentworth Resource Limited?

(ii) What are the health related problems common faced at OLAM and Wentworth Resources Limited?

(iii) What is the extent of workers' level of vigilance in securing their personal safety and health in the workplace?

(iv) What is the level OLAM and Wentworth Resources Limited compliance with the OSHA stipulations?

1.6 Significance of the Study

The study findings are worth to different organizations or companies to eliminate some of the weaknesses and capitalize on the strong points of the company to provide missing information about occupation safety and health enforcement in their organization for betterment of the organization itself and its workers. The study found out some common diseases at workplace resulting from poor administration of safety and health at workplace such as skin diseases, shortness of breath, throats, coughing, diarrhea and backache. Thus, it better to both workers and organization to make sure that they adhere to stipulated regulations in order to ensure good health and safety to both workers and the organization. In addition, the study pinpoint the role that individual differences can and do play with regard to safety and health in the workplace in regards to the set strategies. Therefore, everyone at workplace has a responsibility of ensuring his or her safety while at workplace. It may help to put the company in a better position to implement OSHA strategies in future. Finally, the study findings are very usefully to the company and individual workers since their incorporation in these respondents, workers were enlighten and exposed to various issues related to health and safety at workplaces.

1.7 Limitations of the Study

Limitations of the study are those factors or conditions beyond the control of the researcher, which hinder one from obtaining the required data and may place

restrictions on the conclusions of the study (Kombo and Tromp, 2006). It was expected to experience the following limitations: The cost of conducting the research is always much higher than available resources therefore, researcher faced financial problems. Due to insufficient fund the researcher thought that could not be able to conduct the study effectively due cost involved. But the researcher overcame this by getting financial assistance from different sources including relatives. A shortage of time in conducting a fully extensive and intensive study, scarcity of material, the researcher face the deficit of material to visit particularly for chapter 2 due to the factor that many researcher wrote on health and safety which are quite different from what the researcher wrote also the researcher faced time limitations during data collection, processing and report writing so as to be able to finish the study within time specified by academic calendar of OUT. Hopefully, the researcher overcame this by working hard day and night in order to be timely and efficient.

1.8 Ethical Considerations

Morrison (1993) stipulates that ethical principles in the conduct of research include acquiring research clearance and the informed consent of the participants as well as maintaining confidentiality. A research clearance letter were obtained from the Vice Chancellor of the OUT, to introduce the researcher to the Mtwara Regional Administrative Secretary, who issued an introductory letter to the District Administrative Secretary of Mtwara Municipality who will also give permission to conduct this research in the selected areas. During administration of questionnaires, interviews, focus group discussions, and documentary review, the researcher assured the respondents that privacy, confidentiality and anonymity would be guaranteed.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Chapter Overview

This chapter reviews concepts, theories and previous research findings from available literature relating to the research for the purpose of establishing the theoretical and empirical base of the study, it also reviews literature on health and safety at workplace, the literatures looks at different studies, researches done by different authors regarding the research problem.

2.2 Definition of Key Concepts

(i) Health is the level of functional or metabolic efficiency of a living being. It is the general condition of a person's mind, body and spirit, usually meaning to be free from illness, injury or pain. The (WHO, 2006) defined health in its broader sense as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.

(ii) Safety is the state of being safe, the condition of being protected against physical, social, spiritual, financial, political, emotional, occupational, psychological, educational or other types or consequences of failure, damage, error, accidents, harm. Generally, Safety can also be defined to be the control of recognized hazards to achieve an acceptable level of risk (Merzel, 2003).

(iii) The workplace is a place where someone works (Merzel, 2003).

(iv) Occupational Safety and Health (OSHA) is a cross-disciplinary area concerned with protecting the safety, health and welfare of people engaged in work or employment (Gray,1991a).

(v) A hazard is a dangerous condition that can interrupt or interfere with the expected, orderly progress of an activity. Hazards may be negligible when they will not result in injury to people or serious damage to equipment; marginal when they can be controlled to prevent injury or damage; critical when they will cause injury or serious damage or both; and catastrophic where they will cause death to workers.

2.3 Theoretical Framework Review

2.3.1 Game Theory

The game theory contends that health and safety managers face complex challenges in today's production environments. According to Riggs *et al*., (1986), the subject of game theory is situations where "a competitive environment presupposes intelligent opponents capable of exerting influence over our outcomes through their choice of action, while concurrently we choose a course of action that maximizes our returns with respect to the opponents' anticipated activities."

Much of the concepts in game theory are drawn from the work of mathematicians Von Newman and Nash in the 1940`s and early 1950`s (Riggs *et al*., 1986). The game model asserts that effective individual strategies or behaviors do not necessarily create a situation that is best for all. However, given certain conditions,

cooperation can exist without formal agreement among the intervening parties. In this case, game theory has been used to understand and organize both human and animal activity. As a decision theory, it helps to explain possible strategic behaviors of individuals without defining the final tactics.

Marcel *et al.,* (1997) argue that the health and safety game is similar to the Prisoners' Dilemma. The equilibriums found provide a clear indication of how the intervening parties will interact in the real world. In this game, rationally, the social partners ought to maintain the status quo in terms of efforts in health and safety (Nash equilibrium). They ought to avoid the moderate decision, in terms of expected individual payoff, which is to improve efforts in health and safety (Pareto efficiency equilibrium). Therefore, the rational individual strategies will lead to an outcome that is bad for all social partners. In this type of problem, the theory postulates that effective and efficient co-operation between workers and managers so long as the time span of the game is unknown. Analysis of interactions among workers and managers in health and safety, using game theory, brings us to conclude that if cooperation can be established, it has good chances for survival.

According to Marcel *et al.,* (1997) there are two important factors in establishing such cooperation: First by acting on the costs and benefits of initiatives in health and safety. One should reduce the benefits of taking health and safety risks, which may be done by the use of appropriate legislation or intra-firm politics. On the other hand, one can reduce the costs of making efforts to improve health and safety by modifying the insurance fees or by promoting the use of safety groups.

Management of health and safety needs to consider the strategic behaviors practiced by intervening parties to introduce measures that are effective as well as efficient. Both implicit and explicit contracts must be constructed to address dominant behavior and to facilitate co-operation on health and safety issues. Efforts in health and safety can be considered laborious, costly and not necessarily maximizing the individual utility payoff. There may be situations in which any small private effort in improving health and safety yields immediate and tremendous returns. But the optimization of efficiency of health and safety measures depends on the synergy of actions taken by the social partners. This helps to improve the health and safety of workers and hence company productivity also increases.

Moreover, if workers and managers both improve their efforts in health and safety, their expected individual utility payoff will incur lower cost and if both maintain their efforts in health and safety, expected individual utility payoff will prove costly. Therefore, if one partner improves its efforts in health and safety, which is a very costly individual decision, the other will benefit from these efforts. More precisely, if a health and safety program goes off course, or if workers claim it is ineffective, workers may benefit.

Even though, game theory was one of the first rational approaches to the study of the interaction (Von Neumann and Morgenstern, 1953). The theory is emblematic of rational theories of the interaction. Its weaknesses preclude it from being predictive as it is unable to study the weaknesses and strengths of cooperation as a variable, the shift from individuals to groups, or variations between groups. Further, game theory

is unable to study quantitatively the organizational value of conflict or violence among employer and employees pertaining health and safety at workplaces (Cohen, 2002).

2.3.2 Operations Theory

Paul *et al.* (1997) postulate that the health and safety of employees in the workplace is a major concern for employers and employees. Detailed employment laws and legislation have been created covering this area. All organizations that employ five or more people must have a written safety policy, which sets out who is responsible for workplace health and safety and arrangements that have been made for healthy and safety. Gerald (1986) in supporting the theory contends that, health and safety policies must be communicated to all employees. Employees must comply with company procedures and arrangements for health and safety. Every employer must carry out a risk assessment and then take health and safety measures in line with this assessment. Competent individuals must be given responsibility for health and safety arrangements. Emergency procedures must be set out. Employees must be trained and provided with clear information about risks and the steps to take in dealing with them.

2.3.3 Economic Theory

According to economic theory, an employer will determine whether to prevent workplace accidents or illnesses by comparing the costs of prevention with the costs of not taking such action (Viscusi, 1983). Employers that fail to reduce workplace hazards can expect to pay increased labor costs because workers will demand

additional compensation for enduring occupational safety and health risks. For a given level of workers' compensation, workers will demand a wage premium that compensates for any inadequacies in *ex post* compensation. In other words, assuming workers are fully informed about job risks, they will seek compensation equal to the expected cost of an injury or illness not covered by workers' compensation. In addition, the employer may have to pay for the cost of recruitment and training of additional workers to replace those persons who are injured or killed and other related costs. To avoid these expenses, an employer will make safety and health improvements until the cost of additional precautions is more than paying wage premiums and other related costs.

In this manner, labor markets should produce the abatement of some safety and health hazards and workers should be compensated (*ex ante* and *ex post*) for the risks that remain. The employer's assumption of these costs will make the market for the employer's product or service more efficient. Because the employer assumes these costs, the price of the product or service will reflect the cost to society of the production of the good or service, including the cost of occupational illnesses and injuries (Darling-Hammon *et al.,* 1980).

OSHA can address this shortfall by ordering employers to undertake safety and health precautions improvements up to the point where the costs of such improvements exceed their benefits. If benefits are measured as the value of the improvements to workers, administrative regulation will produce about the same level of investment in safety and health precautions as fully effective financial incentives. In other words, the government would order the same level of protection

as would be produced if employers fully compensated workers for their injuries and illnesses.

The market is more efficient because the price of the product or service will include the cost of occupational accidents and illnesses associated with its production. In this manner, the price will reflect the actual cost to society of the production of the good or service. The actual cost to the firm of paying compensation, however, will depend on the nature of its insurance arrangements. Insurance arrangements can reduce a firm's incentive to prevent future accidents and illnesses

This study was guided by the Game theory although ideas of economic and operation theory was also a key guide to this study. Thus this study conforms to the study by Dorman (1996) who proposes that game theory is best to study the relationship of workers and employers concerning issues such as risk compensation. The theory was used because game theory accounts for strategic behavior; it can clarify how cooperation and conflict inside a corporation impacts issues of public policy such as the protection of workers. The combination of economic and operation theories in this study show that safety and health at workplace is an economic phenomenon that embedded in cost-benefit analysis while the operation theory shows that health and safety at workplaces in always regulated by rules, laws and arrangements at workplaces. The study utilized operation theory by looking at the laws and regulations at OLAM and Wentworth Resources as advocated by the theory while it also looked at how employer prevent accidents at workplace comparing to the cost of preventing with the costs of not taking action as advocated by economic theory.

These theories (operation and economic theories) were of paramount importance to this study because it guided to assess workers perception towards occupational safety and health administration at OLAM and Wentworth resources.

2.4 Workers Level of Understanding of OSHA Measures

Bennet (2002) postulates that employers are responsible for providing a safe and healthful workplace for their employees. OSHA's role is to assure the safety and health of employees by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. He argues that the workers are not objects to be managed like machines or other factors of production. They are living, breathing and thinking human beings who have the most fundamental stake in any system of health and safety that affects their lives in workplaces.

Bennet (2002) further argues that when it comes to workers' views on occupational safety and health in the workplace they are often ignored due to various management styles and a shortage of safety regulations, allowing for little reflection for worker contribution. Workers as subordinates often find themselves compelled to simply comply with and submit to rules and policies already in place at the workplace. He believes those workers' perceptions on the subject are seldom considered. He states that in many industries, the plight of workers is left in the hands of health and safety professionals, industrial hygienists, academics and industrial managers.

However, management systems are always silent as to how safety and health at the workplace looks like, how it is structured, how it functions, how it relates to the

management of the enterprise in general and how it is reconciled with the functions and responsibilities of other parties. He believes that industrial managers simply focus on issues of quality assurance, productivity, cost benefit and continual improvement rather than on quality of life. Smith (1973) cited in Johnston and Sidaway (2005:329) believes that applied geography needs above all to prioritize "human welfare before economic welfare, equity before efficiency and quality of life before quantity of goods".

Bennet (2002) finds the ILO approach towards safety and health in the workplace ideal since it seeks to benefit the workers who are always vulnerable to occupational incidences by advocating that total safety and health specifications should be given priority over performance standards. He argues that pursuing performance standards does not have the safety of workers at heart and pursues a goal other than the total safety of workers is to keep the establishment going.

Besides, Bennet (2002) argues that industrial hygienists simply concern themselves with auditors, disability management and insurance matters rather than with workers' safety and health. Graham (2004) asserts that level of education influences worker health and safety in the workplace. He further contended that education through induction, seminars, safety committees and charts at workplaces helps to provide the appropriate skills needed to achieve social status and make healthy lifestyle choices. Moreover, she explores the adverse health effects of the psychosocial work environment which show that individuals in positions that are characterized by routinized work with little supervision have low self esteem and higher stress levels.

This leaves them prone to workplace hazards and leads to adverse effects on production by way of absenteeism. A study highlighting statistics gathered from Namibian workplaces on common causes of workplace incidents revealed that, the most common incidents at the workplace occur more often due to ordinary negligent human activity than use of dangerous machinery and substances (Amweelo, 2000). This also indicates the significance of the role played by individual workers in ensuring safety and health in the workplace.

2.5 Common Health Related Problems at Workplaces

Many workers are injured and killed at the workplace every day in Tanzania and world wide in general. Safety and health can add value to an employee's life. Injuries and illnesses can be prevented at workplace by looking at workplace operations, establishing proper job procedures, and ensuring that all employees are trained properly (Amweelo, 2000). He further continues to argue that the common workplace health and safety problems include: communicable disease, transportation accidents, workplace violence, slipping and falling, toxic events, particularly chemical and gas exposure, getting struck by objects, electrocution or explosion, repetitive motion and ergonomic injuries, and hearing loss. Although some hazards are less likely to happen in some work spaces than others, it is important to assess which hazards are most damaging to employer business and employees. The other safety and health problems at workplaces are falls, electrocutions and being 'caught between' (Site Safe, 2000). Despite sophisticated safety and health regulations in most countries, high rates of injury and fatality persist. The procedures intended to prevent such accidents are usually mandated by the appropriate occupational safety

authority in each country (Gee and Saito, 1997). Scholars and professionals within the construction industry recognize that regulations and legislation by themselves are not enough to bring about the desired goal of zero accidents and incidents on construction sites (Center to Protect Workers' Rights, 1993; Ratay, 1997).

In the US, for people aged 44 and under, the primary cause of loss of life is injuries (U. S. Bureau of Labor Statistics, 1998). As such, injuries kill more than 142,000 Americans and require an estimated 62.5 billion dollars in medical attention each year (U. S. Bureau of Labor Statistics, 1998). This is close to three people dying and over 170 people sustaining a disabling injury every 10 minutes (National Safety Council, 1999). Every year more than 80,000 Americans are permanently disabled as a result of injury to the brain or spinal cord. Thus, unintentional injury represents a serious public health concern, and a theory-driven community, school, and organizational injury prevention technology is needed to improve the health and safety of individuals.

Due to the frequency and severity of injuries, the U.S. Department of Health and Human Services has identified injury prevention as a priority for attaining the goals outlined in *Healthy People 2000: National Health Promotion and Disease Prevention Objectives* (1990). Baker *et al.* (1992) found that injuries occurring on the job due to unsafe (or *at-risk*) work behaviors remain a significant problem in the U.S. and are a leading cause of unnecessary morbidity. Every day, an estimated 36,000 employees are injured and 16 are killed (NIOSH, 1998). Moreover, an estimated 7,000 to 11,000 workers die annually with 2.5 to 11.3 million employees suffering

non-fatal injuries (Leigh, 1995; Miller, 1997). This is contrary to Tanzania and Mtwara in particular, where data and other records related to occupational injuries are rarely found and documented. In addition to the risk of an accident, the health of mining and construction workers is very likely to be damaged by exposure to dust, noise, vibration, or chemicals the effects of which may take many years to develop. Construction and mining workers are also particularly vulnerable to HIV/ AIDS due to over – representation of young men in the workplace and long periods spent away from home.

According to the International Labour Office (ILO), work-related accidents and illnesses contribute 3.9 per cent of all deaths and 15 per cent of the world's population suffers a minor or major occupational accident or work-related disease in any one year (ILO, 2005). Other than the moral concerns, the economic cost is considerable. The work-related injuries cost the United States US$125.1 billion in 1998 i.e. 1.5% of GDP – (National Safety Council, 1999) and Britain between £14.5 and £18 billion annually - 2.1% - 2.6% of GDP – (Health and Safety Executive, 1999; (Smallman, 2001).

Overall, the UK has one of the best records for HandS performance in the world and the British construction industry is one of the safest in Europe. Nevertheless, in 2005/2006, the rate of fatal injury to workers was 3.0 deaths per hundred thousand workers while the industrial average was 0.71 (ILO, 2005). Notwithstanding, the fatal injury rate is continuing the downward trend of recent years, construction is still a sector associated with a disproportionately high number of job-related accidents

and diseases. In order to improve the HandS performance, legislative and organizational efforts have been made by government and industry to establish a systematic legal system and preventive strategies.

Work-related ill-health and also largely affects the well-being of workers. Handling and using tools, materials and substances can result in fractures, strains, musculo-skeletal disorders (MSDs), dermatitis, cement burns, hearing loss, hand arm vibration syndrome and consequent long term disability. The protocol of 2002 of the Occupational Safety and Health Convention in 1981, defines occupational disease as any disease contracted as a result of an exposure to risk factors arising from work activity (African Newsletter on Occupational Health and Safety, 2002).

Lingard *et al.*, (2005) argues that occupational accidents are very frequent among waste collectors. Based on current knowledge, it appears that risk factor should be considered as an integrated entity, i.e. technical factor (poor accessibility to waste, design of equipment), may act in concert with high working rate, and perhaps muscle fatigue due to high work load.

2.6 Workers' Level of Vigilance and Compliance with OSHA stipulations

Many more workers suffer from work related injuries and ill- health, the report points out that the main causes of death and injury are both well understood and entirely preventable. A number of international agencies have been working to improve health and safety in the workplace, but until now the use of procurement procedures has received very little attention. This note explains how health and safety should be addressed at each stage of the procurement cycle.

In South Africa studies concerning to worker perspectives are extremely rare. It is this gap that this study seeks to fill by analyzing workers' perceptions of occupational health and safety measures in the workplace. Bennet (2002) argues that when it comes to workers' views on occupational safety and health in the workplace they are often ignored due to various management styles and a shortage of safety regulations, allowing for little reflection for worker contribution. Workers as subordinates often find themselves compelled to simply comply with and submit to rules and policies already in place at the workplace. He believes that workers' perceptions on the subject are seldom considered. He states that in many industries, the plight of workers is left in the hands of health and safety professionals, industrial hygienists, academics and industrial managers.

Accidents occur at workplaces around the world despite various occupational safety and health laws, rules, and regulations. There is an international trend away from prescribing compliance with safety laws toward a performance approach (Ratay, 1997). Organizations encounter many outside safety-related influences that motivate their safety interventions (e.g., government agencies, union, and professional societies). Workplace Health and Safety (HandS) is a global challenge of the sustainable development of our society and civilisation. Safety and health in workplace has become of prime importance. Employers are allowed flexibility to choose the means and methods to perform their operations safely.

Hallowees and Butler (2003) states that most workers tend to prioritise access to wages over labour conditions. This places them in an ambiguous position resulting in

them compromising their lives as victims and risking their lives in the workplaces. If so it could mean that towards or on pay-days, workers' behaviour might change and affect the state of safety and health so as to have an impact on workplace safety conditions. It could also mean that the first working days or two after pay-days negatively affect attitudes on workplace safety conduct, depending on individual ethical moral mind-set (Hayes *et al.*, 1998).

This raises a concern as to value; what is valuable to the workers might not coincide with what is valuable to the company. The objectives of the company might be totally different to those of the workers (Magendaz, 2004). This would have a bearing on compliance with rules and regulations put in place by the establishment. Winter and May (2001) reflect on three types of decision making forces that have influence on compliance with laws and regulations as follows; calculated motivation; when regulated entities comply with a given regulation having calculated the cost of non-compliance in their decision making; this type is governed by enforcement and deterrence; normative motivation; this derives from the regulated entities' combined sense of moral duty and agreement with the importance of a given regulation as an internalized value, social motivation; which derives from the regulated entities' desire to earn approval and respect from people with whom they interact.

Legislative frameworks effectively address the work environment and procedures. It is the role of management to interpret how the provisions of such legislative frameworks will be enacted on construction sites relative to working practices. If unsafe worker behavior were addressed by legislation, health and safety practitioners

might regard themselves as being absolved from their safety and health responsibilities to their workers. For example, if the law specified that workers had to come to work wearing mandatory minimum protective gear, it becomes an issue regarding who should provide the gear. Further, who should enforce the implementation of the law and who should bear the costs involved become other issues to be considered. The focus of implementation and enforcement has consequently been on compliance rather than on proactive preventive measures. Punitive measures for noncompliance are usually in the form of fines.

Hinze (1997) however disputes the results of these studies suggesting that the numbers are unsubstantiated and meaningless. He contends that accidents are a combination of physical conditions on construction sites and worker actions suggesting that safety should therefore focus on both. However, if the results of the studies imply that between 98% and 100% of industrial accidents are caused by a combination of unsafe behaviors and unsafe conditions, then it seems that both can be addressed. Consequently, most accidents can be avoided.

However, adherence to them alone does demonstrably improve site safety. If reasonable in philosophy, adequate in detail, and worded without ambiguity, legislation and regulations provide a basis for the employment and enforcement of good construction practices. According to Ratay (1997), good codes and standards can improve construction safety at minimal or no extra cost. On the other hand, poor codes and standards can contribute to increased costs and disputes with little or no impact on construction safety. These costs and disputes arise from delays in

construction progress, penalties for these delays, financial losses, personal injuries and fatalities.

At first glance, many safety and health legislative and regulatory frameworks are prescriptive3. That is, they specify, in exacting terms, how the employer must address any given conditions. Additionally, these standards and regulations tend to support the traditional command-and-control, deemed-to-comply, or prescriptive approach of addressing unsafe conditions, existing and potential hazards while placing little, if any, emphasis on addressing unsafe worker behavior. Simply providing and enforcing prescriptive rules and procedures is not sufficient to foster safe behavior in the workplace (Reason, 1998).

Hinze (1997) further contends that human rights issues have become a focal point of debate throughout the world. Worker safety and health are a subset of these issues, and accordingly should come under the same scrutiny. However, in an international environment where no uniformly accepted international safety and health standards currently exist, it is extremely difficult for workplaces managers to ensure that they create workplaces that are safe for their workers. Consequently, workers are forced to interpret the compliance requirements of legislation, implement construction practices, and use construction materials with which they are unfamiliar.

Munga *et al.,* (2009) contends that the number of labour inspectors is an indication of the Government's capacity to enforce safe work principles, laws and regulations. The Occupational Safety and Health Authority (OSHA), under the Ministry of Labour Employment and Youth Development, conduct its own factory inspections; The

available data reveals that labour inspectors, those employed by OSHA, remained at the same low number (approximately 70). Tanzania mainland had only 0.33 labour inspectors for every 10,000 paid employees, or 0.04 labour inspectors for every 10,000 employed persons. This implies that labour inspection is still very inadequate in Tanzania. This creates room for many injuries or other unsafe working conditions to occur without of interest in terms of the roles of the labour officers in the Ministry of Labour has been resolved by the labour law reforms in 2004. Previously, labour officers were required to conduct labour inspections and investigations and, where necessary, prosecute employers in courts of law and, and other to the chair of conciliation boards and give decisions which were binding on employers.

Häggström *et al.*, (2008) also argues that despite the Occupational Safety and Health Act of 2003 (OSHA) and the creation of an Occupational Safety and Health Agency, the issue of safe work is not being adequately, addressed as evidenced by too few labour inspectors and lack of resources. The reporting system used to collect data on injuries, both fatal and non-fatal, cannot show a complete picture of the situation in Tanzania. This is also similar to OLAM and Wentworth Resources whereby the data are not well documented and reported fearing of being seen as they do not comply to OSHA stipulation. Other data sources should be explored, such as household surveys.

Inadequate provision of OHS services leads to high rates of accidents and injuries which are a burden to the working population. This demonstrates the importance of developing strategies to control their occurrence. Hence, the need for an efficient and effective institution to improve OHS service delivery at all levels is therefore clear.

The Executive Agency carries out all workplace inspections, including general inspections, plant and electrical inspections. It conducts industrial hygiene surveys and measurements, occupational health examinations of workers, offer advice on ergonomics and scrutinize workplace drawings. Training of workers and employers, collection and dissemination of OHS information are also carried out. The Agency also issue guidelines, regulations and standards on OHS to enhance its implementation. Conducting OHS research and studies in collaboration with other OHS community is encouraged (Häggström *et al.*, 2008)

The main role of OSHA is therefore to promote a good, sound and healthy working environment to create a conducive environment for enterprises as well as workers. By provision of a healthy working environment, both workers, enterprises, and the society at large will benefit and save precious resources. Ultimately, this will lead to enhanced productivity and economic growth. Work is central to people's lives. Yet often times people work in conditions that compromise their ability to live productive lives. Ninety years ago, the International Labour Organization set out a vision: "Whereas conditions of labour exist involving such injustice, hardship and privation to large numbers of people as to produce unrest so great that the peace and harmony of the world are imperiled; and improvements in those conditions is urgently needed" (Häggström *et al.*, 2008).

A lack of resources and labour inspectors has hampered efforts to address the issue of safe work effectively. The occupational health and safety legislation has been reviewed and an agency has been established. However, the shortage of staff and funds hinder its efficient functioning. At the same time it must be stressed that,

despite these positive developments, the overwhelming majority of Tanzanian workers (approximately 90 per cent) remain in vulnerable and informal employment (URT, 2009). Nonetheless, the indicators on the performance of the social security system in Tanzania suggest that workers in Tanzania have limited and insufficient social protection, and that coverage of contributory social security schemes in practice is largely restricted to formal workers (of whom about half enjoy protection).

It is also evident that short-term social risks such as unemployment are not covered in current system. Provisions for long-term benefits such as pension benefits and survivorship are limited to few individuals. In this respect, the system still has a long way to go to deliver effective social protection to all Tanzanian workers. Engineers against Poverty (EAP) has obtained funding from the Civil Society Challenge Fund, to support a project which aims to change this situation in one Sub Saharan country, Tanzania based on International Labour Organisation(ILO) pilot, the project is providing intensive training in mining and construction health and safety to core group of men and women drawn from all the major stakeholder organization, this core group of trained people will then assisted to train others amongst their peers, co-workers and employees about health and safety awareness at workplace (ILO, 2005).

It has been found that the mining and construction has trained about 35 people to be come trainers on all issues of safety and health on that arrears, among the group are representative of all the key organization involved in construction, mining and Occupational Health and Safety (OHS) in Tanzania.

With regard to compliance with regulation it has been noted that regulatory bodies simply function on a state mandate, and base their work on law and policies. In essence this ought to be in support of human welfare, yet in practice it is deficient. In a country like South Africa where industrial development has been built on severe environmental injustice, regulation is practically ineffective. Even in the post-apartheid era little has been done to rectify the environmental inequities that have characterized the industries for so long.

Hallowes and Butler (2003) state that in South Africa agriculture and industry were virtually unaffected by environmental regulation as the actual basis of colonial and apartheid policies continued unabated. Parker (1999: 215) writes that the corporate veil frequently wards off the penetration of standards into the corporate world and prevents the imposition of legal sanctions. She states that “adversarial trained lawyers often facilitate avoidance and evasion of corporate liability through creative compliance with legal requirements”. She also states that a commonly preferred solution to the problem of ensuring that values permeate the internal working of corporations is to require large institutions to regulate themselves, which is often found to be effective by some and problematic by others.

Basically industries do whatever it takes to safeguard the credibility and integrity of their establishment. Industry in the current era cannot afford to neglect safety and health factors at their workplaces and to so bring their establishment and production into disrepute. Hence measures such as ISO standards are put in place by well established industries to ensure sound and systematic safety and health

administration in their workplaces; a typical example of calculated motivation; to comply. This study seeks to explore workers' perceptions towards OSHA measures at the workplace. It seeks to probe into the subjective rationale behind the workers' compliance and decision-making with regard to health and safety in the workplace. The study seeks to discover how workers perceive OSHA measures at OLAM and WENTWORTH RESOURCE LIMITED in relation to their own health and safety in the workplace in Mtwara Municipality

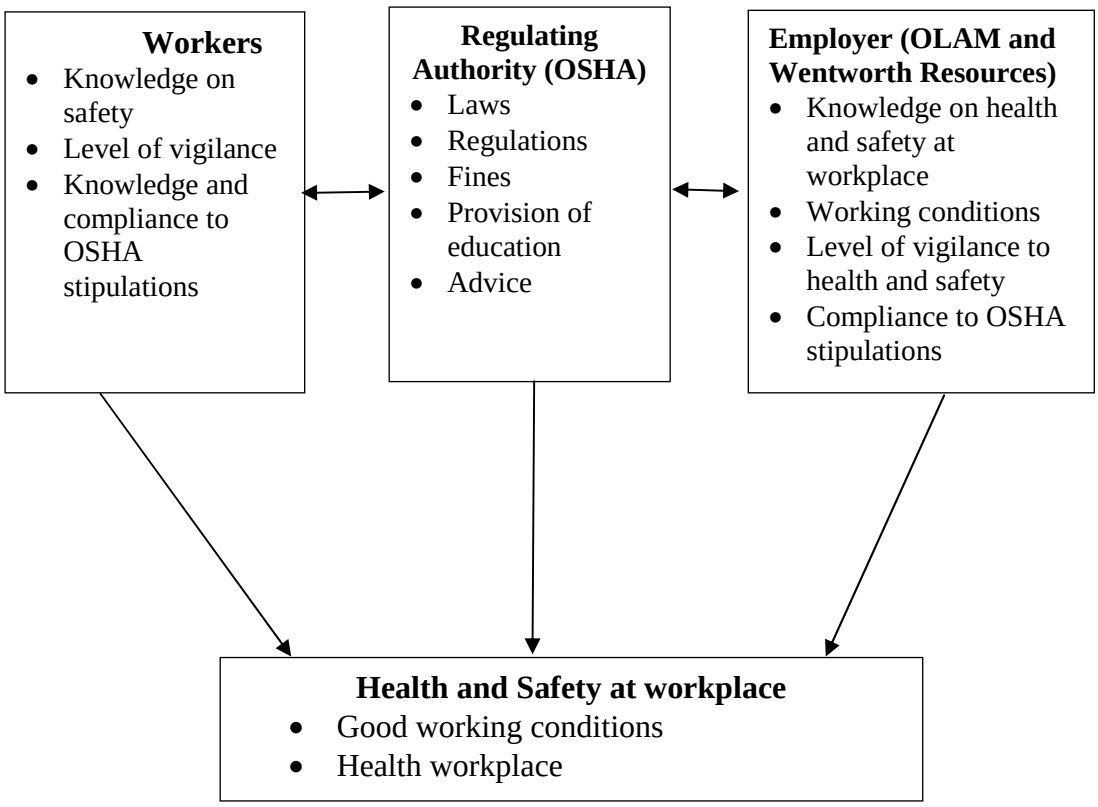

Figure 2.1: The Conceptual Framework on the Perceptions of Workers Towards Occupational Safety and Health Administration (OSHA)

Source: Researcher, (2012)

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This section provides a description of the research methodology which includes description of the study area, rationale for selecting the study area, study population, research design, sample and sampling techniques, methods of data collection as well as processing, analysis and procedures for presentation of study findings.

3.2 Location of the Study Area

Cohen *et al,* (2000) comment that it is very important for a researcher at the planning stage to clearly specify and define the area to be researched. The study was conducted at Mtwara Municipality. The area was selected due to the following reasons: - Firstly, the two selected companies (OLAM and Wentworth Resources Limited) are among the biggest private companies in Mtwara Municipality. Secondly, the study area is selected because it is the place the researcher can be able to acquire relevant data for the study.

3.3 Research Design

A research design is an arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance of the research purpose with economy in procedures (Kothari, 1990). The study employed both qualitative and quantitative methods where by a cross sectional survey design was used. The cross-sectional design used multiple design such as exploratory, descriptive and survey designs which supplement each other in exploring the study problem at hand. According to

Mlaki (2011) a cross-sectional design is appropriate for collecting information or data required at one point in time for a researcher who is faced with time and financial constraints.

3.4 Sample Size and Sampling Techniques

3.4.1 Sample Size

The sample size refers to selected number of respondents from the entire population who represent the entire population. The study involved a total of 60 respondents from two sampled companies namely OLAM and Wentworth Resources Limited. OLAM had 38 workers while Wentworth Resources Limited had 35 workers. Thus the selected sample size was representative of the study population since Kothari (1990) recommends that for a sample to be representative it must range from 10-15 percent of the study population. Kothari (1990) defines sampling as the process of selecting or drawing a sample of individuals from the total population to be studied; while a sample is that part of the universe population which is selected for the purpose of investigating and making generalization about the population characteristics.

3.4.2 Sampling Techniques

Two main methods of sampling techniques were employed for this study. These were random and purposive sampling techniques. Random sampling technique was used to select the study respondents from OLAM and Wentworth Resources Limited workers. The random techniques was applied in relation to worker whom the researcher met during data collection process. Then purposive sampling technique

was employed to OSHA officers, Labour officers, Industrial officers, Administrator, personnel, Health and Safety officers who are directly involved in implementing health and safety laws and regulations at workplaces. In this method, the researcher purposely targeted a group of people who believed to be reliable for the study. The researcher used random sampling because every member of the population had an equal chance of inclusion and biasness was minimized.

3.5 Sources of Data

The data for this study were obtained from both primary and secondary sources. The primary data were obtained from interviewing the 60 employees of the selected companies seeking opinion and information from key informants. Primary data were gathered through a structured and unstructured questionnaire with closed and open – ended questions as indicated in appendix 1, interview (Appendix 2) and observation, researcher used observation method to find data through hearing, testing, looking and visiting the office. This was employed to explore information from key informants like OSHA officers, Labour officers, Industrial officers, personnel, health and safety officers who are directly involved in implementing health and safety regulation at workplace.

A wide variety of secondary data were collected to obtain more insight on the problem under study. The data were collected from university library dissertations, theses both published and unpublished, bank reports, books; reports, newspapers and journal, articles including resources retrieved from the Internet. These data helped the researcher to make a critical analysis on the topic under study.

3.5.1 Types of Data

The study collected both primary and secondary data. The primary data were obtained from interviewing the 60 respondents from OLAM and Wentworth Resources. In objective one the study collected data on workers level of understanding of the OSHA measures. The study wanted to know if workers know exactly what OSHA does. The second objective the study sought to identify common health related problems at OLAM and Wentworth Resources Limited such as skin diseases, communicable diseases and others resulting from poor working environment while the third objective the study assessed workers' level of vigilance in securing their personal safety and health in the workplace by wearing protective gears and other necessary equipments at workplaces. The last objective the study assessed the OLAM and Wentworth Resources Limited compliance with the OSHA stipulations to see how much these industries abide to OSHA.

3.6 Methods of Data Collection

According to Denscombe (1998), using more than one specific method enables the researcher to cross-validate information and data collected from a variety of sources. Due to the nature of this study, the researcher used the triangulation approach that implies multiple data gathering sources. Thus a combination of documentary review, interviews, and questionnaires both structured and unstructured and observation was used.

3.6.1 Questionnaire Schedules

Questionnaires (See appendix 1) with open and closed ended questions were administered to the target respondents, the key respondents were normal workers at

OLAM and Wentworth Resources Limited. These respondents provided their opinions on their understanding about OSHA, work health related problems and compliance of OLAM and Wentworth Resources Limited with OSHA. The method captured the demographic characteristics of respondents including age, sex, marital status, and education level to mention a few. Each questionnaire was assigned to respondents and identification number to monitor the response, return rates and follow ups. The advantage of self administered questionnaires is that they encourage openness in answering questions and minimizes interview biases and subjectivity (Kothari, 1990 Questionnaires were used to capture background information on workers health and safety in Tanzania. This tool was used to collect information from OLAM and Wentworth Resource Limited normal workers.

3.6.2 In-depth Interview

The interview schedules (See appendix 2) were used to explore data from key informants who in this research were OSHA officers, labour officers, industrial officers, administrators, personnel, and health and safety officers. It is expected that these respondents are the ones making decision as well as implementing policies, laws and regulation in their organization. Therefore, these people provide information pertaining their implementation of OSHA rules and regulation at work, their compliance with OSHA, their concern about workers health even the impact of workers activities on their health. The interview schedule was supplement the main data gathered through questionnaire. Face to face interview was also conducted to all targeted key respondents. The interview is essential not only as a supplement to the questionnaire in obtaining data and information, but also to offset the

disadvantage associated with the use of questionnaire as the only data gathering method. The interview also is important because people tend to delegate the task of completing the questionnaire to junior members who are not capable of supplying needed data and information. Again interview is advantageous because it helps to clarify ambiguous responses and fill in missing gaps (Kothari, 1981). An interview guide was used to solicit answers from the respondents in which the researcher reads the question to the respondents and record the answers.

3.6.3 Documentary Review

Denscombe (1998) defined documentary review as the process of analyzing and deriving of relevant information from secondary sources. The reviewed secondary sources for this study contained dissertations, published and unpublished thesis, books, reports such as health and safety policy, safety programmes in the companies records as well as accidents records, newspapers, journal articles, pamphlets, brochures and resources retrieved from the internet. This tool helped the researcher to acquire data on perceptions of workers towards occupational safety and health administration.

This helped the researcher to know how different organization care about workers safety and health. Again, Denscombe (1998) asserts that documentary review has the advantage of providing vast amounts of information. It is cost effective and provides data that are permanent as well as available in a form that can be checked by others. Moreover, Denscombe (1998) asserted that the method is limited by the fact that it relies on something which has been produced for other purposes and not for the

specific aims of an investigation. To avoid this limitation, the researcher consulted documents which were only related to the study.

3.6.4 Observation

This method allowed a researcher to observe what was going on, taking notes on observed phenomena. For example, in this study the researcher visited OLAM and Wentworth Resource Limited workers to see their working environment such as protective gears used by workers, individual worker health status e.t.c. (as it was guided by appendix 1). Physical observation was used to assess workers health and safety, working equipment such as protective gear, the safety induction program like other safety programs at OLAM and Wentworth Resources Limited. Physical observation has the advantage of supplementing the findings obtained through questions and interviews (Kothari, 1990).

3.7 Methods of Data Analysis and Presentation

Various techniques were employed in the analysis of the data. Data were collected, recoded, entered in the computer and cleaned. Then data were processed, analyzed and presented by using frequency tables and graphs. Data entry was done by using the Statistical Packages and System Software (SPSS) to make descriptive analysis of the data for interpretation. This package allowed the analysis of data by using graphs, tables, cross-tabulation and charts. The advantage of this programme is that it is interactive and can manage the intended sample size and accessible by researcher. Information such as health workers, their perception on company compliance to OSHA measures as little of qualitative information that was categorized and coded

within the specific themes of interest in relation to the study objectives. Qualitative research techniques, therefore, explored values, beliefs, attitudes and behaviours. Systematic comparisons of statements or findings from interviews was made in order to attain triangulation (Kothari, 1990).

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents and discusses the findings of the study that was conducted at OLAM and Wentworth Resources in Mtwara Municipality. The chapter is divided into five sections. The first section discusses the main demographic and socio-economic characteristics of the respondents. The second section examines workers level of understanding of the OSHA measures at OLAM and Wentworth Resource. The third section delineates the common health related problems and the fourth part assesses the workers' level of vigilance in securing their personal safety and health in the workplace and the last part assess OLAM and Wentworth Resources compliance to the OSHA stipulations.

4.2 Demographic and Socio-Economic Characteristics of the Respondents

Perceptions of workers' towards occupational safety and health administration (OSHA) measures depend on the characteristics of the individual households concerned. Households have different characteristics such as age, sex, household size, education, marital status, occupations, income, etc. Differences between households on these variables may have impact on perception towards occupational health and safety at workplaces. The demographic characteristics of individuals, including gender, marital status, occupation, education and income are known to be associated with workers knowledge on health and safety at workplaces. This was important because it is important to know the features of the study population in

relation to the study theme as they are associated with knowledge, understanding and experience of respondents on occupational health and safety.

4.2.1 Distribution of Respondents by Sex

The study's target population was workers of OLAM and Wentworth Resources in Mtwara Municipality. A total of 60 respondents were interviewed. Out of which males were 56 percent while females were 44 percent. The personal characteristics of age and sex are important in any analysis dealing with understanding of occupational health and safety. This is illustrated by Shylocks and Siegel (1976:202) who argue that females are able to bear children and therefore needs special health services.

4.2.2 Distribution of Respondents by Age

Demographers and other social scientists have a special interest in the age-sex composition of population as most of the socio-economic parameters such as health, labour supply, and social services requirements such as schools, dispensaries, housing and transport depend on this parameter (Newell, 1988:22; Hossain, 2001:1). The study findings indicate that the age of the respondents in this study ranged from 18-60 years as indicated in Table 4.1. In age group of 18-25 years, there were 26 respondents constituting (43.3%); from 26-30 years they were 12 respondents accounting for 20.0%; from 31-35 years they were 13 respondents (21.7%). These study findings indicate that majority of industrial workers are youth and young adults. Moreover, from 36-40 years they were 6 respondents (10.0%), from 41-45 years were 2 (3.3%) and over 45 years old there was only 1 (1.7%). Therefore, the age category ranging from 18-25 years constituted the majority of the respondents, especially at OLAM. The age of respondents was assumed to be relating to

respondents experience and knowledge on occupational health and safety among respondents. Thus, workers at young ages were susceptible to safety and health at workplaces because of their little experiences at work which could endanger their safety and health at workplace.

Table 4.1: Distribution of Respondents by Age

Age group		**Company**		
		OLAM	**Wentworth Resources**	**Total**
18-25	Frequency	18	8	26
	% of Total	30%	13.3%	43.3%
26-30	Frequency	7	5	12
	% of Total	11.7%	8.3%	20.0%
31-35	Frequency	9	4	13
	% of Total	15.0%	6.7%	21.7%
36-40	Frequency	4	2	6
	% of Total	6.7%%	3.3%	10.0%
41-45	Frequency	1	1	2
	% of Total	1.7%	1.7%	3.3%
45^{+}	Frequency	1	0	1
	% of Total	1.7%	0.0%	1.7%
Total Frequency		40	20	60
% of Total	**% of Total**	**66.7**	**33.3**	**100%**

Source: Field data, 2012

4.2.3 Education Level of Respondents

The study considered level of education of respondents. Individual level of education was seen as crucial element in determining individual's perception on occupational health and safety. People with high levels of education have a good chance to secure

their health and safety at workplaces. Higher educational attainment of workers is associated with significant improvement in worker working conditions including securing his or her personal health and safety at workplace.

Table 4.2: Distribution of Respondents by Education

Level of Education		**Company**		
		OLAM	**Wentworth Resources**	**Total**
Secondary	Frequency	29	13	42
	% of Total	48.3%	21.7%	70.0%
Diploma	Frequency	5	3	8
	% of Total	8.3%	5.0%	13.0%
Degree	Frequency	3	2	5
	% of Total	5.0%	3.3%	8.3%
Postgraduate	Frequency	3	2	5
	% of Total	5.0%	3.3%	8.3%
Total Frequency		40	20	60
% of Total	**% of Total**	**66.7**	**33.3**	**100%**

Source: Field data, 2012

Table 4.2 shows that in the study area 70.0 percent of respondents had secondary education, 13.3 percent had college level of education (diploma), and 9.4 percent had university level education (bachelor degree) while only 7.3 percent had postgraduate education. The population in this study was dominated by respondents possessing secondary level of education by 70.0 percent of all study respondents. The results suggest that the level of education among respondents in the two companies was sufficient enough to enable them to grasp issues related to occupational health and safety. Thus, analysis of education level was essential to determine the level of knowledge and experience that a person has which in turn helps them to grasp issues

pertaining their occupational health and safety. Distribution of workers was based on education level, those possessed secondary education their main duties were based on machine operation, cleaning and other manual works while those with secondary and above were supervisors and other managerial roles within the company. Therefore, workers' knowledge, skills and understanding was seen as key element of competency. A state of incompetence in an individual is perceived to be an occupational risk at the workplace.

4.2.4 Distribution of Respondents by Income

The study also examined the income level of workers and its implications for health, safety and well-being. It is clear that worker's income vary considerably. In order to estimate the level of income of workers, respondents were asked about their monthly earnings. Having adequate monthly income signifies that a household is more likely to meet the basic domestic needs including health and safety. The study found that the income of study respondents vary considerably as shown in Table 4.3.

Table 4.3: Distribution of Respondents by Income Level

Income per month	Frequency	Percent
$\leq$100,000	11	18.3
100,001-200,000	28	46.7
200,001-300,000	11	18.3
300,001-400,000	6	10.0
400,001-500,000	1	1.7
500,001^{+}	3	5.0
Total	**60**	**100.0**

Source: Field data, 2012

On average, the study found that 46.7 percent of study respondents earn a monthly income of less or equal to above One hundred Thousand to two hundred Thousand

(100,001-200,000/=) Tshs. Only 6.7 percent of respondents earned above four hundred thousand (400, 000/=) Tshs. This shows only 18.3 percent of workers at the study companies earn a minimum official wage of 100, 000 Tshs per month. The average households monthly income in the study area was found to be 167,050/=Tshs per month. The results show that majority of respondents hardly earn sufficient income to cater for the monthly households requirements. while few of them earn income above that, which can be regarded as optimal amount to cater even for other than basic households requirements, including access to better health and safety facilities. Thus, it was seen that the higher the workers income the higher the level of understanding of the OSHA because workers with higher income could have higher chance of attending safety and health workshops, seminars and enhance their level of understanding of their safety and health at workplace, this could enhance their vigilance and compliance to OSHA stipulations.

4.3 Workers Level of Understanding of the OSHA Measures at OLAM and Wentworth Resource Limited

OLAM and Wentworth Resource seeks to ensure that all workers have a clear understanding of the general health and safety rules of the company as the ultimate objective of its OSHA strategies (Safety Induction). It goes without saying that any response contrary to the company's main objective is a matter of concern. OLAM and Wentworth Resource hold workplace safety to be of immense importance. Understanding a concept is a fundamental prerequisite before one can meaningfully reflect on its significance and respond according to the concept's stimulus as expected. Understanding is the ability to think and to act flexibly in terms of what

one knows proficiently (Perkins and McGinnis, 1996). To ensure that all workers have a clear understanding of the general health and safety rules of the company as the ultimate objective of its OSHA strategies OLAM and Wentworth Resource conduct safety induction, on job training on safety and health about the use of postures, safety charts and displays. Figure 4.1 below reveals workers' levels of understanding of the OSHA at the two companie**s.** Of the 60 interviewed respondents, 37 (62 percent) revealed a high level of understanding of the OSHA measures of the company. Whilst, 15 respondents (25 percent) disclosed partial understanding of the OSHA measures of the company, while 6 (10 percent) interviewees exposed a low understanding. This group raises much concern with regard to how the company expects them to act when they come across these crucial safety orders. Some of these could not interpret the safety signs, others had no idea of a defective tool and yet others had no idea of non-flammable cleaning material. By implication workers are expected to reveal knowledge such as what flammable materials are so as to be able to avoid them. Only 2 (3 percent) respondents did not understanding OSHA measures in their company. Besides, workers are supposed to vigilantly guard against their use in order to report such acts and warn those who might wittingly or unwittingly be using these hazardous flammable materials. This can be evidenced on Table 4.6 which shows occurrence of accidents and injuries in both companies due to ignorance of OSHA stipulations. The question asked had the rationale of establishing workers' level of understanding of OSHA in order to know how effectively workers comply with the regulation.

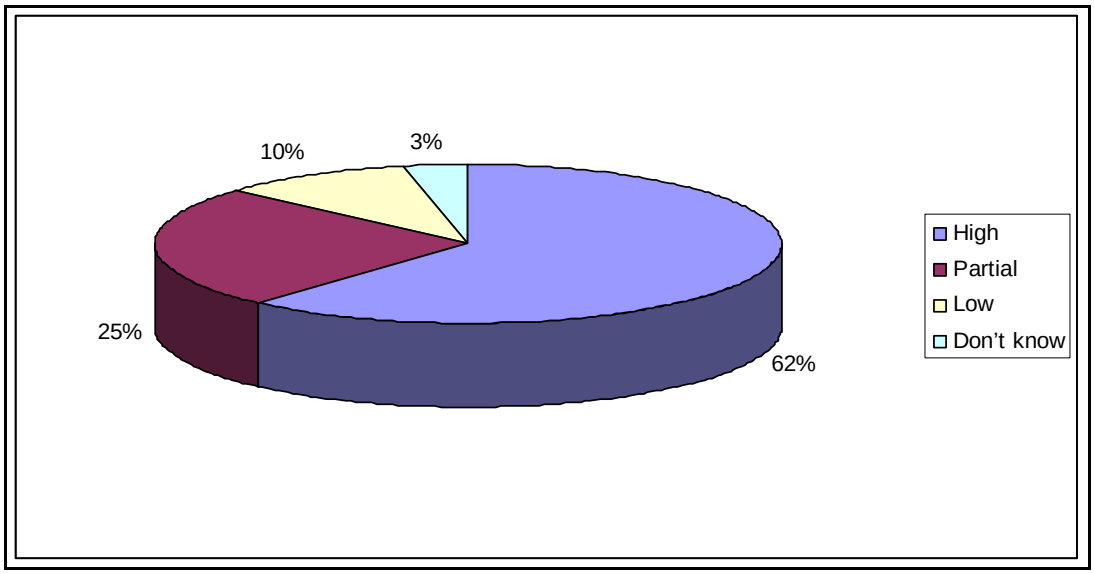

Figure 4.1: Responses of Respondents on the Level of Understanding of OSHA
Source: Field data, 2012

This is supported by Elsi and Alpkan (2008) who assert that to ensure safety at the workplace requires a proactive stance from well-informed workers. Thus understanding of the safety strategies and stipulations of the establishment becomes crucial. This impinges directly on the moral values of an individual. To adopt a proactive stance in order to enforce an ethical climate in the workplace is every individual's duty. Everyone has to keep to the rules and procedures of an organization in order to ensure a safe working environment for themselves and other workers.

4.4 Common Work Related Health Problems at OLAM and WENTWORTH RESOURCES LIMITED

4.4.1 Common Work Related Diseases and Injuries

Table 4.4 shows that 90 percent of surveyed respondents have suffered from sore throat and cough and 36.7 percent of backache. It also shows that 61.7 percent have

suffered from diarrhea or bloody stool, 11.7 percent have suffered from shortness of breath, and 31.7 percent have suffered from skin diseases. In addition to that, 40 percent of study respondents argue they have experienced exposure to combusting waste 18.3 suffered from hearing difficulties. This result is lower than that reported in Bombay and carried out by Konnoth in 1991 at 25% regarding sore throat and a similar result regarding the shortness of breath (dyspnea) at 26% (Konnoth, 1991).

Table 4.4: Distribution of Respondents Responses in Relation to type of Incident

Items	Yes (Freq.)	Yes (%)	No (Freq.)	No (%)	Total (N)
Suffering from skin diseases	19	31.7	41	68.3	60
Suffering from shortness of breath	7	11.7	53	88.3	60
Suffering from throat and coughs	54	90	7	10	60
Suffering from diarrhea or bloody stool	37	61.7	23	38.3	60
Exposed to combusting waste	24	40	36	60	60
Suffering from hearing difficulties	11	18.3	49	81.7	60
Suffering from backache	22	36.7	38	63.3	60

Source: Field data, 2012

4.4.2 Personal Hygiene

In order to gain insight of the possible cause of work related diseases, the study investigated the general personal hygiene conditions at workplace. Table 4.5 shows that 35 percent bathe after work, 76.7 percent always wash their hands thoroughly with antiseptic (soap) and 13.3 percent wash hands sometimes. It also shows that

71.7 percent of workers of both OLAM and Wentworth Resources use antiseptic (soap powder) in cloth wash, while 81.7 percent of waste workers use accessories (mobile phone, sun glass, wallet, etc.) while on duty while 65 percent of workers always use protective gear while on duty. These study findings show that a high proportion of workers adhere to OSHA stipulation although a small proportion of workers still do no adhere to OSHA stipulations. This means still personal hygiene is not yet guaranteed in the study companies as some individuals still their safety and health is not well insured. This can lead to some of the workers to endanger their personal hygiene which in turn can lead to poor health and safety at workplace. Moreover, 31.7 percent of respondents argued that they share protective gear with colleagues while on duty.

Table 4.5: Respondents Access and use of Personal Hygiene

Items	Always (Freq.)	Always (%)	Sometimes (Freq.)	Sometimes (%)	No (Freq.)	No (%)	Total (N)
Washing hand frequently with antiseptics	46	76.7	8	13.3	6	10	60
Eating at work place	35	58.3	12	20	13	21.7	60
Using antiseptic in washing cloth	43	71.7	6	10	11	18.3	60
Shaking hands while on duty	24	40	32	53.3	4	6.7	60
Using accessories while on duty	49	81.7	5	8.3	6	10	60
Sharing protective gear with colleagues	19	31.7	34	56.7	7	11.7	60
Using protective gear while on duty	39	65	13	21.7	8	13.3	60
Bathing after work	21	35	13	21.7	26	43.3	60

Source: Field data, 2012

Generally, personal hygiene is not real promising at OLAM and Wentworth Resource Limited because Table 4.5 shows that still workers share protective gear and other dangers to health something that put them at risk of ruining their health.

Practically, all industrial workers regardless their age, education, and other demographic characteristics are prone to work related diseases. They have been seen exposed to agents of diseases, and no protective measures have been taken. Industrial wastes and chemicals are potential to upper airway inflammation due to exposure to concentration of organic dust as proven in a study conducted in Netherlands (Wouers, *et al.*, 2002) and by Jorgen Thorn in a study conducted in Sweden (Thorn, 2001).

4.4.3 Work Related Accidents

Table 4.6 shows that 11.7 percent of workers have suffered from twisted ankle, 51.7 percent have suffered from muscle tear, 71.7 percent have suffered of joint pain and 5.0 percent have lacerated head and arm. The possible cause of incidents of injury at OLAM and Wentworth Resources as reported by respondents are given in Figure 4.2. The study findings continue to show that 33.3 percent of respondents have been hit by any hard or sharp objects, 37.4 percent have lifted more than their capacity, 70 percent have fallen down while pulling or pushing the waste trolley, 73.3 percent working in high temperature and 21.7 percent have been pricked through contact with chemicals. Thus, more incidents of injuries were more pronounced in departments related to production rather than administration department in almost all study companies. This is due to nature of activities related to department as

production departments were of more machinery work that endangers the safety and health of workers in that department.

Table 4.6: Incident of Injuries at Workplace

Items	Yes (Freq.)	Yes (%)	No (Freq.)	No (%)	Total (N)
Twisted ankle	7	11.7	53	88.3	60
Experiencing joint pain	43	71.7	17	28.3	60
Experiencing joint dislocation	11	8.3	49	81.7	60
Lacerated heard, arm e.t.c.	3	5.0	57	95	60
Experiencing fractured teeth	1	1.7	59	98.3	60
Ever being scratched	2	3.3	58	96.7	60
Ever fractured	4	6.7	56	93.3	60
Muscles tear	31	51.7	29	48.3	60

Source: Field data, 2012

Statistically, there were only two main causes of injury which among workers in the study area. Figure 4.2 shows that lifting overcapacity and working in high temperature were noticed to be the only significant factors found in the study area as the causes of injury. According to Saurin (2005) an accident is an unplanned instantaneous occurrence that results from a human's interaction with its physical and social work environment that causes incidents and material damage. Unsafe acts are defined as events where the danger situation results from the continuous negligent action of one or more workers over some time (Oliveira and Almeida 2008).

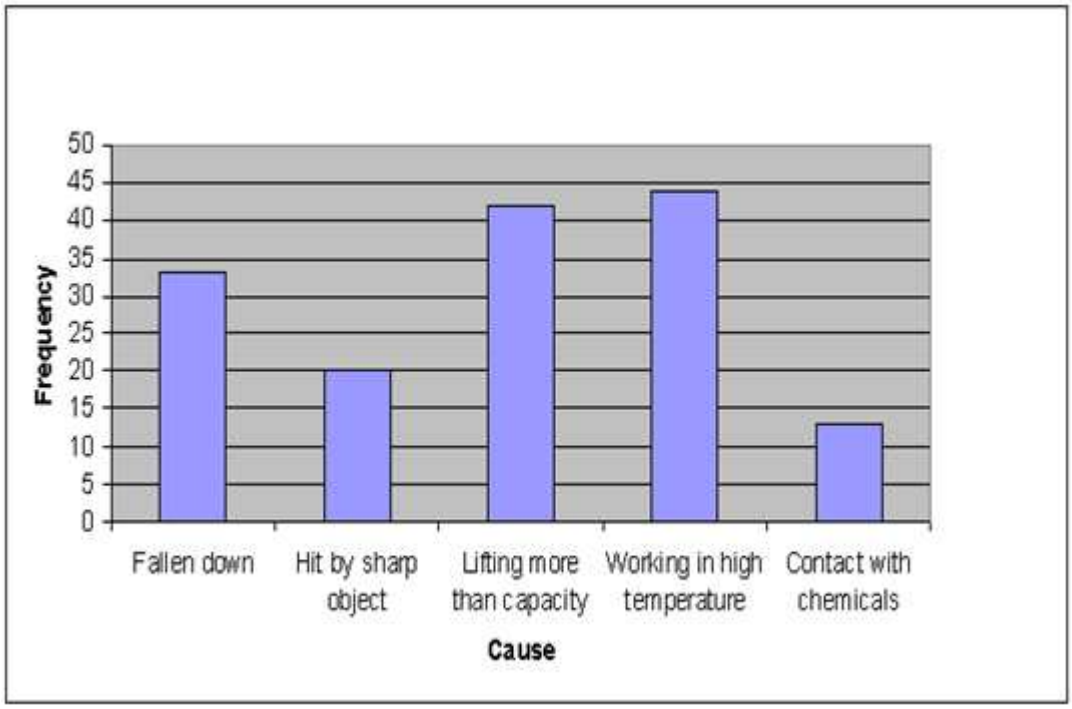

Figure 4.2: Causes of Injuries
Source: Field data, 2012

4.4.4 Use of Protective Measures

Apart from causes of injury indicated in Figure 4.2, the trend in use of protective gears at OLAM and Wentworth Resources were investigated. Table 4.7 indicates common personal protective measures taken to secure safety and health at workplace. The results show that 90.0 percent of workers do not wear face mask, 15.0 percent do not wear overall, 18.3 percent do not wear rubber boot while on duty, and 38.3 percent do not wear gloves while on duty. In addition to that, 25.0 percent sometimes wear gloves while on duty. Workers who do not wear protective gear lamented that, at workplace there is no enough protective gear to be won by all workers. This results to some of workers to miss protective gear which in turn put their safety and health at risk. The study findings indicate that generally, workers are not always protected while on duty.

Table 4.7: Distribution of Respondents Responses in Relation to personal Protective Measures

Items	Always (Freq.)	Always (%)	Sometimes (Freq.)	Sometimes (%)	No (Freq.)	No (%)	Total (N)
Wearing of gloves	22	36.7	15	25.0	23	38.3	**60**
Wearing rubber boot	37	61.7	12	20.0	11	18.3	**60**
Wearing face mask	2	3.3	4	6.7	54	90.0	**60**
Wearing overall	34	56.7	17	28.3	9	15.0	**60**

Source: Field data, 2012

4.4.5 Working Conditions

Apart from personal hygiene and use of protective measures, another reason for work related health problems investigated was working conditions. Industrial workers need a special room to change their clothes before and after duty, a shower to bathe before going back home, a place to rest, eat, and suitable water to drink.

Table 4.8: Distribution of Respondents Responses in Relation to Working Conditions

Items	Yes (Freq.)	Yes (%)	No (Freq.)	No (%)	Total (N)
Availability of staff rest room	36	60.0	24	40.0	**60**
Availability of suitable place to eat	15	25.0	45	75.0	**60**
Availability of safe and clean drinking water	9	15.0	51	85.0	**60**
Availability of bathroom	57	95.0	3	5.0	**60**
Availability of a shower	16	16.7	44	73.3	**60**
Availability of changing room	19	31.7	41	68.3	**60**

Source: Field data, 2012

Table 4.8 shows that 73.3 percent of workers denied the presence of a shower despite the presence of bathroom. This is contrary to the fact that OLAM and Wentworth Resources workers have direct contact with dirty and contagious trash. In addition, 75.0 percent of respondents reported that there is no suitable place to eat and while 68.3 percent of them pointed out lack of changing room. Also 40.0 percent of all study respondents argued that there is no rest room while on duty.

4.4.6 Worker's Level of Satisfaction at OLAM and Wentworth Resources

Work satisfaction is an important parameter to do a perfect job. Table 4.9 shows that nearly half (48.3) percent of the workers in both companies were satisfied with their job and 28.3 percent were very satisfied of their work, while 15.0 percent and 8.4 percent of workers surveyed were not satisfied to absolutely not satisfied, respectively. This is due to the fact that the surveyed workers have expressed high desire and interest in wearing protective measures while at work as well as urged the responsible people for routine medical check up. Those who were unsatisfied were relating it with the absence of necessary equipments that protect their health.

Table 4.9: Worker's Level of Satisfaction at OLAM and Wentworth Resources

Work Satisfaction Level	Frequency	Percent
Very satisfied	17	28.3
Satisfied	29	48.3
Not satisfied	9	15.0
Absolutely not satisfied	5	8.4
Total	**60**	**100.0**

Source: Field data, 2012

For example 75.0 percent observed that they lack suitable and safe place to eat. This was one of the factors that brought dissatisfaction among study respondents. In addition to that, lack of clean and safe water is one of the factors for dissatisfactions among study respondents. Although those who were satisfied were convinced with the presence of rest room and bathroom at their workplaces.

4.4.6 Worker's Needs to Improve Health and Other Needs

Vigilance requires one's active involvement with safety alertness necessities, thus, knowing plays a significant role before one can be competently watchful. Both OLAM and Wentworth Resources have to put in place a vigilance credo that before a worker can carry out any given task he/she has to do self-inspection credo. The vigilance credo demand workers to ask themselves what can go wrong, what can cause it to go wrong and what they can do to prevent it from going wrong. This gives the individual responsibility to make sure safe working conditions for him or herself when at work. If there is unease or a suspicious working condition one has to report it. This is shown by level of vigilance among workers at OLAM and Wentworth Resources as given in Figure 4.3.

The results show that respondents displayed a high capacity for vigilance in the workplace as 41 (68 percent) of the respondents revealed a strong and outstanding ability to be alert in the workplace. The positive skewed implies that the majority of workers were conversant with the vigilance credo. 10 (17 percent) revealed only partial vigilance while 8 (13 percent) revealed a low capacity for vigilance and only 1 (2 percent) did not know anything. Their capacity to be vigilant is compromised by

their faulty state of knowledge of the crucial basic information about concepts that pose risk at the workplace.

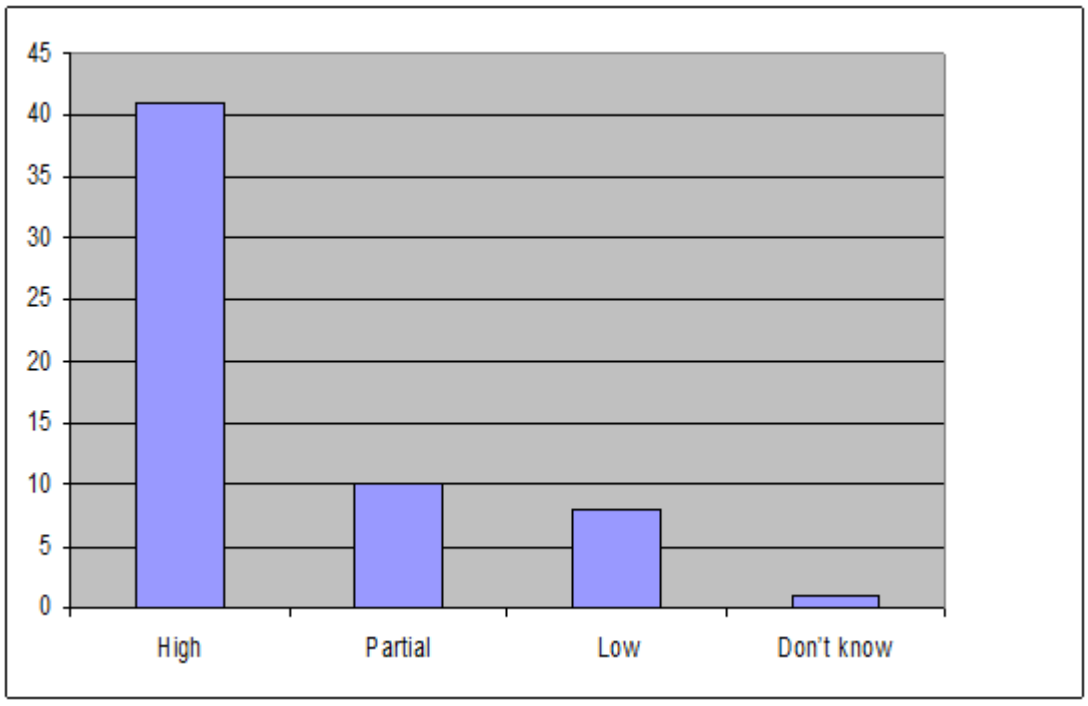

Figure 4.3: Workers' Vigilance towards their Safety and Health at Work
Source: Field data, 2012

When asked what unsafe conditions or signs of emergency they should always guard against, many referred to slippery floors, insufficient lighting, workers not wearing protective gears, unsafe acts, enough ventilation, hazardous substances, corrosive substances, reactive substances, unsafe equipment, spillages, fires, ignition processes, not observing signage, falling equipment, use of cell phones while on duty, cigarette lighters, suspicious conditions that can cause harm, barricaded areas, good housekeeping, damages, loose lying objects, specific walk-ways, smoking in forbidden areas, hazardous chemicals in bottles, faulty stairways, tripping hazards, unsafe excavations, defective tools and working without permit.

In connection to that, one respondent stated that one must make use of one's senses, seeing, hearing and smelling. These can help detect suspicious unsafe conditions. Another respondent said of acting vigilantly that he guards against disturbing remarks from seniors. An unfocussed attitude at the workplace is a risk for him and others at the workplace. The researcher was informed by one of senior in OLAM that, the company requires workers to report all signs and conditions of emergency at all times as soon as possible. When asked what conditions or signs of emergency they should report, they mention one or two of the following unsafe acts, short cuts, near misses, environmental risks, deviations from the norm, defective tools, poor housekeeping, expired fire extinguishers, gas leaks, fires, steam leaks, injuries, incidents, accidents, broken glasses, damaged equipment, low stock of product, unsafe conditions, slippery surfaces, things that are not in order, non-compliances, danger possibilities, non-hygienic acts, unsafe habits, loose cables, leaking pipes, rusted frameworks, defective stairs, broken cable rags, defective tools, problematic situations, loud noises, paper cuts, collisions e.t.c. Therefore, vigilance is of prime importance for every individual before the company can achieve its zero tolerance targets to bring to an end targeted incidents and accidents in the workplace.

However, when respondents were asked who is responsible for ensuring safety in the workplace they answered differently. Most of the respondents tended to shift their safety responsibility to the seniors (who could nevertheless constitute the most compliant group on the other hand arguably), as being the duty of the safety representatives or the safety manager. Few of them replied that it is everyone's responsibility or their own responsibility. This confirms assertion by Parboteeah and

Kapp (2008) that safety at work demands joint participation. The motivation to participate is directly linked to both safety compliance and safety participation. Their capacity to be vigilant is compromised by their faulty state of knowledge of the crucial basic information about concepts that pose risk at the workplace.

Even though, it is not the purpose of this study to judge the responses as either wrong or correct. But, it is improbable that someone else can ensure a person's safety while the latter behaves in a slipshod manner. These individuals may well be taking care of their personal safety but their position as to vigilance is questionable and raises uncertainties. They are more likely to be lax in the workplace than to be vigilant. This does not necessarily mean they are badly informed but they might rather be more laidback than vigilant at the workplace.

In addition, both OLAM and Wentworth Resources unequivocally states that both the employer and the employees are responsible and have specific roles to play in ensuring safety in the workplace. Workers stated that they are duty bound to report incidents and not keep them to themselves, for this will help the officials to prevent someone else from being hurt. This calls for vigilance against any probable incident that may arise at the workplace. Other respondents mentioned that those who do not report incidents or warn perpetrators are just as liable, as accomplices in hurting others.

OLAM and Wentworth Resources train all workers to remain vigilant at work at all times. The best practice the company has inculcated in workers is to do self-inspection and risk assessment while at work. In these companies nobody can do any maintenance or task without an authorizing work or maintenance permit. One of the

reasons for requesting the work permit is that it gives assurance that preliminary risk assessment inspection has been carried out and that possible risks have been ameliorated. It also notifies and alerts one of possible hazards to guard against what may happen at the site and it informs one of the necessary protective gears at the site. The workers are expected to report all such conditions before performing any task.

4.6 OLAM and Wentworth Resources Compliance with OSHA Stipulations

Safety and health at workplace are the main pillars of OSHA. Compliance to issues related to safety and health at workplace is a responsibility of both workers and organization. With regard to compliance to safety and health stipulations, a high percentage of the respondents displayed a partial capacity for compliance by OLAM and Wentworth Resources in the workplace. 36 (60 percent) of the respondents revealed that these companies have partial compliance with OSHA measures in their workplace. 23 (38.3 percent) revealed that OLAM and Wentworth Resources have high compliance with OSHA measures and only 1 (1.7 percent) revealed a low capacity for compliance.

Therefore, as it has been hypothesized in earlier chapters the findings have confirmed that safety will always depend on the individual's motivation to comply. Notwithstanding the safety measures of the company however lucrative the measures might be, to ensure safety in the workplace will always be affected by and to a great extent depend upon an individual's perceptions. It goes with the character of an individual to comply and not to comply.

Study respondents complained that OLAM and Wentworth resources do not comply with aspect of OSHA. This is evident when the study findings show that most of the

respondents pointed out that these companies comply partial on OSHA regulation. Complying with workplace rules and regulations is the ultimate key to safety in the workplace. Enforcing a rule is to ensure safety through compliance. A safe working condition is determined by the level of compliance with the safety rules (Parboteeah and Kapp 2008). Thus, all employers have a duty to comply with the relevant health-and-safety law when working in an industry. The legal system governing health and safety is very complex; therefore securing compliance can be a daunting task.

During interview with officials from OLAM and Wentworth Resources, they argued that they have been visited by OSHA, but they never received any warning letter from OSHA but only advice. Officials had this to say:

> *"We are trying our best to make sure that we comply with OSHA stipulations. They have been guiding us and proving with us safety and health education. This has enhances our compliance to OSHA stipulations"*

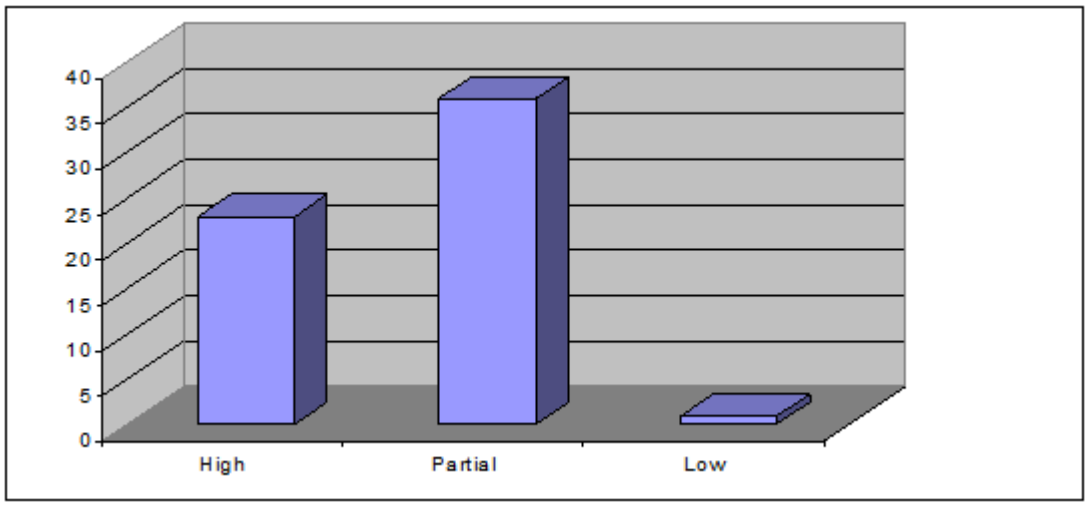

Figure 4.4: OLAM and Wentworth Resources Limited Compliance with the OSHA Stipulations

Source: Field data, 2012

The OLAM and Wentworth Resources safety induction program points out that people should keep away from any dangerous vicinity. This section has put forth the

findings from workers' responses as to how they perceive OLAM and Wentworth Resource's OSHA measures. These perceptions have proved to be different due to differences in human perceptual orientation. The section has revealed the role that individuals and company play in ensuring safe or unsafe working conditions for themselves and others in the workplace. Fears and skeptical concerns were expressed by different workers about workplace safety. These are not due to companies insecurities as such but derive from various attitudes exhibited by different human beings and from behavioral changes. The workers unequivocally revealed that hazardous workplace incidents and accidents stem from human inclination to error.

The study findings comply with other studies that have measured the relationship between OSHA inspection activity and compliance with OSHA safety regulations. Gray and Jones (1991a), for example, found a significant relationship between OSHA enforcement and compliance at individual plants. Bartel and Thomas (1985) also found that OSHA enforcement significantly increased compliance (by a total of 26 percent relative to no enforcement), but they found only a weak link between compliance and injury rates. Only a few analysts have attempted to confirm that OSHA's activities have led to an improvement in workplace health. Gray and Jones (1991b) found that OSHA inspections reduced the exposure of workers to hazardous substances and increased compliance with health regulations.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS OF THE STUDY

5.1 Introduction

This chapter presents the summary, recommendations and conclusion of the study. It also outlines some suggestions for further research on the study theme. The conclusions presented in this chapter focused mainly on the study theme.

5.2 Summary of the Findings

5.2.1 Workers Level of Understanding of the OSHA Measures at OLAM and Wentworth Resource Limited

The study findings showed that workers' levels of understanding of the OSHA at the two companie**s.** A high proportion of respondents revealed a high level of understanding of the OSHA measures of the company while few of them seemed to have partial understanding of the OSHA measures of the company.

5.2.2 Common Related Health Problems at OLAM and Wentworth Resources Limited

Generally, the study findings show that workers at OLAM and Wentworth Resources suffered from various health problems including sore throat and cough, backache, diarrhea or bloody stool, shortness of breath and skin diseases. In addition to that, some workers argued that they have experienced exposure to combusting waste, some others suffered from hearing difficulties. It was revealed that lack of support and interest from their employers regarding health and protective measures, put more

load on workers in these companies. However, some factors proved to be more significant and more influential than others. In relation to personal hygiene, work satisfaction and working conditions, the study findings showed that workers have shown interest in their hygiene. In addition, it showed that nearly half of workers were satisfied in their jobs despite the stressful work conditions (unavailability of rest room, bathrooms, showers, and suitable place to eat).

5.2.3 Workers Level of Vigilance in Securing Personal Safety and Health

Moreover, the most commonly reported accidents for workers in OLAM and Wentworth Resources were backache, muscle tear (soft tissue trauma), and twisted ankle. Organic dust is another occupational health hazard which OLAM and Wentworth Resources in Mtwara Municipality suffer from. This study showed that respondents have experienced sore throat and cough, and others have suffered from shortness of breath. Workers at OLAM and Wentworth Resources in Mtwara Municipality have little chances of buying protective measures. They can not afford to buy face masks to protect themselves from waste dust, hand gloves, overalls and rubber boots to protect themselves from direct contact with waste material and contagious trash. Also it is very difficult for them to do routine medical check up, including visiting a specialist and to do lab tests in case they suffer from work related diseases or accidents. They cannot also have better nutrition and so better immunity. This hinders them from accessing better chances of treatment and better protection from work related accidents and diseases.

Bathing after work is another important factor in health and safety protocols. In conclusion, the majority of workers in OLAM and Wentworth Resources in Mtwara

Municipality were careless, ignorant in relation to personal protective measures (face mask, shoe covers, rubber boot or overall), and not adhered to health and safety protocols. The possible reason for this apparent 'lack of concern' was the fact that many participants treated the official concept of health and safety as something distinct from commonsensical health and safety. The study findings showed that the majority of workers have suffered from different types of injuries, diseases and diseases like symptoms.

5.2.4 OLAM and Wentworth Resources Compliance with OSHA Stipulations

With regard to compliance to safety and health stipulations, a large proportion of study respondents argued that they little comply with OSHA stipulations. Study respondents complained that OLAM and Wentworth resources do not comply with aspect of OSHA. This is evident when the study findings show that most of the respondents pointed out that these companies comply partial on OSHA regulation. Complying with workplace rules and regulations is the ultimate key to safety in the workplace. Enforcing a rule is to ensure safety through compliance. Thus, all employers have a duty to comply with the relevant health-and-safety law when working in an industry. The legal system governing health and safety is very complex; therefore securing compliance can be a daunting task.

Few of the workers have shown a strong tendency towards OLAM and Wentworth Resources complying with the safety regulations of the company. The motivation to comply is essential. The other side of the coin is de-motivation. The workers in the focus group said that if short cuts are not effectively dealt with, they are likely to

continue in the workplace. Some of the workers were of the opinion that some of their seniors do not practice what they preach. That could be de-motivating and reduce safety compliance in the workplace. Safety compliance goes hand in hand with ethical decision making at the workplace.

5.3 Conclusion

There cannot be any effective occupational health and safety policies if both employers and employees fail to perform their respective responsibilities. The employer is supposed to file government accident reports, maintain records on health and safety issues, posting safety notices and legislative information, providing education and training on health and safety. The employer is required to institute a safety committee to be in charge of all health and safety related issues. The safety committee is responsible for studying trends in accidents with the view to making suggestions for corrective actions, examining safety reports and making proposals for avoiding accidents, examining and discussing reports from safety representatives, making proposals for new or revised safety procedures.

It also acts as a link between the organization and the enforcement agency (the health and safety inspectorate), monitoring and evaluating the organization’s safety policies, and making proposals for changes, if necessary. The employee on the other hand is required to comply with all health and safety rules, knowing that the person ultimately responsible for his/her health and safety is himself/herself. Staff are required to wear protective clothing, use equipment and tools provided for their work, and report any contravention of the law by management. Also the employee

has the right to refuse unsafe work. Accidents are costly both to the affected worker and the organization. Therefore, every effort should be made in order to avoid them from happening at the work place.

5.4 Recommendations

The described flaws of health and safety management may indicate that, in many cases, by failing to do all that was reasonably practicable to ensure the health and safety of their employees at work. To ensure health and safety of workers at OLAM and Wentworth Resources in Mtwara Municipality, this study recommends the following:

5.4.1 Recommendations to Employers

The employer should provide education about personal hygiene; employer should train workers on safety sign so that to understand their working environment that guarantee their safety and health at workplace. Employer should inform workers on the importance of good hand washing technique, and the importance of showering as soon as possible so as keep their safety and health in a secured manner. Moreover, employer should workers with rest area, water for drink, toilets, bathrooms to shower before go back home at the end of duty, cloth changing room, and a suitable place to eat. This will enhance workers safety and health as well as a complying with OSHA stipulations.

There should be development and establishment of registration systems of occupational accidents, diseases and exposures at workplace. This will help

researchers and administrators to have actual data pertaining accidents, diseases and injuries at work. The employer should adopt teaching programs among all levels of management to raise awareness about health and safety. Employer should provide training programs at the onset of hiring, and on an ongoing basis to educate all employees, and managers about hazards, injuries, and their reduction and prevention and about their responsibilities to ensure worker health and safety. This would ensure and encourage workers and public commitment in managing safety and health at workplaces.

5.4.2 Recommendations to Workers

Workers should make sure that they wear protective measures, such as gloves, face masks, overalls, and rubber boots. Workers should feel secure financially. Workers should be paid monthly salary on time, increase salary according to the standard of living, provide job security, provide hazard pay, provide medical Insurance to worker and his family as well as provide pension fund on retirement. This will increase their safety and health and hence contribute to the growth of the organization. Lastly, workers should know OSHA rules, regulations and other stipulations at workplace, this will enhance their understanding on safety and health as well as complying with OSHA stipulations.

5.4.3 Recommendations to Policy Makers and Law Enforcers

There should be interventions focused in the area of “prerequisites for safety” are of particular importance as they address the most fundamental issues. Without dealing with these in the first instance, all other actions would be futile. OSHA should

introduce union presence as standard in schemes of service. On the commencement of employment, all workers should be strongly advised at workplaces to join a relevant trade union in order to secure the necessary support safety and health at workplace. Workers Union involvement as a norm could facilitate altering the common perception of such involvement as an emergency measure used ‘against’ employers.

In order to encourage changes at the direct-management level, introduction of some improvements at the broader-policy level may also be necessary. A good starting point would be to take a more balanced approach to health and safety in community-care legislation and guidance, such as moving away from a Patient-Centred Model towards one recognizing the workers’ welfare as equally important. It can be assumed that this would instigate the change of mentality necessary to ensure the commitment of employers in relation to employee’s health and safety at workplaces. Requirements for the protection of employees’ health and safety should be made more prominent within these documents, while maintaining a compact form and understandable language. This could eliminate the need for familiarization with the multiple pieces of original health and safety legislation, facilitating employers’ compliance with the law.

The last recommendation of great significance is investing more effort into building informal support networks. This should be done as part of a continuous Health and safety management strategy aimed at buffering the negative effects arising from poor implementation of OSHA rules and regulations. Employees should be free to express their health and safety concerns, regardless of their status quo at workplaces.

5.5 Recommendations for Future Research

- This research could be replicated by using different organization or institutions or other sectors to see if there are similarities to or differences from this study.
- A larger sample size is recommended for further studies to promote validity and accomplish the effective generalization of the results.

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APPENDICES

Appendix 1: Questionnaire

A. Socio- Demographic Information

1. Company……. Business Unit…….…….

2. Which age group do you belong to, mark with an ☑ here below?

   (a) 18 - 24

   (b) 25 - 34

   (c) 35 - 44

   (d) 45 - 54

   (e) 55 - 65

3. Sex: (a) Male (b) Female

4. Marital Status

   (i) Single

   (ii) Married

   (iii) Separated

   (iv) Divorced

   (v) Widowed

5. Education Level

   (a) Non-formal Education

(b) Primary

(c) Secondary

(d) Diploma

(e) Degree

(f) Post graduate

6. Years of service in the organization

(a) Less than 2

(b) 2 to 5

(c) 6 to10

(d) 11 to 20

(e) More than 20

7. Designation/ Title

(a) Manager

(b) Departmental Manager

(c) Supervisor

(d) Officers

(e) Others (mention)

8. Where were you working before this company?

9. How many years have you been working in another/other company or companies (combined if applicable) before you came to this company?

(a) 0 – 1

(b) 2 - 5

(c) 6 -10

(d) 11 - 20

(e) 21 +

B. General Questions on Study Theme

1. Have you heard of OSHA?

   (a) Yes

   (b) No

2. What are the aspects of OSHA?

   (a) Have you gone induction? Yes/ No ( )

   (b) Have you done medical check up? Yes / No ( )

   (c) Have you gone medical exit checkup? Yes / No ( )

   (d) Have you registered? Yes /No ( )

   (e) Are you keeping training records? Yes / No ( )

   (f) Does Material Safety data sheets (MSDS) followed? Yes / No ( )

   (g) Are you keeping Sign/ Barrier (Danger tapes) where there is danger? Yes/ No ( ).

   (h)

3. How many of the above are implemented at your company?

4. What are the common health problems experienced at your Company?

   (a) Skin diseases

   (b) Cardiovascular

   (c) Foot diseases

(d) Others

(specify)……

5. Why are they common?.....

6. What measures have you taken to secure your personal safety and health in the workplace?

   (a) To protect from any harm/ accidents---------- Helmet

   (b) To protect from dangerous chemical---------- Gloves

   (c) To protect from unhealthy condition---------- Special uniform

   (d) I do not know

7. Do you think the measures taken enough to protect you against any harms?

   (a) Yes

   (b) No

8. If Yes how?……..…..……

9. If No why?…….

10. What do you do when you are unfit to carryout your work at the workplace?

    (a) Continue with daily activities

    (b) Go for check up to the hospital

    (c) Not allowed to miss at work even though you are sick

    (d) Others (specify)……

11. What do you do when you see a person who comes to work not fit to carry out his/her work?

    (a) Report to the company authority

(b) Tell him/her to continue with work

(c) Others (specify)……..

12. Who is responsible for ensuring safety at the workplace?

(a) Company authority

(b) Every body at workplace

(c) Non of the above

(d) I do not know

13. Do you find it easy to pay attention at the tool box talk even though you know what it is all about? (a) Yes (b) No (c) I do not know

14. Do you think workplace incidents can be avoided? (a) Yes (b) No

15. If Yes how?.....

16. If No why?.....

17. How are OLAM and WENTWORTH RESOURCES LIMITED complying with the OSHA stipulations?

Tools/ Requirement to be available and measures to be taken in case of accident/ incidence

1. First Aid kit
2. Safety signs
3. Danger Tapes
4. Gloves
5. Goggles
6. Welding shield

7. Ear muffs/ Ear plugs
8. Hard hats
9. Safety boots
10. Coveralls
11. Safety belt (Above 3meters)
12. Dust mask
13. Smoke detectors
14. Fire protection

18. What steps do you take to know about your health and to stay healthy?

Appendix 2: Interview

Official at OLAM and Wentworth Resources

1. Do you have OSHA plan at your Company?
2. How do workers take ownership of the OSHA plans at your Company?
3. What would you regard as most important if you were to give advice to new-comer on workplace safety?
   (i) The use of proper tool
   (ii) The need to obey safety rules and regulations
   (iii) The need to follow procedure
4. How do you ensure that Compliance of OSHA by workers?
5. What do you think could be the cause behind incidents in the workplaces? .....

   ……..
6. Do you think workplace incidents can be avoided? If Yes how ……..

   ……
7. What would you regard as most important if you were to give advice to new-comer on workplace safety?
8. Would you rather receive advice or give advice to ensure safety at the workplace?