



**Report
of the
Auditor General
on the
Management of Occupational
Safety and Health**

June, 2015




TABLE OF CONTENTS

*Report of the Auditor General on the
Management of Occupational
Safety and Health*



APPENDICES.....	iii
ACRONYMS	iv
FOREWORD.....	v
EXECUTIVE SUMMARY.....	vi
1. Introduction.....	1
1.1 Background.....	1
1.2 Motivation	1
1.3 Relationship Between Key Players and Stakeholders of Occupational Safety and Health.....	2
2. Audit Design	4
2.1 Audit Objective	4
2.2 Audit Questions.....	4
2.3 Audit Scope.....	4
2.4 Audit Methodology.....	4
2.5 Audit Criteria.....	7
3. Findings.....	15
3.1 Extent of Occupational Diseases, Injuries and Deaths in the Country.....	15
3.2 Availability of Policy, Legal and Implementation Frameworks on Occupational Safety and Health.....	23
3.3 Sufficiency and Effectiveness of Occupational Safety and Health Inspections.....	31
4. Conclusions.....	45
4.1 The Extent of Occupational Diseases, Injuries and Deaths in the Country...	45
4.2 Non Availability of Efficient National Policies, Legislative and Implementation Frameworks.....	45
4.3 Sufficiency and Effectiveness of Inspections Relating to Occupational Safety and Health.....	46
5. Recommendations.....	48
GLOSSARY OF TERMS.....	49
APPENDICES.....	51

APPENDICES

*Report of the Auditor General on the
Management of Occupational
Safety and Health*



Appendix	1 :	Description of Roles and Responsibilities of Key Stakeholders.....	51
Appendix	2 :	List of Other Respondents to Questionnaires and/or Interviews.....	55
Appendix	3 :	List of Workplace Visited and Interviewers.....	56
Appendix	4 :	Factories Act and Mining Regulations Administered by OSHSD and MSD.....	59
Appendix	5 :	List of ILO Conventions Signed and Ratified by Zambia.....	60
Appendix	6 :	List of Equipment Needed by the Government Department/ Statutory Body.....	64
Appendix	7 :	Duplication of Functions Interviews.....	65
Appendix	8 :	MSD - Sample of Companies Inspected and Type of Enforcement Measures Undertaken.....	69
Appendix:	9 :	OSHSD - Sample of Companies Inspected and Type of Enforcement Measures Undertaken.....	77
Appendix	10 :	Companies with OSH Workplace Policy, OSH Officer, OSH Committee and OSH Minutes.....	85
Appendix	11 :	Companies with Fire Prevention and Protection.....	86
Appendix	12:	Provision of Personal Protective Equipment, First Aid Box and Trained First Aider.....	87
Appendix	13 :	Assessment of Rest Periods, Canteens, Change Rooms, Toilet and General Cleanliness.....	88

ACRONYMS

*Report of the Auditor General on the
Management of Occupational
Safety and Health*



CFC	Copperbelt Forestry Company
HRA	Human Resource and Administration
ILO	International Labour Organisation
KCM	Konkola Copper Mines
LPG	Liquefied Petroleum Gas
MLSS	Ministry of Labour and Social Security
MoU	Memorandum of Understanding
MSD	Mine Safety Department
MUZ	Mineworkers Union of Zambia
NCZ	Nitrogen Chemicals of Zambia
OAG	Office of the Auditor General
OSHI	Occupational Safety and Health Institute
OSHSD	Occupational Safety and Health Services Department
P and TB	Pneumoconiosis and Tuberculosis
PPE	Personal Protective Equipment
WCFCB	Worker's Compensation Fund and Control Board
ZEMA	Zambia Environmental Management Agency
ZNBC	Zambia National Broadcasting Cooperation

FOREWORD

*Report of the Auditor General on the
Management of Occupational
Safety and Health*



I have the honour to submit to Parliament my performance audit report on the Management of Occupational Safety and Health in Zambia, in accordance with the provisions of Article 121 of the Constitution of Zambia.

There is always a high demand for public services which include Occupational Safety and Health management. It is therefore required that public institutions and managers within these institutions work towards meeting that demand. This can only be achieved if there is a proper orientation towards effectiveness, efficiency and economy. The performance audit process results in recommendations which initiate a process of renewal and change towards greater efficiency and effectiveness.

Effective performance audits can lead to better use of resources by public bodies and provide support to democratic governments by bringing about accountability, transparency, improved operations and better decision-making.

I would like to thank the staff of the Ministry of Labour and Social Security, Ministry of Health and Ministry of Mines, Energy and Water Development and their key players for the assistance offered to my staff during the period of the audit.

I trust that this report will meet the approval of Parliament and contribute to the cause of better public services delivery.

Yours sincerely,

Dr. Anna O Chifungula FCCA, FZICA
AUDITOR GENERAL

EXECUTIVE SUMMARY

*Report of the Auditor General on the
Management of Occupational
Safety and Health*



This audit report has revealed some weaknesses in the enforcement systems on the management of occupational safety and health and compliance to occupational safety and health practices. The audit was motivated by concerns raised in the International Labour Organisations (ILO) report (Decent Work Country Profile Zambia-International Labour Organization, 2012) on safe work environment and public outcry on accidents in mines and factories as well as safety and health measures which were not adequately put in place.

The objective of the audit was to assess the effectiveness of Government's effort to enhance occupational safety and health in Zambia. The audit focused on the implementation of occupational safety and health services and the enforcement of standards in companies in the country by the relevant Government departments and statutory bodies namely Occupational Safety and Health Services Department (OSHSD), Workman's Compensation Fund and Control Board (WCFCB) under the Ministry of Labour and Social Security (MLSS), Occupation Safety and Health Institute (OSHI) and Mine Safety Department (MSD) under the Ministry of Mines, Energy and Water Development. The audit was based on document review, interviews and inspections.

Key Findings.

- a. Lack of a Comprehensive National Policy on Occupational Safety and Health.
- b. Overlaps in notification and reporting of fatal and non-fatal accidents and duplication in occupational safety and health inspections functions by institutions enforcing the laws.
- c. Lack of Coordination among Occupation Health and Safety Institutions.
- d. Incompatibility of Current laws with ILO standards.
- e. Inadequate personnel to carryout meaningful safety and health Inspections.
- f. Lack of central database where complete information on Occupational health and safety is held.
- g. Inadequate Equipment for conducting inspections
- h. Injuries and Deaths Reported at Workers Compensation Fund Control Board and adverse effect of workplace injuries and death- Compensation to beneficiaries
- i. Non adherence of companies to OSH Requirements and lack of written workplace occupational safety and health policy

CONCLUSION

*Report of the Auditor General on the
Management of Occupational
Safety and Health*



The interventions that Government has put in place to manage occupational safety and health are to a larger extent not working effectively. Zambia has multiple laws that are regulating occupational safety and health. However, the multiple laws have weaknesses in managing occupational safety and health effectively. The workplace fatalities in various industries have increased by 65% from 67 cases in 2011 to 127 cases in 2014. Nonfatal injuries also increased by 221% from 312 cases in 2011 to 1003 cases in 2014.

Although there was a downward trend in occupational diseases from 2011 to 2013, the levels of occupational diseases was still high at 192 certified cases per 100,000 miners and exminers in 2013. The amount that Government is paying in compensation claims arising from workplace injuries and death have also increased from K10,072,000 to K16,704,000 in 2011 and 2014 respectively. The working environments in some companies visited could not guarantee safety and health of staff. The companies visited are not adhering to occupational safety and health requirements.

RECOMMENDATIONS TO THE GOVERNMENT

- Formulate a comprehensive National Policy on occupational safety and healthy and review the laws streamlining the overlaps and duplications on the management of occupational safety and health.
- Develop goals and strategies on how to address OSH issues. The goals and strategies should clearly spell out the implementation agency and monitoring and evaluation of the implemented strategies should be conducted.
- Provide inspectors, funding and equipment for implementation of the identified strategies and to carry out inspections of the companies. Inspections should also not be duplicated to ensure maximisation of resource utilisation.
- Consider developing a one stop shop for notification and reporting of occupational accidents and incidences and ensure that workplaces comply with the laid down regulations.
- Conduct sensitisation to employees on the importance of adhering to safety and health standards.

1. INTRODUCTION

*Report of the Auditor General on the
Management of Occupational
Safety and Health*



1.1 Background

The human, social and economic costs of occupational accidents, injuries, diseases and major industrial disasters have long been cause for concern at workplaces at national and international levels. Measures and strategies designed to prevent, control, reduce or eliminate occupational hazards and risks have been developed and applied continuously over the years to keep pace with technological and economic changes. Yet, despite continuous improvements, occupational accidents and diseases are still too frequent and their cost in terms of human suffering and economic burden continues to be significant. In the long term, the Ministry of Labour would like to see a situation where no injuries or deaths are recorded.¹

In Zambia during the period 2002 to 2009, the rate of fatal accidents ranged from 22 to 134 per year, while non fatal accidents ranged from 313 to 1254.²

1.2 Motivation

There are a number of factors that motivated the performance audit on occupational safety and health and these are:

a. Concerns from International Labour Organisation (ILO)

According to the ILO report titled “Decent Work Country Profile Zambia-International Labour Organization, 2012”, the biggest challenge to maintaining a safe work environment in Zambia lies in the inadequacies of the institutions tasked to enforce regulations. Enforcement of safety and health legislation is severely constrained by inadequate funding which results in the lack of support infrastructure with which to carry out inspections, thus limiting the ability to carry out statutory functions.³

b. Public Outcry

There has been public outcry on occupational safety and health conditions in workplaces. Practical examples can be seen from the BGRIMM explosion in Chambesh which claimed about 45 lives in 2005 and also the Nkana Shopping Mall construction site where there was an accident in 2013. The Government has also shown concern on such accidents as seen from the statement issued by the Copperbelt Minister to suspend works until the issues of safety and health at the site were addressed. In addition, the Minister of Labour warned employers against assigning work to employees where safety and healthy measures in place were not adequate.⁴

¹Times of Zambia dated 14th May 2015

²Decent work Country profile Zambia-International Labour Organisation, 2012

³Decent work Country profile Zambia-International Labour Organisation, 2012

⁴Workman's Compensation Corner with Maybin Nkholomba, Zambia Daily Mail. May 7, 2013.

c. Results of Preliminary Study

Finally, the preliminary study conducted by the Office of the Auditor General from September to October 2013 also indicated the following weaknesses in occupational safety and health:

- i. Inadequate personnel to carry out health and safety inspections.
- ii. Inadequate legislation.
- iii. Lack of National Policy.
- iv. Inadequate funding.
- v. Lack of harmony among the assorted laws on Occupational Safety and Health (OSH)
- vi. Non adherence of companies to OSH requirements.

1.3 Relationship between Key Players and Stakeholders of Occupational Safety and Health

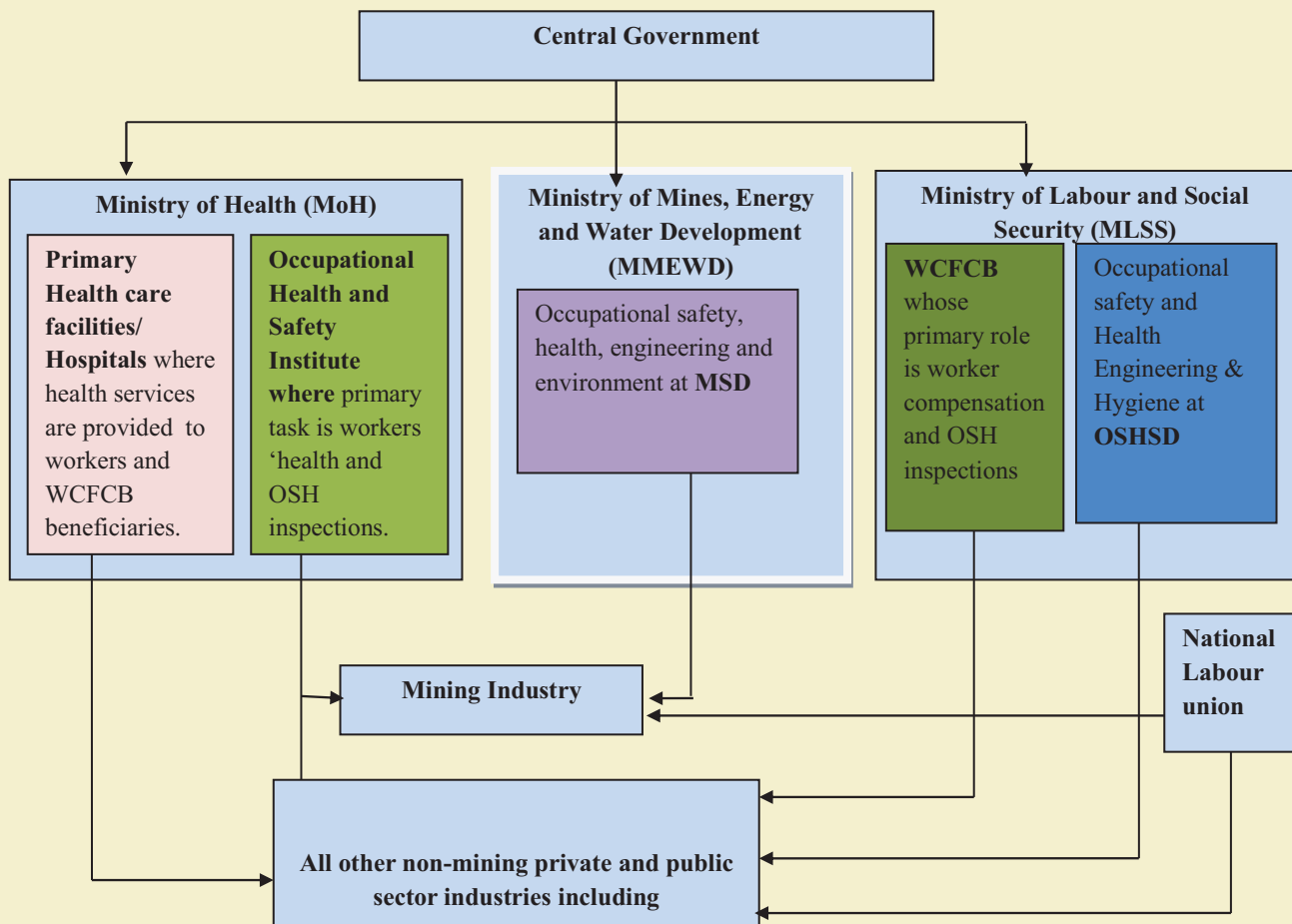
There are various key players in the management of occupational safety and health who are responsible for workers' safety and health. These players are:

- a. Occupational Safety and Health Services Department (OSHSD) under Ministry of Labour and Social Security which is responsible for regulating and inspecting occupational safety, health and hygiene in factories.
- b. Workers' Compensation Fund Control Board (WCFCB) under Ministry of Labour and Social Security who are responsible for workers compensation, occupational safety and health inspections in mining and non mining private companies.
- c. Occupational Safety Health Institute (OSHI) is responsible for workers health, occupational safety and health inspections.
- d. Mine Safety Department (MSD) under Ministry of Mines Energy and Water Development is responsible for regulating and inspecting occupational safety, health engineering and hygiene in mining companies.

In addition, there are also key stakeholders namely Primary Health Care Hospitals who are responsible for workers' health, National Labour Organisations for Employers and Employees (Unions) who are responsible for the welfare of the employers and employees respectively; Mining and Non Mining Private and Public Sector Industries who are responsible for implementing safety and health measures at the workplace. Details can be obtained from **Appendix 1**.

The relationship between the various players in occupational safety and health in Zambia can be summarised in **Figure 1** below.

Figure 1: Government Organisation and Division of Responsibility for OSH Activities in Zambia.



2. AUDIT DESIGN



2.1 Audit Objective

The audit objective was to assess the effectiveness of Government's effort to enhance occupational safety and health in Zambia.

2.2 Audit Questions

- Q1. What is the extent of occupational injuries, death and diseases in the country?
- Q2. Are there efficient National policies, legislative and implementation frameworks in place to facilitate management of occupational safety and health in the country?
- Q3. To what extent does relevant Government bodies carry out sufficient and effective inspections relating to occupational safety and health?

2.3 Audit Scope

The audit focused on provision of policy, legislative and operational frameworks by the relevant Government departments and statutory bodies to facilitate implementation of occupational safety and health services and the enforcement of standards in the country.

The responsible Government departments and statutory bodies are Occupational Safety and Health Services Department, Workers' Compensation Fund Control Board, Occupational Safety and Health Institute and Mine Safety Department. The audit covered the period from 2011 to 2014.

2.4 Audit Methodology

The audit was conducted in accordance with the mandate as provided for under Article 121(2) and (5) of the Constitution of Zambia, the Public Audit Act No. 8 of 1980, Section 45 of the public Finance Act No. 15 of 2004 and International Standards for Supreme Audit Institutions, ISSAI 300, 3000 and 3200. The audit used the following methods to collect data:

a. Statistical Analysis

Statistics on occupational safety and health were collected from annual reports and databases from MLSS-OSHSD, WCFCB, OSHI and MMEWD-MSD regarding total number of fatal and non fatal injuries, deaths and prevalence of diseases. Specific analysis on the data include:

- i. Comparisons - trend analysis of data collected, and
- ii. Computations of statistics.

b. Enquiry

Interviews with officials at the MLSS-OSHSD, WCFCB, OSHI, MMEWD-MSD, Mineworkers Union of Zambia (MUZ) as well as various employers and employees were conducted. Interviews were used to collect information on fatal and non-fatal accidents, implementation on OSH laws in companies as well as to confirm or corroborate information gathered through other means such as documentary review.

Questionnaires were administered to MLSS-OSHSD, WCFCB, OSHI, MUZ and MMEWD-MSD officials with a view of collecting information on availability of OSH policy, inspection of factories, availability of equipment, compliance with OSH standards among others. See Appendix 2 and 3 for details.

c. Document Review

Currently, there are eight (8) pieces of legislation that are dealing with occupational safety and health in Zambia and these are:

- i. The Constitution of Zambia Act No.18 of 1996 Cap. 1 of the Laws of Zambia.
- ii. Factories Act, Cap. 441 of the Laws of Zambia
- iii. Occupational Health and Safety Act, No. 36 of 2010
- iv. Mines and Minerals Development Act No. 7 of 2008.
- v. Workers Compensation Act, No. 10 of 1999.
- vi. Explosives Act No. 115.
- vii. Employment Act, Cap. 268 of the Laws of Zambia.
- viii. Industrial and Labour Relations Act, Cap. 269 of the Laws of Zambia (ILRA).

For the purpose of the audit, focus has been made on the Factories Act Cap 441, the Occupational Safety and Health Act No. 36 of 2010, Workers Compensation Act, No. 10 of 1999 and the Mines and Minerals Development Act No. 7 of 2008 (Mining regulations) as they are the main pieces of legislation dealing with safety and health issues. The aim was to gain an understanding of the requirement of the Laws which the OSHSD, MSD, OSHI and WCFCB are mandated to enforce and their relationships.

The other documents reviewed were:

Table 1 : List of Documents Reviewed.

Document	Purpose
Register of Factories	To know which companies and how many are registered under the Factories Act
Records of Accidents both from Government departments, statutory bodies and selected companies.	To acquire statistics of injuries for both minor and fatal injuries.
Job descriptions of inspectors	To understand roles and responsibilities of key personnel
Annual reports of OSHSD, OSHI, MSD and WCFCB	To obtain data on the operations and performance of the organisations.
Labour Unions reports—such as mine allied workers union.	To obtain information pertaining to occupation safety and health of employees from the unions who are the representative of the employees.
Checklists used for Inspections	To assist in the understanding of how inspections of factories and mines are conducted.
Inspections and follow up reports	To appreciate how reporting is carried out after an inspection as well as check what issues are raised and recommendations made thereof.
ILO publications on OSH	To understand OSH from an international/global perspective and to appreciate OSH related work that has been done by ILO in the country.
Company files maintained by the Government departments and Statutory bodies.	To scrutinise specific issues raised by inspectors at these companies and assess compliance by workplaces.

d. Observations/ Physical Inspections

Physical inspections were carried out at twenty five (25) companies based in Central, Copperbelt, Lusaka and Southern provinces. The inspections were done in conjunction with Government inspectors from OSHSD and MSD with a view of collecting audit evidence on how the companies were implementing occupational health and safety standards in the workplaces. They were also done to collect information on whether inspected companies that did not comply with OSH regulations had been followed up and to what extent breaches of regulations had been rectified. See details of companies visited at **Appendix 3**.

This involved looking at procedures actually being performed by workers in the workplaces. Checklists of occupational safety and health basic requirements were filled. Pictures were also taken during some of the observations.

The companies selected were selected based on the following criteria:

- I. Companies that qualified to be classified as factories under the Factories Act Chapter 441 of the Laws of Zambia and those that were classified as mines under the Mines and Minerals Development Act No.7 of 2008.
- ii. Risk – sectors with risk of fatalities such as the mines, forestry, steel and food processing. The mining companies were selected on the basis of the production process chain in order to obtain the risks that workers were exposed to at various production cycles.
- iii. Labour intensive sectors – the level of manual labour.
- iv. Geographical location – where most companies were concentrated and whether OSHSD was present

2.5 Audit Criteria

The source of audit criteria was the Factories Act Cap 441 and its associated regulations, the Occupational Safety and Health Act No. 36 of 2010, Workers Compensation Act, No. 10 of 1999 and the Mines and Minerals Development Act No. 7 of 2008 and its Mining regulations. International best practice from ILO conventions and guide lines were also used.

Furthermore, for purposes of assessing compliance of companies to OSH laws, the Factories Act has been cited for both factories and mining companies. However, for further reading, the equivalent from the mining regulations has been provided in the footnotes.

Therefore, the audit criteria used to answer the audit questions raised above were as follows:

Q1. Extent of Occupational Injuries, Deaths and Diseases in the Country

According to the ILO convention, the national system for occupational safety and health shall include the mechanism, collection and analysis of data on occupational injuries and diseases taking into account the ILO standards.⁵

⁵Article 4 of the ILO Convention No. C187 – Promotional Framework for Occupational Safety and Health, 2006

Q2. Availability of National Policy, Legislative and Implementation Frameworks to Facilitate Management of Occupational Safety and Health

i. Comprehensive National Policy⁶

According to the ILO Convention each Member shall, in the light of national conditions and practice, and in consultation with the most representative organisations of employers and workers, formulate, implement and periodically review a Coherent National Policy on occupational safety, occupational health and the working environment.

The aim of the policy shall be to prevent accidents and injury to health arising out of, linked with or occurring in the course of work, by minimising, so far as is reasonably practicable, the causes of hazards inherent in the working environment.

The situation regarding occupational safety and health and the working environment shall be reviewed at appropriate intervals, either over-all or in respect of particular areas, with a view to identifying major problems, evolving effective methods for dealing with them and priorities of action, and evaluating results.

The OSHSD has the responsibility of advising the Government on OSH policies and the ratification of international instruments such as conventions, codes and directives relating to occupational health and safety matters.⁷

ii. Legal Framework

According to the ILO Convention each Member shall, by laws or regulations or any other method consistent with national conditions and practice and in consultation with the representative organisations of employers and workers concerned, take such steps as may be necessary to give effect to National policy drawn.⁸

The Ministers responsible for Ministry of Labour and Social Security and Ministry of Mines, Energy and Water Development may, by statutory instrument, make regulations for the better carrying out of the provisions of the Act (Factories Act, Cap. 441 of the Laws of Zambia, Occupational Health and Safety Act, No. 36 of 2010, Mines and Minerals Development Act No. 7 of 2008 and Workers Compensation Act, No. 10 of 1999). The regulations may provide for among other things the occupational health and safety standards to be established at workplaces or classes of workplaces.⁹

iii. Strategic Planning

Ministres of Health, Labour and Social Security and Mines, Energy and Water Development are responsible for among other things, to coordinate planning, implementation and review of the Ministry's Strategic Plan.¹⁰

⁶Article 4 to 7 of the ILO Convention No 155 - Occupational Safety and Health, 1981

⁷Report on the Restructuring of the Ministry of Labour and Social Securities, 2013

⁸Article 8 of the ILO Convention No 155- Occupational Safety and Health, 1981

⁹Section 38 of Act No. 36 of 2010 Occupational Health and Safety, Section 152 of the Workers Compensation Act No. 10 of 1999, section 105 of the factories Act cap 441 and

¹⁰Page 40 of the Report on the Restructuring of the Ministry of Labour and Social Securities, Ministry Mines, Energy and water Development strategic plan 2008-2012

Q3. Sufficiency and Effectiveness of Inspections on Occupational Safety and Health

The enforcement of laws and regulations concerning occupational safety and health and the working environment shall be secured by an adequate and **appropriate system** of inspection. The enforcement system shall provide for adequate penalties for violations of the laws and regulations.¹¹

Measures shall be taken to provide guidance to employers and workers so as to help them to comply with legal obligations.¹²

i. Occupational Safety and Health Services Department (OSHSD)

The objective of OSHSD is to promote and enforce occupational safety and health standards at places of work to ensure a safe and healthy working environment. According to the Report on the Restructuring of Ministry of Labour and Social Security¹³, the functions of the OSHSD include:

- administer and enforce occupational safety and health regulations under the Factories Act, Chapter 441 of the laws of Zambia through systematic inspections of workplaces;
- examine and test machinery, lifting equipment and pressure vessels such as steam boilers, steam receivers, and air receivers in factories and at construction sites;
- investigate occupational accidents and diseases and make recommendations to avoid recurring;
- collect, collate and disseminate information and data on occupational health and safety to stakeholders at both national and international levels;
- promote occupational health and safety standards through awareness raising and human resource capacity building and to provide guidelines on hazardous operations at workplaces and review legislation on occupational health and safety.

ii. Workers Compensation Fund Control Board

According to the Workers Compensation Act No. 10 of 1999, Cap 271 of the laws of Zambia, the functions of the WCFCB include:

- Receiving notices of accidents and claims for compensation
- Inquiring into the cause of injury to be made into accidents
- Collecting, compiling and maintaining statistics and information relating to the occurrence or cause of accidents and diseases or schedule of diseases.

Section 11 of the Act states that the Board may promote, establish and subsidise out of the fund any organisation or scheme the objects of which consists of, or include one or more of the following:

¹¹ Article 9 of the ILO Convention No 155- Occupational Safety and Health, 1981.

¹² Article 10 of the ILO Convention No 155- Occupational Safety and Health, 1981.

¹³ Page 27 to 32 of the Report on the Restructuring of Ministry of Labour and Social Securities, June 2013

¹⁴ Appendix 4 list of Factories Act Regulations

- The prevention of accidents or of any diseases which are due to the nature of any occupation.
- The promotion of health or safety of workers.

Therefore based on the above section, staff from the Department have visited employers regularly to conduct inspections, lectures and seminars free of charge which employers are free to request for.¹⁵

iii. Occupational Health and Safety Institute (OSHI)

According to the Occupational Safety and Health Act No. 36 of 2010, the functions of the Institute include:

- developing and implementing programs to provide incentives for employers to implement measures to eliminate or reduce risks to health or safety or to improve occupational hygiene, health and safety;
- investigating and detecting occupational diseases and injuries at workplaces;
- conducting medical examinations for occupational health and safety purposes catering for all industries;
- providing an occupational laboratory service;
- promoting studies and carry out investigations and research on occupational health and safety;
- preparing and maintaining statistics on employee's morbidity and mortality; and
- Conducting and encouraging awareness educational programmes relating to the promotion of occupational health and safety.

iv. Mines Safety Department (MSD)

The Mines Safety Department (MSD) is a department under the Ministry of Mines, Energy and Water Development. The Department is responsible for enforcement of safety, health and environmental provisions of the Mines and Mineral Development Act No.7 of 2008 and its regulations¹⁶. In particular, the MSD is mandated to:

- Administer and enforce the relevant legislative and statutory instruments regarding the safe and sustainable exploration and exploitation of the mineral resources.
- Administer and enforce legislation relating to safe manufacture, transportation, use, storage, destruction and importation of civil explosive.

The functions of the MSD include:

- Inspection of all mining areas where explosives are manufactured, and used in the country;
- Licencing examination of blasting candidates wishing to carry out any blasting operations;

¹⁵WCFCB Annual Report 2013

¹⁶ Appendix 4 List of mining regulations

- Formulate new legislation and regulations, evaluate all aspects of safety in mining operations, and offer technical advice and training, and offer exemptions from the relevant regulations where appropriate;
- Investigations of accidents and dangerous occurrences to establish the cause and recommend measures to prevent reoccurrence;
- Conducting awareness raising activities to enlighten mine personnel on the provisions of mining, explosives and environmental legislation;
- Testing machinery and pressure vessels used in the mining operations to ensure compliance with codes of practices; and
- Carry out regular monitoring of the mine environment to ensure adherence to standards.

v. Systems for Registration of Factories

The Ministry responsible for labour is required to maintain a register of factories which will maintain all the particulars of every factory as prescribed in Part II of the Schedule Section 105, The Factories (Prescribed Particulars and Forms) Regulations.¹⁷

vi. Effect of Follow up Inspections and Enforcement of Occupational Safety and Health Standards.

In this audit, an indepth assessment of the effect of follow up inspections of occupational safety and health was carried out on twenty five companies focussing on the following standards:

- The employer, in consultation with workers and their representatives, should set out in writing, an occupational safety and health (OSH) policy.¹⁸
- An employer of ten or more employees shall establish a health and safety committee.¹⁹

The representatives of the employees on a health and committee shall elect from amongst themselves a health and safety representative who shall coordinate health and safety activities at their work place. The employer shall display or cause to be displayed in a conspicuous place names of the health and safety representative.²⁰

- In every factory there shall be provided and maintained appropriate means for fighting fire, which shall be so placed as to be readily available for use and persons trained in the correct use of such means shall be present during all working periods.²¹
- There shall be testing and examination at least once in every period of three months (one month for mines) and whenever an inspector so requires every means for giving warning in case of fire which is required to be provided by or under the act.²²

¹⁷Factories Act, Chapter 441, Part III and its equivalent find in principle mining act

¹⁸Section 3 of the Guideline on occupational safety and health management systems- ILO –OSH 2001, second edition

¹⁹Section 11 of Act no. 36 of 2010 -Occupation Health and Safety Act

²⁰Section 14 (1)and(3)of the Occupation Health and Safety Act

²¹Section 40(1) Factories act cap 441and its equivalent section 1211(1) of the mining regulations

²²Section 42(1) Factories act cap 441 and its equivalent section 1213 and 1919 of the mining regulations

- Every factory shall be provided with adequate means of escape in case of fire for the persons employed there in, and such means shall be properly maintained and kept free of obstruction.²³
- Every window, door or other exit affording means of escape in case of fire shall be other than the means of exits in ordinary use shall be distinctly and conspicuously marked by notice printed in red letters of adequate size.²⁴
- All stocks of highly inflammable substances shall be kept either in a fire resistance store or in a safe place outside any occupied building.²⁵
- No fire, flame, open light or other agency likely to ignite any volatile inflammable substance shall be permitted in any part of the factory in which such substances is used or is likely to be used.²⁶
- The employer shall provide at the employer's expense, all appropriate protective clothing or equipment to be used in the workplace by employees, who in the course of employment, are likely to be exposed to risk of bodily injuries, and adequate instruction in the use of such protective clothing or equipment be provided to employees free of charge.²⁷
- There shall be provided and maintained so as to be readily accessible a first aid box or cupboard containing such equipment as maybe prescribed. Nothing except appliances or requisites for first aid shall be kept in a first aid box or cupboard.
- The first aid box or cupboard shall be under the charge of a responsible person who shall, in case of a factory where more than fifty (50) employees or such similar number as may be prescribed, are employed, be trained in the first aid treatment and the person in charge shall always be readily available during working hours.²⁸
- There shall be provided and maintained for use of the employed persons adequate and suitable facilities for washing which shall include a supply of soap and suitable means of cleaning and drying; and facilities shall be conveniently accessible and shall be kept in a clean and orderly condition.²⁹
- Sufficient and suitable sanitary conveniences for persons employed in the factory shall be provided, maintained and kept clean and the effective provision shall be made for lighting the conveniences. Where persons of both sex are intended to be employed, the conveniences shall afford proper separate accommodation for each sex.³⁰

²³Section 41(1) Factories act cap 441 and equivalent section 802 of mining regulations

²⁴Section 41(7) Factories act cap 441 and equivalent section 803 of mining regulations

²⁵Section 40(7) Factories Act cap 441 and equivalent section 2108 of mining regulations

²⁶Section 40(7) Factories Act cap 441 and equivalent section 2108 of mining regulations

²⁷Section 16(2)(i) of Act no. 36 of 2010 -Occupation Health and Safety Act and equivalent section 2104 of mining regulations

²⁸Section 67(1) of the Factories Act cap 441 and its equivalent section 1201 to 1210 of mining regulations

²⁹Section 64 Factories Act and equivalent section 938 of mining regulations

³⁰Section 23 of the Factories Act CAP 441 and equivalent section 2112 of mining regulations

- There shall be provided for the use of employed person adequate and suitable accommodation for clothing not worn during working hours. Where protective clothing is provided, a suitable place shall be provided for storage of such protective clothing. Adequate change room shall be provided and maintained for use of employed persons.³¹
- There shall, so far as is reasonably practicable, be provided and maintained safe means of access to or egress from every place at which any person has at any time to work, and every such place shall, so far as is reasonably practicable, be made and kept safe for any person working there.³²
- Where any person has to work at a place from which he will be liable to fall a distance exceeding two metres then, unless the place is one which affords secure foothold and, where necessary, secure handhold, means shall be provided, so far as is reasonably practicable, by fencing or otherwise, for ensuring his safety.³³
- Every flywheel directly connected to any prime mover and every moving part of any prime mover, except such prime movers are mentioned in subsection 3, shall be securely fenced, whether the flywheel or prime movers is so situated in an engine house or not.³⁴
- At least once in every twelve months at intervals not exceeding fourteen months every lifting appliance shall be thoroughly examined and tested by a competent person.³⁵ The owners or users of said equipment must pay a fee for these inspections.³⁶
- Every steam boiler and all its fitting and attachments shall be examined by the inspector or any authorised person at intervals not exceeding eighteen months (two years for mines) and as soon as practicable after any extensive repair work.³⁷
- When any steam boiler, steam receiver or air receiver is inspected or examined by any inspector or other person authorised, the appropriate fee specified in Part I and II of the schedule to the Factories regulations shall be paid in respect of each inspection or examination³⁸
- Ten percent of the inspection or examination fees paid under sub-regulation (1) shall be paid to the department of the Ministry responsible for labour and social security, which deals with factories.³⁹

³¹Section 65 (1) –(3) of the Factories Act CAP 441 and equivalent section 2106 of mining regulations

³²Section 37 (1) - (2) and Section 65 (1) – (3) of the Factories Act CAP 441 and equivalent section 806, 1816 and 2123 of the mining regulations

³³Section 21 and Section 37(3) of the Factories Act CAP 441 and its equivalent section 709, 1815 and 2120 of mining regulations

³⁴Section 27 (1) of the Factories Act CAP 441 and equivalent section 1303 of mining regulations

³⁵Section 1325 of mining regulations

³⁶Regulation No.3 (1) Statutory Instrument No. 195 of 1996

³⁷Section 55(3) of the Factories Act Cap 441 and its equivalent section 1514 of the mining regulations

³⁸Regulation 3, Statutory instrument No. 106 of 2000

³⁹Statutory Instrument No. 195 of 1996, Regulation No.3 (2)

vii. Offences, Penalties and Legal Proceedings

In the event of any contravention or in connection with or in relation to a factory of the provisions of this Act or of any order, regulation or lawful requirement made there under, the occupier, or the owner of the factory shall be, subject to provisions, be guilty of an offence.⁴⁰

Table 2: Type of Offences and Penalties

Offence	Penalty
No express penalty 1. Employed person 2. Any other case	>300 penalty units >1,500 penalty units >300 penalty units for each day on which contravention continues.
Contravention likely to cause death 1. Employed person 2. Any other case	1,200 penalty units 6,000 penalty units
Dangerous/defective building, machine, plant, matter, thing or practice in a factory so as to constitute a threat to health or safety of any person.	Chief Inspector of Factories can require: -vacation, repair, removal, remedy or stoppage as the case may be. -suspension of work in the factory.

Source: Part XIV, Section 92 and 93

⁴⁰Factories Act, Part XIV, Section 91(1) and equivalent section 304, 305 and 306 of mining regulations

3 FINDINGS



3.1 Extent of Occupational Diseases, Injuries and Deaths in the Country

In the 2012 Labour Force Survey Report from the Central Statistical Office (CSO), the number of employees in various sectors of the economy was 5,498,676 approximately 69.9% of the number of people eligible for employment in Zambia which was estimated at 7,861,259.

a. Deaths and Injuries Reported to Workers Compensation Fund Control Board.

i. Fatalities by Industry

An analysis of data obtained from WCFCB revealed that the rate of fatalities arising from work place accidents rose from 67 to 127 cases in 2011 and 2014 respectively representing an increase of 65% in the period under review.

Table 3 : Number of Fatalities by Industry

Industry	2011	2012	2013	2014	Totals	% Totals
Agriculture , Forestry etc.	4	15	14	18	51	13.6
Banking, Finance and Insurance	3	1	3	1	8	2.1
Building Construction	5	18	11	18	52	13.9
Charities, Religious, Political and trade organisations	1	1	2	0	4	1.1
Chemical Industry etc.	0	0	1	0	1	0.3
Educational Services	0	2	2	4	8	2.1
Entertainment	0	0	0	0	0	0.0
Food, Drink and Tobacco	4	5	3	4	16	4.3
Glass, brick, tiles, Asbestos etc.	0	1	0	0	1	0.3
Iron , Steel Industries etc	3	6	8	13	30	8.0
Leather Industries	1	0	0	0	1	0.3
Local Authorities	0	0	0	1	1	0.3
Medical Services	0	0	0	0	0	0.0
Mining, Quarrying Industries	13	10	10	26	59	15.7
Personel services, Hotels etc.	8	11	15	20	54	14.4
Printing, publishing & Paper Industry	1	1	1	1	4	1.1
Professional Services etc	2	1	7	2	12	3.2
Textile Industries	2	2	2	2	8	2.1
Trade and commerce etc	7	1	8	5	21	5.6
Transport, communication	4	0	14	11	29	7.7
wood and furniture industry	0	2	3	1	6	1.6
Unregistered	9	0	0	0	9	2.4
Total	67	77	104	127	375	100.0
Percentage increase(%)	0	15	55	65		

Source: WCFCB

As can be seen in Table 3 above, the highest number of fatalities were from Mining and Quarrying Industries which had a total of fifty nine (59) fatalities representing 23.8% followed by Personal service and hotels which recorded fifty four (54) fatalities, representing 21.8% of total fatalities in the period under review. See Table 3 above.

The audit revealed that the Labour Force Survey for the country was only conducted in the year 2012 for the period under review. Based on the figures provided in the CSO labour force survey report for 2012, weighting can be conducted as follows:

Table 4: No. Fatalities Per 100,000 Employees

Industry	No. of Fatalities in the year 2012	No. of employees in the industry *	Fatalities per 100,000 employees
Agriculture , Forestry etc.	15	2,872,331	0.52
Banking, Finance and Insurance	1	22,198	4.50
Building Construction	18	186,907	9.63
Educational Services	2	150,215	1.33
Mining, Quarrying Industries	10	88,251	11.33
Personel services, Hotels etc.	11	62,671	17.55
Trade and commerce etc	1	645,571	0.15
Total	58	4,028,144	

Source: WCFCB and CSO Labour Survey Report 2012

***See paragraph 3.2 (c) (i) below for limitation**

The highest number of fatalities were from personel services, hotels industry at 17.55 fatalities per 100,000 employees followed by Mining and Quarrying Industries which had 11.33 fatalities per 100,000 employees. Building construction was third with 9.63 fatalities per 100,000 employees.

ii Nonfatal Injuries by Industry

An analysis of data from WCFCB revealed that the new cases of workplace injuries recorded annually had increased from 312 in 2011 to 1003 in 2014 representing an increase of 221%. According to the relevant laws, for an injury to be considered reportable and compensable, the injury case should cause the employee to be off duty for a minimum of three working days.⁴¹

Assuming that the injured employees stayed off duty for a minimum of three (3) days each, it is estimated that a minimum of 64,128 productive man hours were lost between 2011 and 2014. **See Table 5 below.**

⁴¹ Sectionof Workers Compensation Act, Section.....of Factories Act and Section....of Mines and Minerals Development Act No 2008 (Mining regulations Act)

Table 5: Non-fatal Occupational Injuries by Industry Type As At 31st December

Industry	2011	2012	2013	2014	Totals	% Totals	Average No. of injuries per annum
Agriculture & Forestry	31	28	127	119	305	11.4	76
Banking, Finance and Insurance	7	3	7	12	29	1.1	7
Building Construction	25	36	142	130	333	12.5	83
Charities, Religious, Political	4	4	15	6	29	1.1	7
Chemical Industries	17	12	59	53	141	5.3	35
Educational Services	6	7	11	7	31	1.2	8
Entertainment	3	1	2	2	8	0.3	2
Food, Drink and Tobacco	37	23	97	121	278	10.4	70
Glass, Brick site and Asbestos	0	3	1	0	4	0.1	1
Iron , Steel Industries etc	47	41	165	144	397	14.9	99
Leather Industries	2	1	1	3	7	0.3	2
Local Authorities	4	3	5	10	22	0.8	6
Medical Services	1	1	6	0	8	0.3	2
Mining,Quarrying Industries	57	68	181	156	462	17.3	116
Personel services, Hotels etc.	17	11	89	97	214	8.0	54
Printing, Publishing & paper	0	0	9	6	15	0.6	4
Professional Services etc	2	0	23	15	40	1.5	10
Textile Industries	10	2	15	10	37	1.4	9
Trade and commerce etc	14	12	56	47	129	4.8	32
Transport	12	13	35	43	103	3.9	26
Wood, Furniture Industries	12	19	22	22	75	2.8	19
Unregistered	4	1	0	0	5		1
Total	312	289	1068	1003	2672	100	668
	0	-7	242	221			
Approx. Minimum Number of working hours lost annually*	7,488	6,936	25,632	24,072	64,128		

Source: Workers Compensation Fund Control Board

***Minimum number of working hours lost (Average no. of injuries per annum x 3days x 8hours per day)**

As can be seen in the Table above, the highest injuries were recorded from mining and quarrying industries with a total of 462 injuries representing 17.3% of the total injuries received in the period under review. The second highest was from iron and steel industries which recorded a total of 397 representing 14.9% of total workplace injuries in the period under review.

Table 6: No. of Non Fatalities Per 100,000 Employees

Industry	No. of Fatalities in the year 2012	No. of employees in the industry *	Fatalities per 100,000 employees
Agriculture , Forestry etc.	28	2,872,331	0.97
Banking, Finance and Insurance	3	22,198	13.51
Building Construction	36	186,907	19.26
Educational Services	7	150,215	4.66
Mining, Quarrying Industries	68	88,251	77.05
Personel services, Hotels etc.	11	62,671	17.55
Trade and commerce etc	12	645,571	1.86
Total	165	4,028,144	

Source: WCFCB and CSO Labour Survey Report, 2012.

* Other industries could not be analysed see limitation in paragraph 3.2 (c) (i) below.

When the figures are weighted based on the 2012 laour survey report from CSO, Mining and quarrying industry still records the highest non fatal injuries of 77.05 injuries per 100,000 employees followed by

b. Deaths and Injuries Reported to Mine Safety Department

Further analysis of data from Mine Safety Department also showed the number of reported fatalities and injuries as shown in Table 5 below:

Table 7: Number of Fatalities and Injuries Reported to Mine Safety Department by Mining and Quarrying Companies.

	2010	2011	2012	2013	2014
Injuries	192	150	150	136	123
Fatals	17	20	12	12	13
Total	209	170	162	148	136

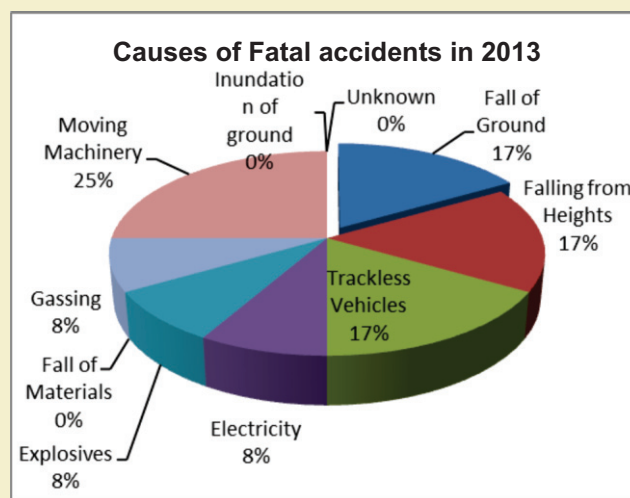
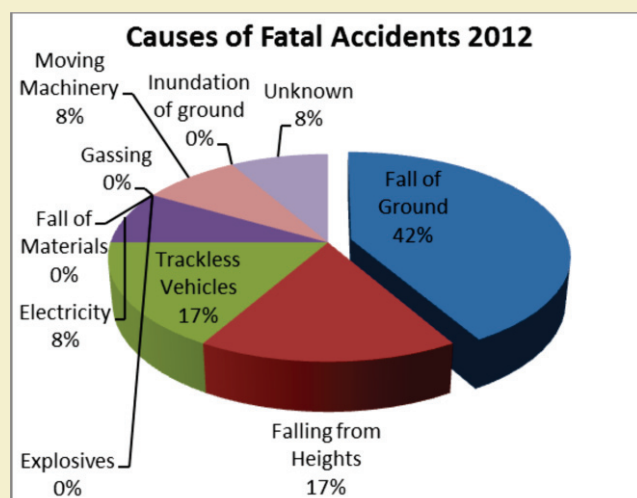
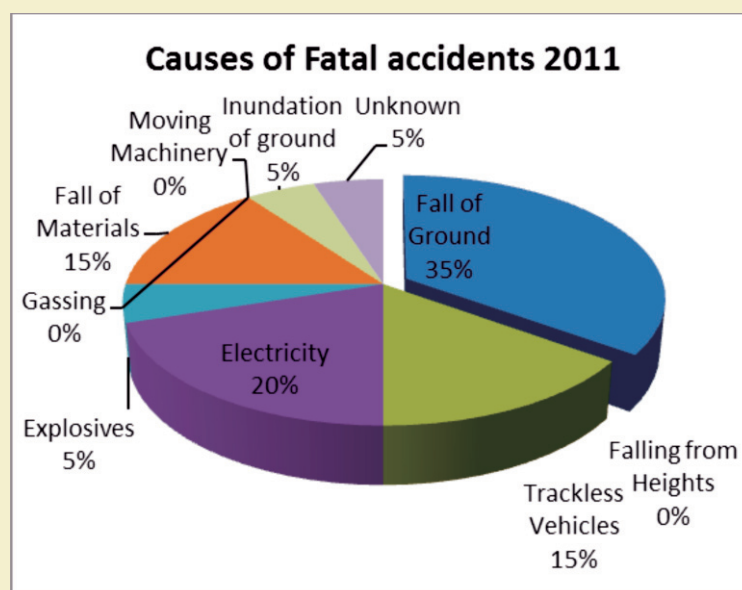
Source: Mine Safety Department

c. Causes of Deaths in Mining Companies

An analysis of data from Mine Safety Department revealed that the main causes of death in mines is fall of ground such as rock fall and collapsing of the ground , staff falling from heights, driving in undesignated tracks (trackless vehicles), electric shock, detonation of explosives, falling materials, gassing and moving machinery.

Further analysis showed that the majority of deaths in the mining companies are caused by fall of ground which accounted for between 17 to 42% of fatality cases in the period under review as shown in the Chart 1 below:

Chart 1: Showing the Causes of Deaths in Mining Companies



Source: Mine Safety Department

d. Certified Occupational Diseases

i. Certified occupational diseases from Mining Companies as reported by OHSI

Apart from occupational injuries and deaths discussed above, employees are also exposed to occupational diseases. An analysis of data from Occupational Health and Safety Institute revealed that the number of certified cases of Pneumoconiosis (P) and Tuberculosis (TB) dropped from 319 in 2010 to 192 in 2013 by 127 miners and ex-miners per 100,000 cases representing a drop of 40% as shown in Chart 2 below.

Chart 2: Annual Certified Occupational Diseases from Mining Companies (Old and New Cases) reported by OHSI



Source: Occupational Health and Safety Institute

Further scrutiny of data from OSHI revealed that on average, 238 per 100,000 miners and ex-miners acquired Pneumoconiosis and Tuberculosis at work place annually. Out of the 238 per 100,000 miners and ex-miners certified with P and TB, 180 per 100,000 miners and ex-miners representing 76% are certified with Pulmonary Tuberculosis. Twenty one percent (21%) are certified with Pneumoconiosis in various stages from stage 1 to stage 3 while the remaining 3% have both Tuberculosis and Pneumoconiosis as shown in the Table 6 below:

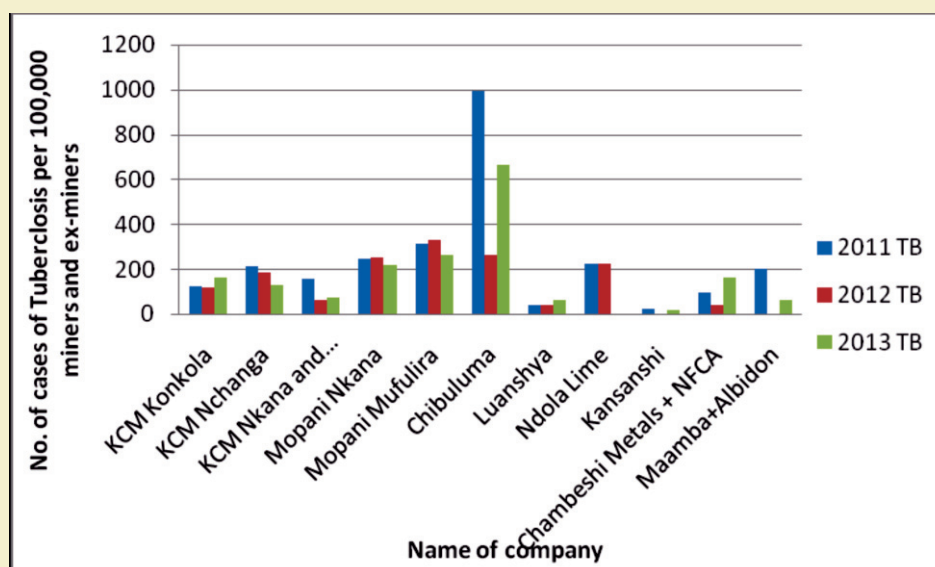
Table 8 : Average Number of Certified Cases of Pneumoconiosis and Tuberculosis in Mining Companies per 100,000 Miners and Ex-Miners Examined.

Type of disease and stage	2010	2011	2012	2013	Average number of cases	% of average number of cases
Pulmonary Tuberculosis	231	183	157	148	180	75.5
Pneumoconiosis stage I	54	45	19	22	35	14.7
Pneumoconiosis stage II	17	7	1	12	9	4.0
Pneumoconiosis stage III	10	4	6	6	6	2.6
Pneumoconiosis +Tuberculosis	6	11	9	4	7	3.1
Total Certified Cases of P and TB	319	249	193	192	238	100.0

Source: Occupation Safety and Health Institute

An analysis of records for Tuberculosis revealed that KCM Nchanga, Mopani Copper Mine-Nkana, Mopani Copper Mine-Mufulira, Chibuluma Mine and Ndola lime recorded the highest prevalence cases of Tuberculosis which were above 200 per 100,000 miners and ex-miners ranging from 219 to 992 per 100,000 miners and ex-miners in 2011 while the Tuberculosis prevalence ranged from 247 to 662 per 100,000 miners and ex miners in 2013 as shown in Chart 3 below.

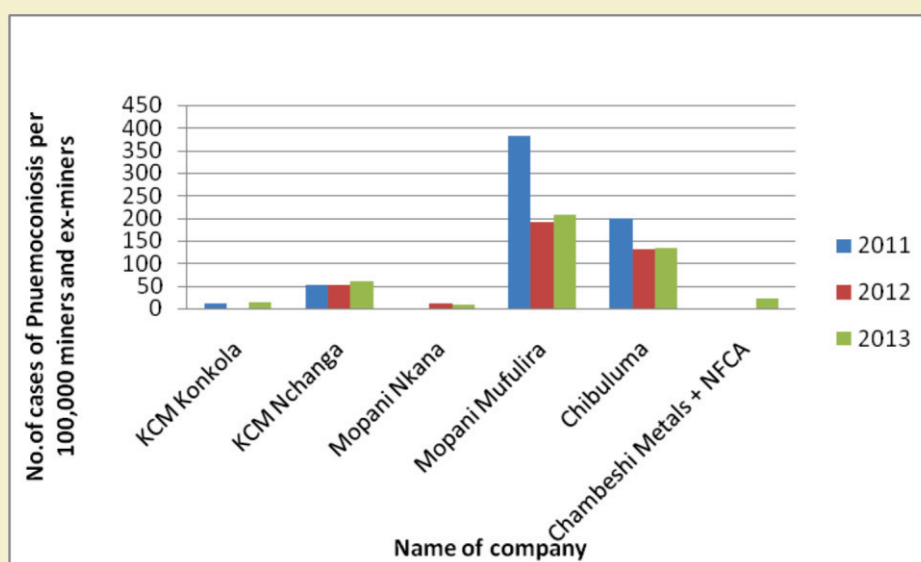
Chart 3: Number of Old and New Certified Cases of Tuberculosis per 100,000 Miners and Ex-Miners by Mine



Source:Occupational Health and Safety Institute

A further analysis of records for Pneumoconiosis revealed that Chibuluma Mine and Mopani Copper Mine in Mufulira had also high prevalence cases of Pneumoconiosis ranging from 198 to 382 per 100,000 miners and ex miners in 2011 while the prevalence rate ranged from 132 to 247 per 100,000 miners and ex miners in 2013 as shown in the Chart 4 below:

Chart 4: Number of Old and New Certified Cases of Pneumoconiosis per 100,000 Miners and Ex-Miners by Mine



Source: Occupational Health and Safety Institute

ii. Occupational Diseases by Industry as Reported By Workers Compensation Fund Control Board

The analysis of data from WCFCB showed that 97.3% of the diseases reported were from mining and quarrying industry as shown in Table 7 below:

Table 9: Number of Occupational Diseases Reported to WCFCB by Industry

	Industry	2011	2012	2013	2014	Totals	% Totals	Average No. of injuries per annum
101	Agriculture & Forestry	0	0	1	0	1	0.2	0
301	Building Construction	1	0	2	2	2	0.5	1
501	Chemical Industries	0	0	1	2	2	0.5	0
1001	Iron , Steel Industries etc	0	0	2	1	3	0.7	1
1401	Mining, Quarrying Industries	80	90	137	96	403	97.3	102
1501	Personel services, Hotels etc.	0	0	1	0	1	0.2	0
1701	Professional Services etc	0	0	0	1	1	0.2	0
1901	Trade and commerce etc	0	0	0	1	1	0.2	0
	Total	81	90	144	103	414	100	105

Source: WCFCB

e. Effect of Workplace Injuries, Death and Diseases - Compensation to Beneficiaries

Apart from lost production time, occupational injuries, fatalities and diseases do come with other associated costs. For instance, an injured or diseased employee will have to be personally compensated while in cases of death the widows, children and other dependents may have to be compensated. In Zambia, however, the law does not provide for compensation of the mother or other dependents of the deceased in cases where the deceased employee had no family. For an employee to be compensated the employer has to register and pay annual subscription fees with WCFCB.

A review of records from WCFCB revealed that on average there are 19,931 beneficiaries per annum who are receiving compensation arising from occupational diseases, fatalities and injuries. Out of the 19,931 beneficiaries, 12,078 representing 61% are pensioners who had suffered occupational injuries and diseases, 5,029 representing 25% are widows of deceased employees while 2,824 representing 14% are children and/or dependents of the deceased employees.

In addition, analysis of data from WCFCB revealed that a total amount of K55,664,000 was spent by the Government compensating the injured and diseased employees, widows and children of deceased employees during the period from 31 March 2011 to 31st March 2014 as shown in Table 8 below.

Table 10: Cost and Number of People Receiving Compensation as at 31 March

Year	No. of Pensioners *	No. of Windows	No. of Children	Total	Total Amount Paid (ZMW'000)
2011	13,782	5,640	3,507	22,929	10,072
2012	12,645	5,478	3,664	21,787	12,987
2013	10,942	4,498	2,063	17,503	15,901
2014	10,942	4,498	2,063	17,503	16,704
Average	12,078	5,029	2,824	19,931	13,916
Total					55,664

Source: Annual reports for WCFCB

*Pensioners are injured or diseased employees.

3.2 Availability of Policy, Legal and Implementation Frameworks on Occupational Safety and Health.

a. Lack of Clear National Policy and Strategic Planning Pertaining to OSH

i. Lack of a Comprehensive National Policy Occupational Safety and Health

According to Articles 4 to 7 of the ILO Convention on Occupation Safety and Health No. 155 of 1981 that Zambia signed in 1981 and ratified in 2013, each member state is required to formulate, implement and periodically review a coherent National Policy on occupational safety, occupational health and the working environment.

Contrary to the Convention, Zambia has not formulated the Comprehensive National Policy on occupational safety and health in spite of OSH being a cross cutting issue by its nature and the existence of various institutions dealing with occupational safety and health. Instead, components as opposed to holistic policy, were segmented in various policies such as the Health policy 2013, Mines and Mineral Policy 2013 and National Employment and Labour Market policy 2004. However, these policies do not address all the issues raised in Articles 4 to 7 of the ILO Convention on Occupation Safety and Health No. 155.

A further review of International Conventions on Occupational Safety and Health revealed that Zambia signed and Cabinet ratified forty eight (48) ILO conventions out of which four (4) conventions were denounced. Forty four (44) conventions, seventeen (17) of which are directly related with occupation safety and health, had not been domesticated due to lack of the Comprehensive National Policy on Occupational Safety and Health. See **Appendix 5**.

A further review of the responses to the questionnaires sent to the regulatory bodies revealed that there have been consultations in recent times over the matter and it was the desire of the regulators and stakeholders that a common policy rather than several OSH policies for each regulatory authority would serve Zambia well. The development of the comprehensive policy requires one central institution to coordinate the exercise.

ii. Strategic Planning

Three (3) out of the four (4) institutions audited had a strategic plan in place to guide their operations. However, the following were observed:

- **OSHI**

Despite the Organisation having developed a strategic plan for 2009 to 2014 with the help of Public Service Management Division, the strategic plan had not been implemented by the institute. Some of the causes cited by the institute included lack of man power as the institute had no Board of Directors to approve the establishment. The Board of Directors was only instituted in August 2013. As of May 2015, the board had recruited the top management of the institute who have drafted the new strategic plan 2016-2020

- **OSHSD**

The Ministry of Labour and Social Security operated without a strategic plan between January 2010 and December 2014. As such, there were no strategies that the ministry had formulated on how they intended to implement the occupational safety and health interventions in the period under review.

In response the ministry stated that the draft strategic plan was approved in December 2014 by MDD and only became operational in April 2015.

- **WCFCB**

The Workers' Compensation Fund Control Board had a five year strategic plan for the period 2010 to 2015 which has been reviewed and updated. However, the strategic plan did not have any direct strategies on occupational health and safety.

- **MSD**

The Mine Safety Department under the Ministry of Mines had a strategic plan for the period 2008-2012. However, the strategic plan had not been reviewed or

updated. In addition, the strategic plan did not have any direct strategies on occupational health and safety.

b. Weakness in Relevant Laws and Regulations on OSH in Zambia

The weaknesses in the laws and regulations are shown below:

I. Overlapping in Institutional Functions

As a result of the multiple laws, some degree of overlaps in the functions of the institutions enforcing the laws is present as they execute their roles and these are:

- Notification and Reporting of Fatal and Non-Fatal Accidents**

Documentary reviews of the relevant laws revealed that there are overlaps in the reporting of fatal and non-fatal accidents among MSD, OSHSD and WCFCB. Mines are required to report to both WCFCB and MSD while factories in the same vein are required to report to OSHSD and WCFCB. For companies that are classified as both mining and factory such as Lafarge PLC, Ndola Lime, Zambezi Portland among others are required to report their fatal and non-fatal injuries to all the three institutions namely MSD, OSHSD and WCFCB.

In addition, for dangerous occurrences and incidents, companies that are classified as both mining and factory are still required to report to both MSD and OSHSD under the Mines and Minerals Development Act No. 7 of 2008 and the Factories Act respectively.

Table 11: Showing Overlap in Notification of Fatal and Non-Fatal Accidents and Dangerous Occurrences/Incidences.

Institution to be Notified	Fatalities	Non-Fatal accidents	Dangerous Occurrence and Incidents	Occupational Diseases	Companies Involved
MSD- Mines and Minerals Development Act.	To be notified immediately and report to arrive at MSD within 21 days	To be notified immediately and report to arrive at MSD within 21 days.	Notify immediately and report within 24 hours	N/A	<ul style="list-style-type: none"> • Mining Companies • Companies classified as mining and factory
OSHSD- Factories Act	To be notified immediately and report to arrive at OSHSD within 21 days	To be notified immediately and report to arrive at OSHSD within 21 days	Notify immediately and report to OSHSD within 24 hours	When disease is certified	<ul style="list-style-type: none"> • Factories • Companies classified as mining and factory

WCFCB - Workers Compensation Act	To be notified within 3 days	To be notified within 3 days	N/A	When disease is certified through OSHI for miners and Factories Act for non- miners.	<ul style="list-style-type: none"> • Mining Companies • Factories • Any other work place.
OSHI- Occupational Health and Safety Act	N/A	N/A	N/A	OSHI provides immediately employer and compensation institution certificate of occupational disease.	<ul style="list-style-type: none"> • Mining Companies • Factories • Any other work place.

Source: Regulatory bodies

- **Duplication in Occupational Safety and Health Inspections**

A further analysis of responses to questionnaires and reviews of inspection reports from the Government departments and statutory bodies revealed that there was duplication of work among the regulatory bodies regarding occupation and safety inspections. For instance, all the regulatory bodies carried out inspection of various risk hazards at work place with a view of controlling the risk exposure and safety induction and awareness. However, WCFCB has no punitive measures to ensure control of risk hazards.

For MSD and OSHSD, the type and purpose of inspections conducted are similar though they are supposed to be carried out in different environments such as mining companies and in factories. However, the duplication arose when conducting inspections of companies that are both classified as mines and factories as tabulated in **Appendix 7**.

ii. **Lack of Coordination among Occupation Health and Safety Institutions**

The roles that the four (4) institutions play is outlined in the Acts which is generally to control OSH activities in the country, starting from preventive to curative. For this reason, collaboration among these institutions is expected. However, it is not spelt out how these institutions are supposed to collaborate and feed into each other. For instance, a review of the questionnaires sent to OSHSD, MSD, WCFCB, and OSHI revealed that there is no coordination in the way occupational safety and health activities are implemented. All the institutions visited stated that they had no memorandum of understanding to ensure that the implementation of OSH activities was coordinated to avoid duplication and overlap.

A further review of the ILO report revealed that there is no law that required competent authorities to coordinate recording and notification activities occurring in the different institutions in a manner that harmonises the system.⁴²

The audit revealed that the WCFCB furnishes the Permanent Secretary-MLSS with annual reports. However, there is no other collaboration between the OSHSD and the WCFCB in spite of them falling under the same Ministry. The Occupational Safety and Health Act No. 36 of 2010 which is administered by OSHI does not explain any relationship with the Factories Act administered by OSHSD despite the Act dealing with all workplaces including factories.

iii. Incompatibility of Current Laws with ILO Standards⁴³

A review of the ILO report revealed that the current laws namely: Mines and Mineral Development Act No.7 of 2008, (Mining regulation 1973), Explosives Act No.10 of 1974, Occupation Safety and Health Act of 2010 and the Workers' Compensation Act of 1999 do not meet ILO standards on recording and notification. For instance, all the laws lack:

- Formal stipulation to cover commuting accidents- these are accidents that an employee may sustain on their way to and from the workplace,
- Stipulation of relevant electronic occupation database that meet ILO recommendations for:
 - recording of occupational health incidences, occurrences and accidents
 - Incidences and prevalence of occupational diseases, and
 - Compensable occupational accidents and diseases.
- Stipulation of data collection and preparation of annual statistics of occupational accidents and occupational diseases that meets international standards per minimum level as provided by ILO recommendations,
- Stipulation of periodic review of national list of occupational diseases harmonised with ILO recommendations, and
- Adequate evidence of formal mechanism for fostering internationally recognised professional OSH or graduate OSH training of OSH staff in public institutions, private sector or unions, for instance, the Occupational Safety and Health Act of 2010 stipulates provision of health and safety committees that is to strengthen present mechanism of recording and notifications. However, this progressive arrangement is not included in the legislation of the other regulatory bodies

⁴²National study on recording and notification of occupational health accidents and diseases in Zambia, 2012 by ILO Country Office for Zambia, Malawi and Mozambique

⁴³National study on recording and notification of occupational health accidents and diseases in Zambia, 2012 by ILO Country Office for Zambia, Malawi and Mozambique

iv. Other Specific Weaknesses in the Laws

All the institutions have reviewed their laws for suitability of implementation of the laws. An analysis of the review comments provided by the statutory bodies on their laws revealed the following:

- **Workers' Compensation Act No. 10 of 1999**

The Workers Compensation Act of 1999 was not adequate to aid in the operations of the board. For instance, the current Act only provides for compensation of occupational diseases such as Pneumoconiosis and Tuberculosis for persons employed as miners. It does not provide for compensation of other occupational diseases that may occur in workplaces other than mines such as those provided for under the ILO list of occupational diseases (Revised 2010) caused by exposure to agents arising from work activities namely:

- chemical agents such as sulphur dioxides,
- physical agents such as hearing impairment due to noise, optical radiation and extreme temperatures,
- skin diseases caused by allergic contacts dermatoses,
- musculoskeletal disorders such as prolonged pressure on elbows,
- mental and behavioural disorders such as posttraumatic stress,
- Occupational cancer due to asbestos, benzidine, benzene.

Furthermore, among other things, the Act does not:

- Require that the actuaries be affiliated to an internationally recognised professional body,
- Clearly define beneficiary, post humus child and capitalisation value,
- Provide for payment to the parents of the deceased in case the deceased leaves no children.

- **Factories Act Cap 441**

The Factories Act has restricted coverage of workplaces to be inspected in that it does not cover any other workplaces other than the factories.

The enforcement mechanisms provided in the Factories Act are weak. For instance, the Act does not provide for establishment of health committees in workplaces as stipulated by ILO. In addition, the law does not make it mandatory for workplaces to provide an OSH policy at workplace levels.

Further, the Act does not stipulate the responsibility of the employer and the employees with regards to Occupational Safety and Health matters contrary to the conventions that have been ratified Government.

The Act was reviewed in 2007 up to bill stage to include the weaknesses mentioned above, but as of May 2015, the law had not been repealed or replaced.

- **Occupational Safety and Health Act No. 36 of 2010**

The OSH Act was enacted in 2010 and the commencement order was issued on 18th July 2012. As of May 2015, the Act had not yet been implemented. The reasons provided by OSHI were that there was no board to operationalise the

Act by, among other things, appointing the Director who is the Chief Executive, the Deputy Director and other staff as stipulated in Sections 9 and 10. The board was inaugurated on 2nd August 2013 by the Minister of Health but as of March 2014, the board had not yet appointed support staff.

In addition, the Act did not have a statutory instrument to regulate the medical fees charged for medical services.

The institute had duo reporting structure to Ministry of Labour and Social Security as a result of implementing the medical provisions of Part VI of the Workers' Compensation Act and to Ministry of Health for financial and human resource provisions. A review of the 2013 annual report from OSHI revealed that the institute had tried to review the fees through Ministry of Labour and had failed and was seeking the approval through Ministry of Health.

Despite the OSH Act having taken into account the weaknesses that the Factories Act had (such as making it mandatory to have an OSH Committee and OSH workplace policy in workplaces; stipulating the responsibilities of the employers and employees), the Act lacked regulations to make it operational. In their response, OSHI stated that the institute had embarked on drafting the regulations and guidelines but as of May 2015 the draft regulations and guidelines had not yet been launched.

Finally, the review of responses from OSHI revealed that the medical provisions of Part IV of the Workers' Compensation Act have not been embedded in the Occupation Safety and Health Act. The implication is that OSHI still has to implement the Part IV of the Workers' Compensation Act despite having its own Occupational Safety and Health Act.

- **Mines and Minerals Development Act No. 7 of 2008 (Mining Regulations)**

A review of responses to the questionnaire sent to Mine Safety Department revealed that the Mines and Mineral Development Acts and regulations;

Has no occupational safety and health provisions to be followed during the closure of mines.

- In granting of mining exploration licenses, the Act does not make it mandatory for applicants to provide an environmental study that shows how matters of occupational health and safety for the staff will be handled before the licence is issued.
- Although the mining regulations have given the Director of Mine Safety powers to close or suspend mining operations on account of safety or health, the law has not given the Director Mines Safety any powers to cancel the mining rights.
- The MSD had experienced high staff turnover which had impacted negatively on the inspections. Despite MSD facing the challenge of inadequate personnel to conduct safety inspections, the Act does not give powers to the Director of Mine Safety Department to appoint external or private inspectors to carry out safety and healthy inspection on behalf of the Ministry of Mines, Energy and Water Development.

In addition, a review of an article done by Patrick Hayumbu, Thomas G Robinson and Rosa Key-Schwartz further revealed that the Zambian Mining regulations on mass concentration dust exposure limit does not take into account the silica content of the ore dust.⁴⁴

The audit further revealed that as of May 2015, the mining regulations still had not been reviewed to include the silica Mass Concentration Occupation Exposure Limits. The implication is that despite MSD stating that the country virgin rock is high in silica, the law does not provide a standard to safe guard the employees against the amount of silica that they can be exposed to in workplaces.

Further, a scrutiny of data from OSHI revealed that on average, 238 per 100,000 miners and ex-miners acquired Pneumoconiosis (P) and Tuberculosis (TB) at work place annually. Out of the 238 per 100,000 miners and ex-miners, 57 per 100,000 miners and ex-miners representing 24% of certified cases of workplace diseases relate to Pneumoconiosis stage 1 to 3 and Pneumoconiosis plus Tuberculosis per annum. (See paragraph 3.1 (d) above for detail).

c. Fragmentation of Information and Stastics Pertaining to OSH

i. Lack of Central Database

Various institutions deal with occupational health and safety in the country but there is no central place where complete information on occupational health and safety is held. There lacks a 'one stop shop' for information such as total number of injuries or accidents in a year in the country. The relevant Government departments and statutory bodies failed to coordinate information flow during the period under review.

For instance, a review of the 2008 and 2012 labour survey report, the OSHSD register of accidents, the MSD register of accidents and the WCFCB database revealed, the databases contained different dataset and the data categorisation e.g industries was also different. In addition, the data the institutions gather vary significantly, and it is therefore difficult to ascertain the true level of accidents, both fatal and non-fatal. Furthermore, data is compiled in different ways, making it difficult to combine the datasets (for example data on injuries and data on labour workforce).

A review of reportable accidents from the companies against the OSHSD register for accidents revealed that there were inconsistencies in cases that were reported to WCFCB and OSHSD. The case examples include two factories visited namely Scaw Ltd and Universal Mining companies indicated that none of the injury cases were reported to the OSHSD while the cases were reported to WCFCB.

A further review of the ILO report revealed that under reporting of accidents to both OSHSD and MSD appeared high in comparison to the number of accidents often sent to WCFCB. The report stated that, this was due to perceptions, on the

⁴⁴ Article in the International Journal of the environmental and public research published on 30th June 2008 (Cross sectional silica exposure measurements at two Zambian Copper Mines of Nkana and Mufulira.)

part of most employers that such reports may subject them to punitive measures from the enforcement authorities (OSHSD and MSD). On the other hand, the employers reported accident occurrences in their work places to WCFCB because of the motivation for compensation.⁴⁵

It was also observed that although OSHSD was required to record occupational diseases arising from factories, there was no investigation of any industrial disease conducted by OSHSD in the period under review. In addition, there was no record of any baseline study of occupational diseases conducted by OSHSD.

ii. Inadequate System for Registration of Companies

Contrary to the Factories Act, the OSHSD did not maintain a comprehensive register on factories. Consequently, the OSHSD did not have accurate information of occupational safety and health services.

For instance, OSHSD collects information on new factories or closed ones in an adhoc manner during the process of carrying out other inspections. In addition, there is no collaboration with institutions such as Patents and Companies Registration Agency and Zambia Development Agency or even Central Statistical Office in respect of the number of factories registered in Zambia.

Further, the department does not keep inventory of equipment and machinery that factories own hence was unable to tell the extent of the inspection on machinery and equipment they are currently undertaking.

3.3 Sufficiency and Effectiveness of Occupational Safety and Health Inspections

a. Lack of Target and Selection Criteria for Companies to be Inspected

The audit revealed that MSD, OSHI and WCFCB had not set any targets on the number of company inspections that they intended to cover annually between 2011 and 2014. OSHSD on the other hand had no targets for the years 2011 to 2013.

The audit also revealed that OSHSD did not have a clearly laid down criteria for selecting companies for inspection. The department indicated that in selecting a company or area for inspection, consideration was made on how risky the company was in terms of manufacturing , handling of hazardous products such as chemicals and areas where major economic installations have taken place. However, there was no documented risk assessment framework to show which companies had been categorised as risky based on manufacturing , handling of hazardous products such as chemicals and areas where major economic installations have taken place. As such it was difficult to determine the bases for their judgement for selecting companies to be inspected.

b. Limited Number of Inspections

There were limited numbers of inspections conducted by the inspectors from WCFCB, OSHSD, OSHI and MSD. For instance, WCFCB inspected on average eight six (86) out of 15,073 companies registered per annum representing the inspection coverage of 0.45 percent. Out of an average of 1,416 companies registered with OSHSD, the

⁴⁵Chapter 6.5 of the Zambia Country Profile on Occupational Safety and Health, 2012

department inspected an average 272 during the period under review representing an inspection coverage of 19.3 percent.

MSD did not provide information for number of licences issued between 2011 and 2013. However, for the year 2014, MSD inspected 54% of the mining licences issued. In there responses, Ministry of Mines, Energy and water development indicated that most licenced companies are not operational and could not be relied upon for performance measurement. However, no record of updated list of companies inspected by MSD was provided for audit purposes . In the absence of an updated list of companies supposed to be inspected by MSD, it is clear that MSD does not know its portfolio of clients to be inspected. OHSI on the other hand had not carried out any registration of the companies to be inspected while the number of companies inspected was on average 4 per annum. **See Table 10 below.**

Table 12: Occupation Safety and Health Inspections Undertaken

Institution	No. of Companies registered/licenced	No. of Companies Inspected	No. of Companies registered/licenced	No. of Companies Inspected	No. of Companies registered/licenced	No. of Companies Inspected	No. of Companies registered/licenced	No. of Companies Inspected	Average No. of Company Registered/Licensed	Average No. of Inspections
	2011		2012		2013		2014			
WCFCB	11,304	68	15,621	68	18,295	121	20,626	68	16,462	86
OSHI	-	4	-	4	-	4	-	-	-	4
OSHSD	1,385	236	1,406	244	1,412	368	1,496	282	1,425	283
MSD	No information	658	No information	932	No information	699	2,344	1,271		

Source: Respective Government department or statutory body

c. Failure to Carry out Inspections of Fatal and Non Fatal Accidents

According to OSHSD, the department aimed at achieving zero occurrence of work place accidents and so it was required to investigate all accidents whether minor or serious, fatal or non- fatal. However, a review of the annual reports and responses to questionnaire from OSHSD revealed that out of a total of 2,798 cases of occupational accidents that were reported to the department during the period under review, 2,775 accident cases representing 99% were not investigated and control measures were not undertaken. Further, accident cases were not investigated due to inadequate staff

Table 13 : Occupation Safety and Health Inspections Undertaken

Year	Total Number of accidents recorded	Fatal accidents recorded	Fatal accidents inspected	Non fatal accidents recorded	Non Fatal accidents inspected
2011	612	52	0	560	0
2012	726	62	0	664	7
2013	779	99	0	680	8
2014	681	66	0	615	8
Total	2798	279	0	2519	23

Source: OSHSD

d. Inadequate Personnel to Carryout Meaningful Safety and Health Inspections

A review of the establishments and comparisons with the actual staff compliments revealed that all the Government departments and statutory bodies put together had inadequate staff to carry out inspections of workplaces throughout the country. Despite that the total staff establishment was increased in 2013 and 2014 by thirteen (13) inspectors from seventy three (73) in 2011 and 2012, the actual number of inspectors was still below the approved establishment. For instance, the actual number of inspectors was 32 in 2011 and 2012 representing 43.8% of the establishment while in 2013 and 2014 the number of inspectors increased by eight(8) to forty (40) inspectors representing 46.5% which was still below the approved establishment as shown in the Table 11 below.

Table 14 : Number of OSH Inspectors

Institution	Approved Establishment for 2011/12	Actual No. of Inspectors		Approved Establishment for 2013/14	Actual No. of Inspectors	
		2011	2012		2013	2014
MSD	37	13	13	37	19	19
OSHSD*	27	12	12	40	14	14
OSHI	5	3	3	5	3	3
WCFCB	4	4	4	4	4	4
Total	73	32	32	86	40	40

Source: Respective Government department or regulatory body

* The establishment for OSHSD inspectors was increased to 40 from June 2013.⁴⁶

e. Effect of Underfunding on the Inspections of Workplaces

During the period under review, the organisations attending to Occupational Safety and Health were underfunded as shown in Table 14 below

⁴⁶Report on the Restructuring of the Ministry of Labour and Social Securities, June 2013

Table 15 : Funding and Expenditure for MSD and OSHSD

Year	Institution	Budget Amounts K	Actual Released Amounts K	Actual Expenditure Amounts K	Variance Amount K
	MSD				
2011		1,337,837	557,279	557,279	780,558
2012		1,223,300	801,447	801,447	421,853
2013		2,618,100	629,677	629,677	1,988,423
TOTALS		5,179,237	1,988,403	1,988,403	3,190,834
	OSHSD				
2011		2,749,126	2,742,807	2,479,795	6,319
2012		2,842,731	1,927,068	1,506,356	915,663
2013		3,661,508	1,049,842	870,736	2,611,666
TOTALS		9,253,365	5,719,717	4,856,887	3,533,648

Source: Annual reports and budgets/releases

Note: OSHI and WCFCB were adequately funded

As indicated above

- i. The department of OSHSD under the Ministry of Labour received 99% of its funding in 2011. This however, reduced to 67% of its total budgeted amount in 2012 and the situation was further worsened in 2013 when the department received only 28%.

In addition, out of a total amount of K5,719,717 released by Ministry of Finance, 15% was not spent on occupational safety and health activities. This ultimately means that not all funds were used on occupational safety and health activities.

- ii. Mine Safety Department under the Ministry of Mines has also experienced a downward trend in funding from 99% of total budget in 2011 to 28% in 2013.

A review of the questionnaires sent to departments of OSHSD and MSD revealed that the underfunding to both departments compounded by understaffing impacted negatively on the number of inspections that the departments can carry out. For instance MSD stated that more inspections are carried out as a reaction to accidents or incidences that have occurred as planned inspections are in most cases not funded. OSHSD on the other hand has not carried out accident investigation inspections resulting in failure to institute remedial control action on the reported accidents.

f. Inadequate Equipment for Conducting Inspections

The audit revealed that OSHSD and MSD did not have most of the required and modern equipment for carrying out their work to satisfactory levels. Examples of machinery or equipment needed is provided at **Appendix 6**.

Mines Safety Department which is mandated to ensure the safety of all mining areas for employees does not have the necessary equipment to measure the levels of hazards to health of staff working in mining areas such as dust exposure, heat etc. A review of the questionnaire issued to Mine Safety Department revealed that the explosive department for instance, lacked a seismograph machine to measure earth vibrations from blasting processes, machinery to measure detonators (explosives) and their associated parameters such as delays. (Delay is time taken by a detonator to trigger the explosive. This delay time is important in safety to allow an employee to escape to a safe place before the explosion). In addition, the audit has shown in paragraph 3.1(c) that 17 to 42% of deaths in mining companies are caused by fall of ground while 5 to 8% of deaths in mining companies are caused by explosives.

Interviews carried with officials at selected mines revealed that officers were using equipment belonging to Mining companies which they were inspecting. As such, the results could not be relied upon as they could easily be manipulated to suit the client needs so as to avoid being surcharged.

g. Inadequate Systems for Recording Results of Inspections

A review of inspection checklists, inspection reports and interviews conducted with the personnel at OSHSD, MSD, OSHI and WCFCB revealed the following:

h. Inadequate Inspection Framework for Conducting OSH Inspections

The audit revealed that all the Institutions had developed checklists that they use to carry out occupational safety and health inspections. However, the checklist lacked parameters on how to categorise the compliance levels of each company inspected. As such, it was difficult to ascertain how many issues of non compliance or failed test of equipment the relevant institutions uncovered during their inspections and to rank the compliance levels of each company.

In addition, the Government departments and statutory bodies indicated that small companies complied while small companies were in most cases non compliant. However, there was no record to show which companies were compliant or non compliant to OSH standards.

i. Lack of Adequate Measures for Enforcement of Non Compliance to OSH Laws

A review of records at the Government departments and statutory bodies revealed that after an inspection is carried out, an inspection report is issued to the inspected company indicating the areas of weaknesses. However, the inspection reports did not specify the timeframe in which the issues raised were to be addressed. For instance, out of nineteen (19) mining companies that were inspected by MSD, reports in respect of fourteen (14) companies representing 74% did not specify the time frame in which the mining companies were to address anomalies identified. See **Appendix 8**. Like wise, a sample of twenty one (21) factories that were inspected by OSHSD, reports in respect of eighteen (18) companies representing 86% did not specify the time frame within which the companies were required to remedy the OSH problems identified by the inspector. See **Appendix 9** for details.

Furthermore, the audit revealed that follow up inspections are not always done. For instance, at MSD out of nineteen (19) company inspections reviewed, seventeen (17) representing 89% did not have follow up inspection reports. At OSHSD the audit revealed that out of a total of twenty one (21) companies inspected, eighteen (18) factory inspections representing 86% were not followed up to ensure that the anomalies raised were rectified out. See **Appendix 8 and 9** for details.

A further review of records at OSHSD revealed that between 2011 and 2014, there were no records of companies that had been prosecuted or fined for non compliance while two (2) companies had its staff fined and three (3) companies had sections of some operations stopped for non compliance by MSD.

j. Effect of Follow up Inspections and Enforcement of Occupational Safety and Health Standards

Physical inspections were conducted at twenty five (25) companies to assess compliance levels to occupational safety and health regulations. The companies selected were restricted to those that were classified as mining companies under the Mines and Minerals Development Act and factories classified as such under the Factories Act. The following was observed:

i. Lack of Written Workplace Occupational Safety and Health Policy

Out of the twenty-five (25) companies visited, twelve (12) companies representing 48% did not have a written workplace occupational safety and health policy. See **Appendix 10**.

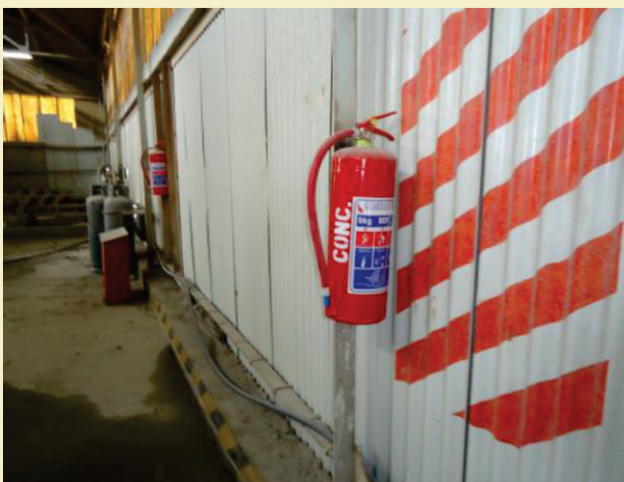
ii. Lack of Dedicated Staff to Manage Workplace Occupational Health and Safety

Out of the twenty five (25) companies visited, twelve (12) companies representing 48% did not have OSH committees to manage occupational safety and health issues at work places. See **Appendix 10**.

Out of the thirteen (13) that had OSH committees, three (3) companies did not maintain minutes of OSH meetings. See **Appendix 10**.

iii. Inadequacies in Fire Protection and Prevention

It was observed that although all companies had firefighting equipment, fire extinguishers for Nitrogen Chemicals of Zambia (NCZ) and Copperbelt Forestry Company (CFC) had expired. In addition, contrary to OSH regulations that require that the fire extinguishers are mounted in areas easy to access, CFC had their portable fire fighting equipment gathered in one place outside instead of being mounted at strategic points in the factory. See pictures below



Fire extinguishers appropriately raised Approx. 1.2 m above ground - Mopani Copper Mine Mufulira



Fire extinguishers gathered in one place outside instead of being mounted at strategic points in the factory for easy access - Copperbelt Forestry Company

Out of twenty five (25) companies visited, ten (10) representing 40% had no fire alarms. It was also observed that Kariba Textiles and CFC's alarms were used for lunch and other work breaks but not as a fire alarm. See **Appendix 11** for details.

Furthermore, six (6) companies representing 24% had no emergency exits while emergency exits at sixteen (16) companies representing 64% were not clearly marked. See Appendix 11.

Eighteen (18) companies representing 72% had not conducted any fire drills to prepare the staff on how to respond to fire outbreak. In addition, it was observed that 56% of the companies actually had flammable materials on site. See Appendix 11.

It was also observed that Fine Steel stored their Liquefied Petroleum Gas (LPG) canisters near the kitchen area as shown in the picture below.



LPG and Oxygen Gas Bottles next to an area used as canteen at Fine Steel-Kabwe

iv. Weaknesses in the Provision of Personal Protective Clothing

Out of the twenty five (25) companies visited, eight (8) representing 32% did not provide appropriate protective clothing to staff. In addition, out of the seventeen (17) companies representing 68% that provided protective clothing to staff, seven (7) companies had employees not wearing the appropriate protective clothing. See **Appendix 13**.



Employee with no safety boots, no hard hat and no working suit-Copperbelt Forestry Factory



Employee welding without eye protection-Fine Steel Ltd



Staff not wearing protective shoes - Lusaka Brick Factory



Worker seen applying glue to insole without the required PPE - Lasting Dept at Copperbelt Shoes



Workers in a hard hat area without hard hats: The forklift lifting steel over their heads at Kafue Steel Company



Worker who stuffed his ears with toilet tissue as earplug at Scaw Ltd - Forging Area



Staff handling hot iron manually without proper heat resistant protective clothing - Fine Steel



Foot for one of the Employees without proper protective shoes - Fine Steel

Further, interviews held with the Occupation Health and Safety Officer from the Mineworkers Union of Zambia (MUZ) with a view to ascertain whether they carried out any sensitisation of their members on the importance of using protective clothing revealed that, although the members were sensitised, the sensitisation was not effective in that supervisors in most cases were not unionised workers in various mining companies and did not take part in the sensitisation programmes. MUZ stated that for sensitisation to be effective, Managers in the mines need to go through sensitisation process as well.

v. Provision of First Aid and Training of First Aiders

Although eighteen (18) out of twenty five (25) companies had enhanced their first aid facilities by providing a clinic for their staff and all the twenty five (25) companies had first aid boxes in place, the audit revealed that the first aid boxes for twenty four (24) Companies did not have a standard content list to provide a breakdown of the content of the box despite the law providing the standard content of a first aid box. **Appendix 12.**

Enquiries made as to why this was so revealed that the inspectors from MSD and OSHSD did not provide the companies with a standard list of what should be contained in the first aid boxes. As such, each company filled the first aid boxes based on what they considered ideal.

Seven (7) companies representing 28% of the companies visited neither had trained First Aiders nor clinics to prepare and treat workplace injuries. **Appendix 12**

vi. Other Occupational Health and Hygiene Factors at Workplaces

The workplaces visited had working shifts ranging from 8 to 12 hours. However, eight (8) out of twenty five (25) companies visited did not provide rest periods to their staff, a condition that may cause workplace accidents due to staff being exhausted. See **Appendix 13**.

Three (3) companies namely Oriental Quarries Ltd, Supersonic Sawmills Ltd and Lusaka Brick Factory did not provide change rooms for its staff while Copperbelt Forestry Company did not provide showers. Two (2) companies namely Fine Steel and Supersonic Sawmills Ltd's sanitary conviniences were in a deplorable state and needed rehabilitation and thorough cleaning.

Although the law requires that employers provide lockers for its staff, seven(7) companies did not do so. See **Appendix 13** and pictures below:



Staff lockers provided at Mopani Mufulira Mine



Dilapidated toilet - Fine Steel

Furthermore, the audit revealed that seven (7) companies had working environment which were generally poor in that they did not provide gang ways and walk ways. In addition, the working environment for Copperbelt Forestry Company, Fine steel and Lusaka Brick Factory at the kiln and the block moulding section had unsafe working environments as shown in the pictures below.



No pathways or gangways, no concrete floors. Scattered metals on pathway that may cause staff to stumble - Furnace Section at Fine Steel



Unsafe walkways, planks not properly fitted on top of a hole - Copperbelt Forest Company



Unsafe working environment - unguarded plank used as workstation by an employee feeding soil and coal to brick molding machine-Lusaka Brick Factory



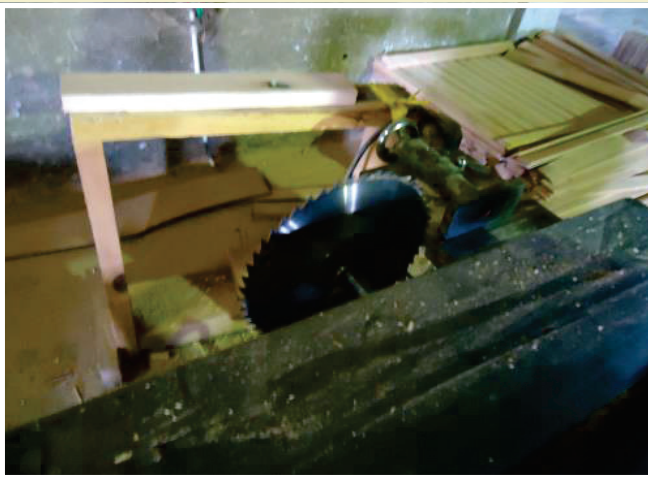
Unsafe working environment – Worn out roofing sheets on top of the kiln where staff stand to feed coal in kilns-Lusaka Brick Factory.



Unsafe working environment - a worker found working on top of the kiln-Lusaka Brick Factory

vii. Examination of Machinery, Pressure Vessels and Lifting Equipment

The audit revealed that despite the law stating that every flywheel directly connected to any prime mover and every moving part of any prime mover shall be securely fenced, whether the flywheel or prime movers is situated in an engine house or not, two companies had their machinery not properly guarded or fenced as shown in the pictures below.



Unsafe working environment-Unguarded machinery - Copperbelt Forestry Company



Unsafe working environment - Use of unguarded machinery - Supersonic Sawmills in Livingstone

The audit further revealed that steam boilers at Choma Milling Ltd, Copperbelt Forestry Company, and Nitrogen Chemicals of Zambia had not been inspected by OSHSD and consequently had no valid certificate of inspection contrary to section 55(3) of the Factories Act that required that every steam boilers and all its fittings and attachments are thoroughly examined by an inspector or other person authorised by the Commissioner at intervals not exceeding eighteen months. At FINTA Ltd, although the inspection had been conducted, the inspector did not issue a test certificate to the Company.

It was also observed that lifting machinery such as folk lifts, cranes and pulleys at Fine Steel, FVG and Kariba Textiles had not been inspected and had no valid test certificates from OSHSD.

Inquiries made from the companies to establish why the steam boilers and lifting equipment had not been inspected revealed that this was so as they were awaiting inspectors from OSHSD to inspected the equipment. As such, there was no guarantee that the steam boilers and the lifting equipment in question were safe to operate. In addition, Government was losing revenue as a result of failure to inspect the factory equipment such as steam boilers and or air receivers.

viii. Companies Not Paying Workers' Compensation Contributions

An analysis of information from the Workers' Compensation Fund and Control Board revealed that although the numbers of companies registered with the Board increased from 11,304 in 2011 to 20,626 in 2014, the number of companies that were complying was still low ranging from 47.6% to 49.3% during the period from 2011 to 2013 as can be seen in the Table 13 below:

Table 16: No. of Companies Paying Worker's Compensation to WCFCB

Year	2011	2012	2013	2014	Average
No. of companies registered for compensation	11,304	15,621	18,295	20,626	16,462
No. of companies complying in paying compensation assessment	5,379	7,581	9,012		7,324
Total compensation assessment paid by companies	102,408,818	137,306,047	144,371,550		128,028,805
Compliance rate (%)	47.58	48.53	49.26		48

Source: WCFCB

4. CONCLUSIONS



Workplace accidents often cause injuries that may leave an employee incapacitated and in some cases may lead to death. A work place injury has the potential to affect an employee's quality of life, job security, career opportunity and progression, income and may cause post-traumatic stress among others.

Death of an employee on the other hand has the potential to affect the business and Country's economy in terms of lost manpower and productive man hours among others. Death of an employee who is also a bread winner may lead to poverty for surviving spouses, children and other dependants thereby increasing the Government's burden on poverty reduction.

Therefore, Government's interventions to regulate occupational safety and health are necessary to reduce or eliminate the occurrence of workplace injuries, death and diseases that may arise and their negative effects. The findings above help us to draw the following conclusions

4.1 The Extent of Occupational Diseases, Injuries and Deaths in the Country

The audit has revealed that the workplace fatalities in various industries had increased from 67 cases in 2011 to 127 cases in 2014 representing an increase of 65%. Nonfatal injuries increased from 312 in 2011 to 1003 in 2014 representing a rise of 221%. The industry that recorded the highest number of workplace injuries and deaths was the mining and quarrying industry which accounted for 15.7% of the total fatal injuries and 17.3% of the total non fatal workplace injuries in the period under review.

The audit also revealed that although there was a downward trend in occupational diseases from 2011 to 2013, the levels of occupational diseases was still high. On average 238 per 100,000 miners and ex-miners acquired pneumoconiosis and tuberculosis at workplace in mining companies. It is also estimated that a minimum of 64,128 working hours were lost in the period under review due to workplace injuries.

Furthermore, the amount that Government was paying in compensation claims arising from workplace injuries and death had increased by 66% from K10,072,000 in 2011 to K16,704,000 in 2014. On average there were 19,931 beneficiaries to the compensation claims of which 12,078 were pensioners or injured employees, 5,029 were widows and 2,824 were children of the deceased employees.

4.2 Non Availability of Efficient National Policies, Legislative and Implementation Frameworks

The Government has failed to put in place a Comprehensive National Policy that encompasses the international and regional conventions, protocols and treaties that Government itself has signed and ratified. Government developed piece meal policies on safety and health in the health, labour and mining sectors whose implementation is not coordinated. The implication is that occupational safety and health interventions are being implemented haphazardly with no clear direction as to what is supposed to be achieved at the national level.

Secondly, although all the four (4) institutions audited had strategic plans, there were weaknesses in the implementation of the plans. For instance, despite OSHI having a strategic plan covering the period from 2009 to 2014, as of May 2015 the strategic plan had not been implemented. The WCFCB had a strategic plan that it had implemented, reviewed and updated but the strategic plan had no direct strategies on how OSH issues were to be implemented while the strategic plan for OSHSD only became operational in April 2015. Likewise MSD had a strategic plan that did not have direct strategies on the management of occupational safety and health.

Finally, Zambia has multiple laws that are regulating occupational safety and health. However, the multiple laws have weaknesses in managing occupational safety and health effectively. Apart from not domesticating the signed and ratified international protocols, treaties and conventions into the National Policy, the relevant laws had also not been updated. For instance, the current laws are incompatible with the ILO standards in that they lack formal stipulation to cover commuting accidents among others.

The audit has also revealed that the multiple laws have resulted into some degree of overlaps in the functions of the organisations enforcing the laws such as notification and reporting of fatal and nonfatal accidents and duplications in occupational safety and health inspections.

4.3 Sufficiency and Effectiveness of Inspections Relating to Occupational Safety and Health.

The audit revealed that all the four (4) institutions that were administering occupational safety and health had inadequate staff, funding and equipment to conduct effective monitoring of occupational safety and health in workplaces. For instance, the total number of inspectors as per approved staff establishments for the four (4) institutions in 2014 was eighty six (86) inspectors. However, only forty (40) inspectors were available representing 46.5% to cover the growing number of workplaces in the country which according to WCFCB database stood at 20,626 workplaces in 2014.

The funding for OSHSD and MSD had both reduced from 99% in 2011 to 28% in 2013. In fact, the audit revealed that the occupational safety and health inspections conducted by MSD were very limited and reactive instead of being proactive to managing occupational safety and health issues in that in most cases they were responding to a crisis such as an accident. On the other hand OSHSD, conducted very little investigative and follow up inspections to ensure that remedial action was taken in respect of accidents that had occurred.

Finally, there was lack of coordination among the institutions managing occupational safety and health. OSHSD lack a proper system of registration of Factories. In addition, all the regulating institutions lacked a centralised and systematic system for reporting and recording occupational health and safety incidences resulting in inconsistencies in the reporting of workplace accidents.

Based on the issues raised above, it is clear that the relevant ministries have not prioritised the management of occupational safety and health.

The audit has revealed that some of the companies visited are not adhering to occupational safety and health requirements. For instance 48% of the companies had no written down workplace occupational safety and health policy. The cause for this failure was that Government itself had no Comprehensive National Policy and the regulatory framework was also weak in providing guidance at a National Level. Most of the companies that had

policies in place were simply following international best practice and not the national regulations.

Furthermore, 48% of the institutions visited had no committees in place to discuss and manage OSH issues while 60% of the companies visited had no minutes of OSH meetings.

Fire protection and prevention was also not effective in that some companies had expired firefighting equipment. 40% had no fire alarms, 24% had no emergency exits while 64% had their emergency exits not clearly marked. In addition, 72% of the companies had not conducted fire drills despite 56% of the companies having chemicals and flammable materials in their custody.

Provision of personal protective clothing (PPE) was also weak as 32% of the companies did not provide PPE. Out of the 68% that provided PPE, various weaknesses were observed such as employees not wearing the protective clothing provided and some protective clothing was not adequate to guard against hazards.

The working environments in some companies visited could not guarantee safety and health of staff. For instance, workers were not given breaks or rest periods, a condition that may cause fatigue in workers resulting in them being prone to accidents. Although the law requires that toilets, showers and lockers are provided, some companies did not provide lockers while in some companies the toilets were in a deplorable state. Some walkways and gangways were not clearly identified which could result in staff stumbling and sustaining injuries. Some machinery with sharp objects were also not properly guarded which could result in staff being injured in case of an accident.

Some of the causes are inadequate inspections, failure to institute penalties and poor working attitudes for both staff and employers arising from lack of sensitisation of the dangers of failure to manage occupational safety and health. In addition, the policy and regulatory framework is also weak.

Therefore, the effectiveness of the interventions that Government has put in place to manage the occupational safety and health are weak.

5. RECOMMENDATIONS



Based on the findings above, the following are recommended:

- 5.1** The Ministry of Labour and Social Security in collaboration with the Ministry of Health, the Ministry of Mines, Energy and Water Development, Trade Unions and other relevant stakeholders should formulate the Comprehensive National Policy on occupational safety and health. The policy drawn should address the issues raised in Articles 4 to 7 of the ILO Occupational Safety and Health Convention No. C155 such as spelling out clearly the institution(s) that are responsible for Occupational Safety and Health and the roles that other players will play. The roles should not be duplicated and overlapping. Where possible merging of some functions should be considered.
- 5.2 The Ministry of Labour and Social Security, the Ministry of Health and the Ministry of Mines, Energy and Water Development should:**
- Develop goals and strategies on how to address OSH issues. The goals and strategies should clearly spell out the implementation agency and monitoring and evaluation of the implemented strategies should be conducted. Where need arises the ministries should develop Memoranda of Understanding (MOU) on how they intend to collaborate on the management of OSH issues.
 - Review their laws streamlining the overlaps and duplications on the management of occupational safety and health. Where need arises new laws could be developed to deal with OSH issues. The law(s) should have adequate regulations that workplaces can follow. The institution(s) to administer the law(s) should be carefully identified. Some of the areas that could be considered include the reversal of Part VI of the Workers Compensation Act No. 10 of 1999 Cap 271 to Occupation and Safety Act No. 36 of 2010.
 - Consider developing a one stop shop for notification and reporting of occupational accidents and incidences. The notification and reporting mechanism should take into account the requirements of ILO standards.
 - Provide inspectors, funding and equipment for implementation of the identified strategies and to carry out inspections of the companies. Inspections should also not be duplicated to ensure maximisation of resource utilisation.
 - Ensure that workplaces comply with the laid down regulations. Where need arises, punitive measures should be instituted stringently to ensure adherence to set regulations.
 - In collaboration with trade unions, conduct sensitisation to employees on the importance of adhering to safety and health standards. The sensitisation should include top management (employers) in various organisations on the management of OSH issues. The Ministries should consider embedding in the schools, colleges and universities' curriculum the importance of occupational safety and health to instil safety and health awareness at an early age in would be employees and employers.



Commuting accident means an accident occurring on the direct way between the place of work and;

- (1) The workers principal or secondary residence
- (2) The place where the worker usually takes his/her meals
- (3) The place where the worker usually receives his/her remuneration. Including traffic accidents in which a worker(s) are involved during working hours and which occur in the course of paid work.

Employee/ worker means;

- (1) any person who works for another person, whether incorporated or not, or for a government agency, and receives, or is entitled to receive, any remuneration.
- (2) any other person who in any manner assists in carrying on or conducting the business of an employer.

Employer means any person;

- (1) who employs or provides work for another person and who remunerates or expressly or tacitly undertakes to remunerate that other person,
- (2) who permits any other person in any manner to assist in the carrying on or conducting of the person's business, including any person acting on behalf of or on the authority of such employers.

Factory means workplace as defined by section 2 of the Factories Act chapter 441 of the Laws of Zambia.

Mine means surface or underground sites where;

- (1) Exploration and extraction for mineral, excluding oil and gas that involves mechanical disturbance of the ground
- (2) Preparation including crushing, grinding, concentration or washing of the extracted materials
- (3) All machinery, equipment, appliance, plant buildings and civil engineering structures used in conjunction with the activities referred to (1) and (2) above.

National Policy refers to the national policy on occupational safety and health and working environment developed in accordance with the principles of article 4 of the ILO Occupational Safety and Health Convention No. 155 of 1981.

Occupation means any employment, business, calling, pursuit, vocation or profession.

Occupational accident means an event;

- (1) involving the death of any employee or causes loss of life to an employed person
- (2) that disables any person for more than three days from earning full wages for the work for which he/she was employed.
- (3) that is a dangerous or unexpected occurrence that is likely to cause injury or damage to both personnel and equipment.

Occupational disease means a disease contracted or suffered as a result of one's employment. It includes physical and mental elements affecting health which are directly related to safety and hygiene at work.

Occupational hygiene means the physical conditions, agents, materials or substances present in a working or community environment, which may cause sickness, impaired health and well being, or significant discomfort and inefficiency among employees or among other persons.

Occupational injury - means an injury suffered as a result of one's employment

Regulations means all provisions given force of the law by the competent authority or authorities.

Work place means any place where an individual or group of employees work, or are likely to work or are likely to frequent in the course of their employment or incidental to their employment.



Appendix 1: Description of Roles and Responsibilities of Key Stakeholders

1. The Ministry of Labour and Social Security (MLSS)

The Ministry is divided into six departments and one unit as shown below:

a. Social Security Department

The Department of Social Security derives its mandate from the Government Gazette Notice Number 46 of January 24 1992 which directed the Ministry to be responsible for matters pertaining to Social Security in the Country. The specific functions of the department include:

- i. Formulation of appropriate social security policies,
- ii. Monitoring and evaluation of social security schemes,
- iii. Coordination of effective development and application of appropriate social security research,
- iv. Undertaking effective development and application of appropriate social security awareness programmes, and
- v. Maintenance of an effective social security information system.

b. Labour Department

The Labour Department through the Ministry of Labour and Social Security (MLSS) has been given the mandate to provide the policy and legal framework on administration and management of working conditions for workers. This Department administers and enforces wages, employment and industrial relations laws, mitigates in promotion and maintenance of Industrial peace and harmony; settlement of disputes pertaining to Industrial and Labour relations matters, as well as ensuring that there is full protection of workers and employers' rights, in a safe working environment through inter alia Labour Inspections. The Department comprises three units namely Industrial Relations, Labour Inspection and Employment Units.

c. Planning and Research Department

The Planning and Research department is headed by Director and has two functional sections, each supervised by a Principal Planner. The Sections are Policy and Research; and Budget and Planning.

The Planning and research department forms the centre of the ministerial operations through managing and coordinating all the ministerial programmes and activities. In addition the planning and research department is charged with the responsibility of facilitating the review of legislation and developing Government policy on employment, labour and occupational safety and health.

d. The Human Resource Department

The Department of HRA is headed by a Director and has two functional sections and a unit namely, Human Resources and Administration, and Accounts Unit. The Department of HRA is mandated to perform the following functions namely:

- i. Coordinating training activities,
- ii. Coordinating the implementation of the Performance Management Package,
- iii. Coordinating and mainstreaming HIV/AIDS activities in the Ministry,
- iv. Human Resource planning, providing administrative and logistical support to the Ministry.

2. Employers Organisations in Zambia

The employers in Zambia include:

a. The Zambia Federation of Employers

The Zambia Federation of Employers (ZFE) is the main umbrella organisation for employers in Zambia. It was established in 1966 for the purpose of promoting and protecting the interest of employers.

The role of ZFE has been organising awareness i.e raising and training programmes in occupational safety and health for its members.

The duties of the employer are spelt out in Part III of the Occupational Safety and Health Act no. 36 of 2010, and are as follows:

- i. Establish a health and safety committee where he/she employs ten or more persons.
- ii. Ensure health, safety and welfare of employees.
- iii. Provide plant and systems of work that are safe and without any risks to human health and maintain them in that condition.
- iv. Ensure that articles, devices, items and substances provided for the use of employees at a work place are used, handled, stored and transported in a manner that is safe and without risk to the health and safety of the employees at the workplace.
- v. Provide such information, instruction, training and supervision as is necessary to ensure health and safety of employees at their workplaces.
- vi. Maintain a workplace under the employer's control, in condition that is safe and without any risk to the health and safety of employees at their workplace.
- vii. Provide and maintain the means of access to, or exit from, a workplace that are safe and without any risk to the health and safety of the employees using it.
- viii. Provide and maintain a working environment for the employees that is safe and without any risk to their health and safety which is adequate as regards facilities and arrangements for their welfare at the workplace.
- ix. Inform and consult with a health and safety representative on various OSH issues.
- x. Provide for measures to deal with emergencies and accidents, including first aid arrangements.
- xi. Provide at the employer's expense all protective clothing and equipment to be used in the workplace by employees, who in the course of employment, are likely to be exposed to the risk of bodily injuries and adequate instructions in the use of such protective clothing or equipment.

3. The Workers Organizations in Zambia

There are two national mother bodies representing the workers in Zambia namely the Federation of Free Trade Unions of Zambia (FFTUZ) and Zambia Congress of Trade Union (ZCTU).

a. Federation of Free Trade Unions of Zambia⁴⁷

The FFTUZ was registered in 1998 and presently has twelve (12) affiliates trade unions. Being a representative organisation for workers, FFTUZ is always represented on the national tripartite consultative labour council.

It has committed itself to safeguarding and promoting the safety and health of workers in its organisational objectives.

b. Zambia Congress of Trade Union⁴⁸

ZCTU was established in 1965. ZCTU has committed itself to the promotion and protection of rights of workers in Zambia. Its objectives are:

- i. To lobby Government to ratify relevant international treaties, formulate a national OSH policy, to enact, review and update legislative framework.
- ii. To mainstream OSH issues in collective bargaining process.
- iii. To spearhead formation of OSH workplace committees through which information can be communicated.
- iv. To foster the involvement of workers representatives and management in OSH inspections, monitoring and audits.
- v. To promote research related to OSH issues, and
- vi. To develop and implement OSH education and training programmes.

ZCTU has thirty two (32) affiliate national unions including Mineworkers Union of Zambia (MUZ)

c. Mineworkers Union of Zambia (MUZ)

The Mineworkers union of Zambia (MUZ) has been in existence in the mining sector since the commencement of mining and industrialization in the late 1920s and early 1930s. It has been offering industrial relations with mining companies and tripartite consultations with the Government on matters affecting the mining industry and the nation as a whole. The MUZ has also assisted in handling collective bargaining on Occupational health and safety in mine operations. It is also affiliated to the International Federation for Chemical, Energy, Mine and General Workers' Union. The values and objectives of the Mineworkers union of Zambia include:

- i. Obtain and maintain among others just and proper hours of work and other conditions of labour
- ii. To protect and promote the interests of members.
- iii. Regulate the relations and to settle disputes among members and their employers.
- iv. Secure the promotion of legislation in the interests of the members, and
- v. Provide for its members the following benefits:

⁴⁷Zambia Country Profile in Safety and Occupational Health of 2012

⁴⁸Zambia Country Profile in Safety and Occupational Health of 2012

- Relief in sickness, accidents, disablement, distress, unemployment, victimisation or trade disputes,
- Offer Legal advice and other legal assistance to its members, and
- Funeral expenses in respect of deceased members; where there is no assistance from the employers.

The duties of the employees are spelt out in the Occupational and Safety Act of 2010, Part IV and include the follows:

- Take reasonable care of the employee's own health and safety and that of other persons who may be affected by the employee's acts or omissions at the workplace.
- Not to operate any machine or engage in a process which is unsafe or is an imminent risk to the employee's own health and safety and that of others.
- Cooperate with the employer or any other person in relation to any duty imposed on the employer or that other person, so far as it is necessary to enable that duty or requirement to be performed or complied with.
- Where an employee has reasonable grounds to believe that any item, device, article, plant or substance, condition or aspect of the workplace is or may be dangerous to the employees' occupational health and safety at or near the workplace, the employee shall immediately inform the employer and the committee or health and safety representative.

4. International Labour Organisation (ILO)

The ILO was created in 1919, as part of the Treaty of Versailles that ended World War I. According to ILO, the areas of improvement included among others the following;

- Protection of the worker against sickness, disease and injury arising out of his employment;
- Regulation of the hours of work including the establishment of a maximum working day and week; and
- Provision for old age, injury and protection of the interests of the workers;

It helps advance the creation of decent work and the economic and working conditions that give working people and business people a stake in lasting peace, prosperity and progress. Its objectives includes:

- To ensure that it serves the needs of working women and men by bringing together governments, employers and workers in order to set labour standards, develop policies and devise programmes.
- To ensures that the views of the social partners are closely reflected in ILO labour standards, policies and programmes.
- It encourages tripartism by promoting a social dialogue between trade unions and employers in formulating, and where appropriate, implementing national policy on social, economic, and many other issues.

Appendix 2: List of Other Respondents to Questionnaires and/or Interviews

OSHSD

1. Director Occupational Safety and Health
2. Director Human Resource and Administration
3. Chief Inspector of Factories – Mechanical and engineering
4. Chief Inspector of Factories – Construction
5. Chief Inspector of Factories – Occupational hygiene
6. Senior Inspector of Factories - Livingstone
7. Senior Inspector of Factories – Ndola
8. Boiler Inspector – Kitwe
9. Accountant

MSD/MMEWD

1. Permanent Secretary-MMEWD
2. Director Mine Safety
3. Chief Inspector Mines
4. Senior Inspector Mining
5. Inspector explosives

OSHI

1. Director General
2. Deputy Director
3. Human Resource Manager
4. Director Finance
5. Occupational Hygiene
6. Revenue Manager

WCFCB

1. Director General
2. Director Legal
3. Director Benefits
4. Occupational Safety and Health Manager

MUZ

1. Occupational Health Director

Appendix 3: List of Workplaces Visited and Interviewees

	Location	Name of Factory	Interviewees
1.	Livingstone	FINTA Farm Ltd	1. Factory Manager
2.	Livingstone	Kariba Textiles Ltd	2. Managing Director 3. Human Resource Director 4. OSH committee chairperson 5. OSH committee secretary
3.	Livingstone	Musanza Breweries Ltd & Milling	6. Managing Director
4.	Livingstone	Super Sonic Sawmills Ltd	7. Marketing Manager 8. Production Manager
5.	Choma	Choma Milling Ltd	9. Managing Director 10. Accountant 11. Union member 12. Factory Manager
6.	Maamba	Maamba Mine Collieries	13. CEO 14. OSH committee member 15. Human Resource 16. Administration Officer

7.	Kafue	Kafue Steel Company Ltd (Universal Mining)	17. Technical Director 18. OSH Manager 19. HR Director 20. Union Member
8.	Kafue	Nitrogen Chemicals of Zambia	21. Chief Executive Officer
9.	Kabwe	Fine steel Ltd	22. Operations Manager
10.	Kabwe	FVG Milling Ltd	23. Acting Production Manager 24. Secretary of the Employees Union
11.	Ndola	Lafarge Ndola	25. Methods Manager 26. Maintenance Manager 27. Clinical Officer
12.	Ndola	Ashwas Industries	28. General Manager
13.	Ndola	Copperbelt shoes	29. Operations Manager 30. Production Manager 31. Accountant
14.	Kitwe	Mopani Nkana	32. OSH Manager

				33. Human Resource Manager
				34. Production Manager
15.	Kitwe	Scaw Ltd		35. Marketing & Business Dev Mngr.
				36. Works Manager
				37. Safety Officer
				38. Nurse
16.	Kitwe	Copperbelt Company	Forestry	39. Managing Director
17.	Mufulira	African Explosives		40.
18.	Mufulira	Mopani Mufulira		41. Health Safety and Environmental Manager
19.	Kalulushi	Chibuluma Mine		42. Concentrator Supritendant
20.	Lusaka	Lusaka Brick Factory		43. Factory Foreman
21.	Lusaka	Zambian Breweries		44. Site Services Controller/Safety Health Environmental Officer
				45. Safety Manager
				46. Plant Manager
				47. Union Representative
22	Lusaka	Oriental Quarries		48. Works Manager
				49. Human Resource

			50. Union Representative
23	Lusaka	Trade Kings	51. Director Operations
24	Lusaka	Pamalat (Z) Ltd	52. Plant Manager 53. Safety Officer 54. Chairperson of Union 55. Union Representative
25	Lusaka	Heinrich Beverages	56. Plant manager 57. Risk Manager 58. Union Representative

Appendix 4: Factories Act and Mining Regulations Administered by OSHSD and MSD

1. Factories Act Regulations

- The construction (safety and health) Regulations, 1967;
- The Factories (Electricity) Regulations 1967;
- The Woodworking Machinery Regulations No. 253 of 1967;
- The Factories (Plant Inspection and Examination fees) Regulations, 1967;
- The (First Aid)(Prescribing Standard of Training) Regulations SI No. 152 of 1967,
- The Factories (Benzene) Regulations, 1978;
- The Factories (Cleanliness of Walls and Ceiling) Regulations No. 153 of 1967;
- The Factories (Prescribed Particulars and Forms) Regulations;
- The Factories (Appeals to the board) Rules, SI No. 382 of 1968, and
- The Factories Construction (Safety and Health) Regulations –Register of Hoist, Lifting Machines and Lifting Tackle, SI No. 119 of 1968

2. Mining Regulations

- The Statutory Instrument No. 107 of 1971, Mining Regulations
- The Statutory Instrument No. 95 of 1973, Mining Regulations amended, and
- The Explosives Act Cap 115 with its related explosive regulations
- Statutory Instruments No. 29 of 1997 – The Mines and Minerals Act (Environmental Regulations),
- Statutory Instruments No. 102 of 1998 – The Mines and Mineral Regulations, Vol. 13 Cap 213.

Appendix 5: List of ILO Conventions Signed and Ratified by Zambia

Fundamental

	Convention	Date	Status	Note
1	C029 - Forced Labour Convention, 1930 (No. 29)	02 Dec 1964	In Force	
2	C087 - Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)	02 Sep 1996	In Force	
3	C098 - Right to Organise and Collective Bargaining Convention, 1949 (No. 98)	02 Sep 1996	In Force	
4	C100 - Equal Remuneration Convention, 1951 (No. 100)	20 Jun 1972	In Force	
5	C105 - Abolition of Forced Labour Convention, 1957 (No. 105)	22 Feb 1965	In Force	
6	C111 - Discrimination (Employment and Occupation) Convention, 1958 (No. 111)	23 Oct 1979	In Force	
7	C138 - Minimum Age Convention, 1973 (No. 138) <i>Minimum age specified: 15 years</i>	09 Feb 1976	In Force	
8	C182 - Worst Forms of Child Labour Convention, 1999 (No. 182)	10 Dec 2001	In Force	

Governance (Priority)

	Convention	Date	Status	Note
9	C081 - Labour Inspection Convention, 1947 (No. 81)	23 Dec 2013	In Force	OSH related
10	C122 - Employment Policy Convention, 1964 (No. 122)	23 Oct 1979	In Force	OSH related
11	C129 - Labour Inspection (Agriculture) Convention, 1969 (No. 129)	23 Dec 2013	In Force	OSH related

	Convention	Date	Status	Note
12	C144 - Tripartite Consultation (International Labour Standards) Convention, 1976 (No. 144)	04 Dec 1978	In Force	OSH related

Technical

	Convention	Date	Status	Note
13	C005 - Minimum Age (Industry) Convention, 1919 (No. 5)	02 Dec 1964	Not in force	Automatic Denunciation on 09 Feb 1977 by convention C138
14	C011 - Right of Association (Agriculture) Convention, 1921 (No. 11)	02 Dec 1964	In Force	
15	C012 - Workmen's Compensation (Agriculture) Convention, 1921 (No. 12)	02 Dec 1964	In Force	OSH related
16	C017 - Workmen's Compensation (Accidents) Convention, 1925 (No. 17)	02 Dec 1964	In Force	OSH related
17	C018 - Workmen's Compensation (Occupational Diseases) Convention, 1925 (No. 18)	22 Feb 1965	In Force	OSH related
18	C019 - Equality of Treatment (Accident Compensation) Convention, 1925 (No. 19)	02 Dec 1964	In Force	OSH related
19	C026 - Minimum Wage-Fixing Machinery Convention, 1928 (No. 26)	02 Dec 1964	In Force	
20	C045 - Underground Work (Women) Convention, 1935 (No. 45)	02 Dec 1964	Not in force	Denounced on 03 Mar 1998
21	C050 - Recruiting of Indigenous Workers Convention, 1936 (No. 50)	02 Dec 1964	In Force	
22	C064 - Contracts of Employment (Indigenous Workers) Convention, 1939	02 Dec 1964	In Force	

	Convention	Date	Status	Note
	(No. 64)			
23	C065 - Penal Sanctions (Indigenous Workers) Convention, 1939 (No. 65)	02 Dec 1964	In Force	
24	C086 - Contracts of Employment (Indigenous Workers) Convention, 1947 (No. 86)	02 Dec 1964	In Force	
25	C089 - Night Work (Women) Convention (Revised), 1948 (No. 89)	22 Feb 1965	Not in force	Denounced on 10 Sep 2001
26	C095 - Protection of Wages Convention, 1949 (No. 95) <i>Excluding Article 11 by virtue of the ratification of Convention No. 173 (acceptance of Part II)</i>	23 Oct 1979	In Force	
27	C097 - Migration for Employment Convention (Revised), 1949 (No. 97) <i>Has excluded the provisions of Annexes I to III</i>	02 Dec 1964	In Force	
28	C099 - Minimum Wage Fixing Machinery (Agriculture) Convention, 1951 (No. 99)	20 Jun 1972	In Force	
29	C103 - Maternity Protection Convention (Revised), 1952 (No. 103)	23 Oct 1979	In Force	
30	C117 - Social Policy (Basic Aims and Standards) Convention, 1962 (No. 117)	02 Dec 1964	In Force	
31	C123 - Minimum Age (Underground Work) Convention, 1965 (No. 123)	03 Apr 1967	Not in force	Automatic Denunciation on 09 Feb 1977 by convention C138
32	C124 - Medical Examination of Young Persons (Underground Work) Convention, 1965 (No. 124)	10 Mar 1967	In Force	OSH related

	Convention	Date	Status	Note
33	C131 - Minimum Wage Fixing Convention, 1970 (No. 131)	20 Jun 1972	In Force	
34	C135 - Workers' Representatives Convention, 1971 (No. 135)	24 May 1973	In Force	OSH related
35	C136 - Benzene Convention, 1971 (No. 136)	24 May 1973	In Force	OSH related
36	C141 - Rural Workers' Organisations Convention, 1975 (No. 141)	04 Dec 1978	In Force	
37	C148 - Working Environment (Air Pollution, Noise and Vibration) Convention, 1977 (No. 148)	19 Aug 1980	In Force	OSH related
38	C149 - Nursing Personnel Convention, 1977 (No. 149)	19 Aug 1980	In Force	
39	C150 - Labour Administration Convention, 1978 (No. 150)	19 Aug 1980	In Force	
40	C151 - Labour Relations (Public Service) Convention, 1978 (No. 151)	19 Aug 1980	In Force	
41	C154 - Collective Bargaining Convention, 1981 (No. 154)	04 Feb 1986	In Force	
42	C155 - Occupational Safety and Health Convention, 1981 (No. 155)	23 Dec 2013	In Force	OSH related
43	C158 - Termination of Employment Convention, 1982 (No. 158)	09 Feb 1990	In Force	
44	C159 - Vocational Rehabilitation and Employment (Disabled Persons) Convention, 1983 (No. 159)	05 Jan 1989	In Force	OSH related
45	C173 - Protection of Workers' Claims (Employer's Insolvency) Convention, 1992 (No. 173) <i>Has accepted the obligations of Part II</i>	25 May 1998	In Force	OSH related
46	C176 - Safety and Health in Mines Convention, 1995 (No. 176)	04 Jan 1999	In Force	OSH related
47	C181 - Private Employment Agencies Convention, 1997 (No. 181)	23 Dec 2013	In Force	
48	C187 - Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187)	23 Dec 2013	In Force	OSH related

Source: ILO and OSHSD

Appendix 6: List of Equipment Needed by the Government Department/ Statutory Body

Equipment needed	Quantity required	Usage
OSHSD		
Digital cameras	2	Capturing scene e.g. accident scene
Hydraulic Pressure pump	2	testing pressure vessels for safe working pressure
Ultrasonic Testers/ thickness testers	1	Testing metal thickness for life span
Overhead projectors	1	Information dissemination and awareness programmes
Noise measurement meter	1	Measuring noise levels in workplaces in order to establish acceptable noise levels safe for employees.
Dust sampler		measuring dust levels in workplaces for safety of employees.
Laptops/printers	2	Generating inspection reports
Vehicles	2	For inspections to increase coverage
Luminance meter	1	Measuring lighting in workplaces safe for employees
MSD		
Thickness gauge/probe		For measuring thickness and strength of various materials.
Hydrostatic Pressure pump		Used in testing tubes , pipe , hoses, cylinders, pressure vessels & boilers, valves, castings, components etc. for leaks or defects that may cause accidents.
Electromagnetic rope testing equipment set		Used to detect and accurately measure internal rope deterioration for safety purposes
Winder compliance testing		For testing the strength and quality of mine winder ropes for safety
Destructive rope tester (Big unit)		Testing the condition of rope for safety
Stopwatches		Measuring time associated with various tests
Surveyors plum line		Used to measure for vertical reference line in various tests
Deflection testing devices		measuring magnitude and extent of deflections
Non Destructive Test (NDT) Yoke (Magnetic particle inspection gadget)		For detection of defects in mine equipment that can be magnetised for safety of equipment
Ultrasonic (NDT) gauge		For internal defect detection of various equipment in the mines for safety
Hard Hat destructive testing equipment		For testing the strength and quality of PPE provided to employees by employers
Safety Belt/Body hardness/Safety boots destructive testers		For testing the strength and quality of PPE provided to employees by employers

Appendix 7: Duplication of Functions

Function	Institution that conduct inspection	Mining Companies	Factories	Companies classified as both mining and Factories (e.g. LARFAGE, Ndola lime, Zambezi Portland Cement etc.)	Working places other than Mining and Factories.	Purpose of inspection
1. Investigate accident.	MSD	√	X	√	X	Collect information to identify common cause of accidents and develop remedial action
	OSHSD	X	√	√	X	Collect information to identify common cause of accident and develop remedial action
	OSHI	X	X	X	X	
	WCFCB	X	X	X	X	
2. Inspect plant and machinery	MSD	√	X	√	X	For Safety, to ensure compliance to standard and to take legal action to non compliant companies
	OSHSD	X	√	√	X	For Safety, to ensure compliance to standard and to take legal action to non compliant companies
	OSHI	X	X	X	X	N/A
	WCFCB	√	√	√	√	For Safety , to ensure compliance to standard and assement of premiums to be paid.
3. Examination and testing of lifting machinery.	MSD	√	X	√	X	For Safety and to ensure compliance to standard.
	OSHSD	X	√	√	X	For Safety and to ensure compliance to standard.
	OSHI	X	X	X	X	
	WCFCB	X	X	X	X	

4. Regulation of use of explosives	MSD	√	X	√	X	For Safety, to ensure compliance to standard and to take legal action to non compliant companies
	OSHSD	X	X	X	X	
	OSHI	X	X	X	X	
	WCFCB	X	X	X	X	
5. Gather information to improve safety regulations	MSD	√	X	√	X	
	OSHSD	X	√	√	X	
	OSHI	√	√	√	√	
	WCFCB	√	√	√	√	
6. Identification of areas of weakness	MSD	√	X	√	X	Risk assessment for control of harzard to health and safety
	OSHSD	X	√	√	X	Risk assessment for control of harzard to health and safety
	OSHI	√	√	√	√	Risk assessment for control of harzard to health and safety
	WCFCB	√	√	√	√	Risk assessment for control of harzard to health and safety
7. Compliance to personal protective clothing.	MSD	√	X	√	X	For Safety, to ensure compliance to standard and to take legal action to non compliant companies
	OSHSD	X	√	√	X	For Safety, to ensure compliance to standard and to take legal action to non compliant companies
	OSHI	√	√	√	√	For Safety, to ensure compliance to standard and to take legal action to non compliant companies
	WCFCB	√	√	√	√	For Safety, to ensure compliance to standard and to take legal action to non compliant companies

8. Safety induction and awareness.	MSD	√	X	√	X	To promote health and safety.
	OSHSD	X	√	√	X	To promote health and safety.
	OSHI	√	√	√	√	To promote health and safety.
	WCFCB	√	√	√	√	To promote health and safety.
9. Environmental inspection.	MSD	√	X	√	X	For health and Safety, to ensure compliance to standard , control of harzard and to take legal action to non compliant companies.
	OSHSD	X	X	X	X	
	OSHI	X	X	X	X	
	WCFCB	X	X	X	X	
10. Registration of Factories	MSD	X	X	X	X	
	OSHSD	X	√	X	X	Compliance to standards.
	OSHI	X	X	X	X	
	WCFCB	X	X	X	X	
11. Occupational hygiene	MSD	√	X	√	X	For health and Safety, to ensure compliance to standard, control of hazard and to take legal action to non compliant companies
	OSHSD	X	√	√	X	For health and Safety, to ensure compliance to standard, control of harzard and to take legal action to non compliant companies
	OSHI	√	√	√	√	Identification of harzards for control of Hazards and health survilance .
	WCFCB	X	X	X	X	Identification of harzards for control of Hazards, health survilance and assessment of premiums
12. Assessments of earnings and verifications	MSD	X	X	X	X	
	OSHSD	X	X	X	X	
	OSHI	X	X	X	X	

(Revenue Dept.)	WCFCB	√	√	√	√	Assesment of premiums to be paid
13. Medical examination	MSD	X	X	X	X	
	OSHSD	X	X	X	X	
	OSHI	√	√	√	√	Certification of diseases and develop medical surveillance programmes.
	WCFCB	X	X	X	X	

Source: Responses to Questionnaires and inspection reports from respective Government departments and statutory bodies

X means that inspection is not conducted.

√ means that inspection is conducted.

Appendix 8 MSD - Sample of Companies Inspected and Type of Enforcement Measures Undertaken

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken / punitive measures taken	Planned or requested inspection	Time given to collect anomaly
1	MCM	25/02/2013	<ul style="list-style-type: none"> Poor ventilation 	Inspection report	partially	Yes 7/5/2013 26/02/2014 3/3/2014	Admonished	Planned	6months
2	LUMWANA	14/3/2013	<ul style="list-style-type: none"> First aid Warning-radio communication No license for blasting No signs Un manned charge area 	Inspection Report	Non	Non	Admonished	planned	non
3	KCM	4/1/2013	<ul style="list-style-type: none"> Inspection of tankers 	Inspection report	Non	Non	Admonished	Planned	12 months

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken / punitive measures taken	Planned or requested inspection	Time given to collect anomaly
4	CHUMBWE MINE	8/05/2013	<ul style="list-style-type: none"> • No manager • Lack of PPE • Lack of EPB for the gold mine • No returns • No support to under ground • No toilets and showers 	Inspection report	Non	Non	admonished	Planned	non
5	MCM MUFULIRA	16/9/2013	<ul style="list-style-type: none"> • Look out for Premature holing and ground collapse 	Inspection report	Non	Non	Admonished	Planned	non
6	NFCA	17/05/2011	<ul style="list-style-type: none"> • Poor oil separator • Littered oil storage • Oil spills 	Inspection report	Non	non	admonished	Planned	non
7	CHINA NON FERROUS	19/04/2011	<ul style="list-style-type: none"> • No tipping wall • Unsupported ground 	Inspection report	non	non	admonished	planned	non

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken / punitive measures taken	Planned or requested inspection	Time given to collect anomaly
	METALS COMPANY		<ul style="list-style-type: none"> Poor house keeping Poor ventilation No supervision Loose rocks Pool of water 						
8	MCM MUFURILA	13/11/2011	<ul style="list-style-type: none"> Silted water dam 	Inspection report	Non	Non	Admonished	Planned	non
9	LUMWANA	24/11/2011	<ul style="list-style-type: none"> 8 Lifting machinery inspected 6 compliant and 2 non-compliant 	Inspection report	Non	Non	Admonished	planned	non
10	UNITED QUARRIES	17/3/2012	<ul style="list-style-type: none"> Noise due to blasting Fry rocks No blasting schedule 	Inspection report	Non	Non	Stoppage of blasting	requested	non

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken / punitive measures taken	Planned or requested inspection	Time given to collect anomaly
			<ul style="list-style-type: none"> No dust suppression 						
11	MCM MUF WEST PORTAL	26/2/2012	<ul style="list-style-type: none"> Inspection of magazine was found ok 	Inspection report	Non	Non	ok	Planned	N/A
12	BALUBA MINE	6/10/2012	<ul style="list-style-type: none"> Loose hanging trolley Bad hangings No tipping barrier 	Inspection report	Immediate work stoppage	Non	Work stoppage till corrections are made and various staff fined K10,700 for non-compliant	Planned	non
13	KCM	16/02/2012	<ul style="list-style-type: none"> Suspended plant was operating 		Non	Yes the report was	Admonished and	Requested	non

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken / punitive measures taken	Planned or requested inspection	Time given to collect anomaly
			<ul style="list-style-type: none"> • Illegal operation of furnace • Poor safety standards 			a follow up inspection	Plant suspended		
14.	KASANSHI	13/4/2012	<ul style="list-style-type: none"> • Wrong size fire extinguisher on crane • Improperly written fire extinguisher • Poor house keeping • Worn out gloves • First aid had no appointed person • Rain water in first aid box • Wrong passenger on crane 	Inspection report	Non	Non	3 staff fined Admonished	Planned	non

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken / punitive measures taken	Planned or requested inspection	Time given to collect anomaly
			<ul style="list-style-type: none"> Slippery dump truck road Missing eye drops in first aid box Conveyor belts no sprayer Poor ventilation in magazine Expired firefighting equipment No appointed first aider 						
15.	LUMWANA	13/4/2012	Collapsing pit wall	Inspection report	Non	Non	Admonished	planned	non
16	MUNALI MINE	24/2/2012	<ul style="list-style-type: none"> Care and maintenance Faulty air receivers 	Inspection report	Non	Non	Admonished	requested	non
17	LARFAGE CHILANGA	24/2/2012	<ul style="list-style-type: none"> Air receiver not inspected at commissioning and not tested annually. 	Inspection report	non	Yes	Admonished	Planned	non

Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken / punitive measures taken	Planned or requested inspection	Time given to collect anomaly
		<ul style="list-style-type: none"> • Client complaint of double inspections between OSHSD and MSD. • Kinks on rope for crane • Safety guards were tampered with • 						
18 NAPUNDWE MINE	23/6/ 2014	<ul style="list-style-type: none"> • Worn out guards • Corroded conveyor structures • Platform was rotten • No door on electrical panel • Tripping winder • Lack of PPE to mining contractor's employees (Lochi)- worn out gumboots to 	Inspection report	Gumboots provided to staff immediately.	Non	• Admonish	Planned	Two weeks

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken / punitive measures taken	Planned or requested inspection	Time given to collect anomaly
			15 underground staff						
19	NAMATOM BWA QUARRY	13/05/2013	non	Inspection report	Non	Non	Quarry not operational	Planned	N/A

Appendix 9 OSHSD - Sample of Companies Inspected and Type of Enforcement Measures Undertaken

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken /punitive measures taken	Planned or requested inspection	Time given to collect anomaly
1	Lukanga Water& Sewerage	7 Dec 2012	<ul style="list-style-type: none"> • Lack of general register • No abstract of Act • No First aid Box • No protective clothing • No fire extinguishers 	Inspection report	Non	Yes 7/3/2013	Admonished	Planned	Non
2	Kariba North Bank	3 Dec 2013	Non equipment was ok	Inspection Report	Non	Non	Go ahead Certificate given	Requested	N/A
3	Sandvik Mining Construction Zambia(Kitwe)	3 April 2014	<ul style="list-style-type: none"> • Lifting machinery not inspected • Pressure vessels not fit • Factory not registered with department 	Inspection report	Non	Non	Non	Planned	Non

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken /punitive measures taken	Planned or requested inspection	Time given to collect anomaly
4	Project Management & Turnkey Project (Lusaka)	24 May 2013	<ul style="list-style-type: none"> Lack of personal protective clothing No first aid box 	Inspection report	Non	Non	Non	Planned	Non
5	China Geo Engineering Corporation	28 May 2013	<ul style="list-style-type: none"> No protective clothing No first aid box 	Non	Non	Non	Non	Planned	Non
6	Chambeshi Water & Sewerage Co	7 Nov 2007 12 Aug 2008 4 Nov 2011	<ul style="list-style-type: none"> No personal protective clothing No first aid box Blocked drainages 	Inspection report	Non	yes	admonished	Planned	Non
7	Zambia Sugar Co ltd	17 Nov 2011	Non – equipment was ok	Inspection report	N/A	Non			N/A

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken /punitive measures taken	Planned or requested inspection	Time given to collect anomaly
8	Pembe Flour Mills Ltd	18 June 2013	<ul style="list-style-type: none"> No proper firefighting equipment Unguarded vee bleets No change rooms Inadequate first aid requisites No protective clothing 	Inspection report	Non	Non	Non	Planned	Non
9	Atlanttic Beverages Lts (Kasama)	4 Nov 2014	<ul style="list-style-type: none"> uncleanliness No first aid box No factories registration No protective clothing Fire fighting equipment not serviced Un registered factory 	Inspection report	Non	Non	Non	planned	Non

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken /punitive measures taken	Planned or requested inspection	Time given to collect anomaly
			<ul style="list-style-type: none"> • Dirty sanitary conveniences 						
10	Zambian Breweries Lsk	5 Jun 2012	<ul style="list-style-type: none"> • Uncovered drainage channels • Rusty eye wash basin 	Inspection report	Non	Non	Non	Planned	Non
11	Tiger Animal feeds Ltd	3 Mar 2015	<ul style="list-style-type: none"> • Inadequately stocked first aid box • Obstruct to fire suppression system • No proper protective clothing 	Inspection report	Non	Non	Non	Planned	Non
12	Zambia Revenue Authority	15 Jan 2014	Inspection of passenger lift	Inspection report	Non	Non	Certified fit	Requested	N/A

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken /punitive measures taken	Planned or requested inspection	Time given to collect anomaly
13.	ZescoLtd and Zesco small hydros division	22-30 Jun 2014	<ul style="list-style-type: none"> • Pulleys not secured. • Floor not marked • No Abstract of Act • No trained first aider Damaged wire rope	Inspection report	Non	Non	Non	Planned	Non
14.	Shiwangandu Hydro Power Construction	16 May 2012	<ul style="list-style-type: none"> • Crane without warning alarm • Upper limit switch not installed • Damaged rope strands 	Inspection report	Non	Non	Non	Request	Non
15	National Milling	21/10/2014 11 Mar 2015	<ul style="list-style-type: none"> • Gen set fan unguarded • Inappropriate ppe • No safety procedure 	Inspection report	Non	Non	Non	Planned	Non - Issues raised in first

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken /punitive measures taken	Planned or requested inspection	Time given to collect anomaly
			<ul style="list-style-type: none"> No first aid box No protective clothing 						report not followed up
16	Chisteel Zambia Ltd	20 Nov 2013	<ul style="list-style-type: none"> Prolonged hrs of work Inadequate signal No first aid box No experience no supervisor 	Inspection report	non	Non	Admonished	Investigation	Non
17	Zambia Sugar Company	24 May 2013	<ul style="list-style-type: none"> Seats not in good ergonomic Design Workers lifting overweight bags 	Inspection report	Non	Non	Admonished	Planned	Non
18	Dayow Beef	27 Dec 2012	<ul style="list-style-type: none"> No firefighting 	Report	Non	Non	advised	Planned	Non

Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken /punitive measures taken	Planned or requested inspection	Time given to collect anomaly
Abattour		equipment <ul style="list-style-type: none"> • Opening on the floor • No first aid boxes 						
19 Fine Steel Manufacturers	17/2/2012 17Dec 2012 18 Aug 2014	<ul style="list-style-type: none"> • Lack of chemical data sheet • No first aid boxes • No poster of abstract of factoris Act • Inadequate sanitary conveniences • inadequate protective clothing 	Report	Non	Yes	advised	Planned	Non in all reports

	Company Inspected	Inspection date	Issues raised	Warning Given	Issues raised in inspection corrected	Follow up inspection done	Action Taken /punitive measures taken	Planned or requested inspection	Time given to collect anomaly
20.	Jumbo Industries	20 Aug 2014	<ul style="list-style-type: none"> • No firefighting equipment • No first aid box • Electrical cables not properly connected • Gangways not clear 	Report	Non	Non	Advised	Planned	Non
21.	Tombwe Processing	12 May 2015	<ul style="list-style-type: none"> • No locking system on doors • No platforms for separators 	Report	Non	Non	advised	Planned	Non

Appendix 10: Companies with OSH Workplace Policy, OSH Officer, OSH Committee and OSH Minutes

District	Name of company	Business or Industry	Incorp. Date	No. of Workers	Written safety policy	OSH Committee	OSH Officer	Minutes of meetings on OSH issues of OSH	Factory Reg/Licensed Mine	WCFCB Reg	General Observations
Livingstone	1 Fintia Farms	Milk processing	1997	37	No	No	No	No	Yes	Yes	No OSH policy, No OSH officer
	2 Musauza Breweries	Opaque Beer and Milling	2002	54	Yes	No	No	No	Yes	Yes	No OSH policy, No OSH officer
	3 Kariba Textiles	Blanket Manufacturing	2003	130	No	Yes	Yes	Yes	Yes	Yes	No OSH policy
	4 Supersonic	Timber processing		80	No	No	Yes	No	Yes	Yes	Un aware of written policy
Choma	5 Choma Milling Co.	Milling	1980	141	No	No	No	No	Yes	Yes	No OSH policy, No OSH officer
	6 Manba Mine Collieries	Mining		261	Yes	Yes	Yes	Yes	Yes	Yes	Dedicated OSH Team in place
Kafue	7 Kafue Metals Ltd	Metal/steel processing	2006	1150	Yes	Yes	Yes	Yes	Yes	Yes	Implementation of Behaviour Based Safety.
Kabwe	8 Fine Steel	Metal/steel processing	2007	60	No	No	No	No	Yes	Yes	employee unaware of the requirement.
	9 FVG Milling	Milling		47	No	Yes	Yes	No	Yes	Yes	No minutes, No written policy
Ndola	10 Copperbelt Shoes	Shoe Manufacturing	1968	41	No	Yes	No	No	Yes	Yes	No OSH Policy
	11 Ashways Ltd	Plastic product manufacturing	2001	32	No	No	No	No	Yes	Yes	No OSH policy but making progress on OSH matters
Kitwe	12 Larfage Ndola	Cement Plant		231	Yes	Yes	Yes	Yes	Yes	Yes	Dedicated OSH Team in place
	13 Copperbelt Forest Company	Wood Processors		266	Yes	No	No	Yes	Yes	Yes	OSH activities not taken as priority Osh committees was :
	14 Scaw Ltd	Steel Factory			No	Yes	Yes	No	Yes	Yes	No written Osh Policy, No Minutes
	15 Mopani-Nkana	Mining			Yes	Yes	Yes	Yes	Yes	Yes	Dedicated OSH Team in place
	16 Mopani Mufulira	Mining			Yes	Yes	Yes	Yes	Yes	Yes	Dedicated OSH Team in place
	17 African Explosives	Explosives manufacture			Yes	Yes	Yes	Yes	Yes	Yes	Osh team in place
Kalushushi	18 Chibuluma Mine	Mine			Yes	Yes	Yes	Yes	Yes	Yes	Dedicated OSH Team in place
Lusaka	19 Lusaka Brick Factory	Brick Manufacturing			No	No	No	No	Yes	Yes	OSH matters not taken as priority
	20 Pamalat Zambia Ltd	Dairy Products Production		414	Yes	Yes	Yes	Yes	Yes	Yes	Dedicated OSH Team in place
	21 Trade Kings	Production of assorted items	1995	850	Yes	No	No	No	Yes	Yes	induction on OSH given to every visitor
	22 Zambian Breweries	Manufacturing			Yes	Yes	Yes	Yes	Yes	Yes	Dedicated OSH Team in place
	23 Oriental Quarries Ltd	Mining and Manufacturing		870	No	Yes	Yes	No	Yes	Yes	OSH activities not taken as priority
	24 Heinrich Beverages	Beverage Manufacturing		245	Yes	No	Yes	No	Yes	Yes	Dedicated OSH Team in place
	25 Nitrogen Chemicals of Zambia	Fertilizer Manufacturing	1967		Yes	No	Yes	No	Yes	Yes	No OSH committee
Number of Companies with Yes					14	13	15	9	25	25	
Total Number of Companies Visited					25	25	25	25	25	25	
COMPLIANCE					56%	52%	60%	36%	100%	100%	
NON COMPLIANCE					44%	48%	40%	64%	0%	0%	

Appendix 11: Companies with Fire Prevention and Protection

District	Name of company	Business or Industry	Incorp. Date	No. of Workers	Fire Fighting equipment	Fire Alarm	Emergency exits	Clearly labelled exits	Fire Drills	Isolated Storage area for flammable materials & other chemicals	General Observations
Livingstone	1 Finta Farms	Milk processing	1997	37	Yes	No	No	No	No	Yes	Emergency exits not labelled in certain areas
	Musanza	Opaque Beer and Milling	2002	54	Yes	No	Yes	Yes	No	No	No fire alarms and No fire drills done
	2 Breweries	Blanket Manufacturing	2003	130	Yes	No	Yes	Yes	No	No	No fire alarms and No fire drills done
	3 Kariba Textiles	Timber processing		80	Yes	No	Yes	No	No	Yes	No fire alarm, No fire drills, No labelled exits, expired fire extinguishers
Choma	4 Supersonic			141	Yes	No	Yes	No	No	Yes	No fire extinguishers in metal fab
	5 Choma Milling Co.	Milling	1980								
	Mamba Mine	Mining		261	Yes	Yes	No	No	Yes	Yes	No open mine
	6 Colliers	Steel processing	2006	1150	Yes	Yes	Yes	Yes	Yes	Yes	Nil
Kabwe	7 Kafue Metals Ltd	Steel processing									No fire alarms and No fire drills done, expired fire extinguishers
	8 Fine Steel	Steel processing	2007	60	Yes	No	No	No	No	Yes	Nil
	9 FVG Milling	Milling		47	Yes	Yes	Yes	No	Yes	No	No chemical data sheets
	10 Copperbelt Shoes	Shoe manufacturing	1968	41	Yes	no	Yes	No	No	Yes	No fire alarm, No fire drill
Ndola	11 Ashways Ltd	Plastic bottles and films	2001	32	Yes	no	Yes	Yes	no	Yes	emergency exits not labelled in certain areas
	12 LARFAGE-Ndola	Cement Plant		231	Yes	Yes	No	No	Yes	No	Fire alarm used as lunch call, No fire drills, No labelled exits, expired fire
	Copperbelt forest	Wood Processors			Yes	no	No	No	no	No	Nil
	13 Company	Steel factory			Yes	No	Yes	Yes	No	Yes	Proper fire fighting equipment and practices in place
Kitwe	14 Seaw Ltd	Mining			Yes	Yes	Yes	Yes	Yes	Yes	Proper fire fighting equipment and practices in place
	15 Mopani-Nkana	Mining			Yes	Yes	Yes	Yes	Yes	Yes	Proper fire fighting equipment and practices in place
	16 Mopani Murulira	Mining			Yes	Yes	Yes	Yes	Yes	Yes	Proper fire fighting equipment and practices in place
	17 African Explosives	Explosives manufacture			Yes	Yes	Yes	Yes	Yes	Yes	No fire alarms and No fire drills done
Lusaka	18 Chibuhuma Mine	Mine			Yes	Yes	Yes	Yes	Yes	Yes	No emergency exits, No clearly labelled exits
	Lusaka Brick	Brick Manufacturing			Yes	Yes	No	No	No	No	No emergency exits, No clearly labelled exits
	19 Factory	Dairy Products			Yes	Yes	Yes	Yes	Yes	Yes	No emergency exits, No clearly labelled exits
	20 Panalot	Production of assortment of items	1995	414	Yes	Yes	Yes	No	No	No	No emergency exits, No clearly labelled exits
	21 Trade Kings	Manufacturing		850	Yes	Yes	Yes	No	No	No	No emergency exits, No clearly labelled exits
	22 Zambian Breweries	Manufacturing			Yes	Yes	Yes	No	No	No	No emergency exits, No clearly labelled exits
	Oriental Quarries	Mining and Manufacturing		870	Yes	Yes	Yes	No	No	No	No emergency exits, No clearly labelled exits
	23 Ltd	Manufacturing			Yes	Yes	Yes	No	No	No	No emergency exits, No clearly labelled exits
	Hendricks	Manufacturing		245	Yes	Yes	Yes	No	No	No	No emergency exits, No clearly labelled exits
	24 Beverages	Manufacturing			Yes	Yes	Yes	No	No	No	Most fire extinguishers expired, old and lose infrastructure can easily fall.
	Nitrogen	Manufacturing	1967		Yes	Yes	Yes	No	No	Yes	
	25 Chemicals of	Manufacturing			Yes	Yes	Yes	No	No	Yes	
Number of Companies with Yes					25	15	19	9	7	14	
Total Number of Companies visited					25	25	25	25	25	25	
COMPLIANCE					100%	60%	76%	36%	28%	56%	
NON COMPLIANCE					0.0%	40.0%	24.0%	64.0%	72.0%	44.0%	

Source: Physical inspections and responses to structured Interviews questions

Appendix 12: Provision of Personal Protective Equipment, First Aid box and Trained First Aider

District	Name of company	Business or Industry	Incorp. Date	No. of Workers	Provision of PPE.	First Aid Box	Trained staff in First Aid	Clinic	General Observations
Livingstone	1 Finta Farms	Milk processing	1997	37	Yes	Yes	No	No	Workers at boiler section not having appropriate PPE, No first aid training.
	2 Musanza Breweries	Opaque Beer and Milling	2002	54	Yes	Yes	Yes	No	PPE provided
	3 Kariba Textiles	Blanket Manufacturing	2003	130	Yes	Yes	Yes	No	PPE provided such as nose protection no adequate
	4 Supersonic	Timber processing		80	No	Yes	Yes	No	No googles, No dust coats, No proper shoes,
Choma	5 Choma Milling Co.	Milling	1980	141	Yes	Yes	Yes	Yes	No google for maize handlers, workers in noisy area no ear plugs, Improvised nose protection not suitable to refined dust
	6 Mamba Mine Collieries	Mining		261	Yes	Yes	Yes	Yes	NIL
Kafue	7 Kafue Metals	Steel processing	2006	1150	Yes	Yes	Yes	Yes	No PPE and poor lighting
	8 Fine Steel	Steel processing	2007	60	No	Yes	No	No	Workers not wearing appropriate PP clothing, ie no safety boots while working with very hot iron
Kabwe	9 FVG Milling	Milling		47	Yes	Yes	Yes	No	Staff wearing appropriate PPE
	10 Copperbelt Shoes	Shoe manufacturing	1968	41	Yes	Yes	No	No	No trained first aid staff, No clinic
	11 Ashways Ltd	Plastic bottles manufacturing	2001	32	Yes	Yes	No	No	Staff not trained in first aid
	12 LARFAGE Ndola	Cement Plant		231	Yes	Yes	Yes	Yes	Very dusty place and not watered
Kitwe	13 Copperbelt Forest Company	Wood Processors			No	Yes	Yes	No	No protective shoes, hard hats, gloves and goodles
	14 Mopani-Nkana	Mining			Yes	Yes	Yes	Yes	Employee seeing working without eye protection
	15 Mopani Mufulira	Mining			Yes	Yes	Yes	Yes	PPE provided but employee attitude to wearing negative as seen in the picture index
	16 African Explosives	Explosives manufacture			Yes	Yes	Yes	No	Appropriate PPE provided
	17 Chibuluma Mine	Mine			Yes	Yes	Yes	Yes	Appropriate PPE provided
	18 Seaw Ltd	Steel plant			Yes	Yes	Yes	Yes	Workers wearing tissue instead of ear plugs, In furnace area workers throwing scrap metals in furnace with no googles and no respirators
	19 Lusaka Brick Factory	Brick Manufacturing			No	Yes	No	No	Workers not given appropriate PPE, Workers working in high temprature without leather PPE.
	20 Pamalat	Dairy Products Production		414	Yes	Yes	Yes	No	Appropriate PPE provided
	21 Trade Kings	Production of assortemnt of items	1995	850	Yes	Yes	Yes	Yes	Some staff not wearing PPE even after been provided with such, Naked elctrical cable on the floor,
	22 Zambian Breweries	Manufacturing			Yes	Yes	Yes	Yes	Contracted staff not wearing proper PPE ie safety shoes, had huts
	23 Oriental Quarries Ltd	Mining and Manufacturing		870	Yes	Yes	Yes	Yes	Employees provided with appropriate PPE
	24 Hendricks Beverages	Manufacturing		245	Yes	Yes	Yes	No	No proper ventilation in plastic production area, Contracted staff not dressed in PPE.
	25 Nitrogen Chemicals of Zambia	Manufacturing	1967		Yes	Yes	Yes	Yes	Appropriate PPE provided
	Number of Companies with Yes				17	25	20	8	
	Total Number of Companies Visited				25	25	25	25	
	COMPLIANCE				68%	100%	80%	32%	
NON COMPLIANCE					32.0%	0.0%	20.0%	68.0%	

Source: Physical inspections of workplaces and responses to structured interviews.

Appendix 13: Assessment of Rest Periods, Canteens, Change rooms, Toilet and General Cleanliness

Districts	Name of company	Business or Industry	Incorp. Date	No. of Workers	No. of shifts	Duration of shifts (Hrs)	Rest Periods	Lockers	Change Rooms	Shower/ toilets	General Cleanliness	General Observations
Livingstone	1 Flinta Farms	Milk processing	1997	37	3	8	No	No	Yes	Yes	Good	Generally clean environment and change rooms provided
	2 Musanza Breweries	Opaque Beer and Milling	2002	54	3	8	No	No	Yes	Yes	Average	Generally clean environment and change rooms provided
	3 Kariba Textiles	Manufacturing	2003	130	2	12	Yes	No	Yes	Yes	Average	Generally clean environment, canteen, and change rooms provided
	4 Supersonic	Timber processing		80	1	8	Yes	No	No	Yes	poor	Deplorable sanitary conditions in the change rooms, poor ventilation in the spraying dept were thin and vanish are used.
Choma	5 Choma Milling Co.	Milling	1980	141	2	12	Yes	Yes	Yes	Yes	Fair	Generally clean environment and change rooms provided
	6 Mamba Mine Collieries	Mining		261	2	8	Yes	Yes	Yes	Yes	good	Generally clean environment and change rooms provided
Kafue	7 Kafue metals	Steel processing	2006	1150	2	12	Yes	Yes	Yes	Yes	Fair	No PPE and poor lighting
	8 Fine Steel	Metal/steel processing	2007	60	2	12	Yes	Yes	Yes	Yes	poor	Poor state of change rooms and dirty toilets as shown in the picture index
Ndola	9 FVG Milling	Milling		47	2	12	Yes	Yes	Yes	Yes	Fair	Generally clean environment and change rooms provided
	10 Copperbelt Shoes	Shoe manufacturing	1968	41	1	8	Yes	No	Yes	Yes	fair	Generally clean environment
Kitwe	11 Ashways Ltd	Bottles/films manufacturing	2001	32	2	12	Yes	No	Yes	Yes	poor	Generally clean and canteen and change rooms provided
	12 LARFAGE-Ndola	Cement Plant/mining		231	3	8	Yes	Yes	Yes	Yes	Good	canteen and change rooms provided, very dusty surroundings due to cement production
	13 Copperbelt forest Company	Wood Processors			2	8	Yes	No	Yes	No	Poor	Pitlatines used as toilets, unsafe walk ways
	14 Mopani-Nkana	Mining		4	4	8.5	No	Yes	Yes	Yes	Good	Generally clean environment and change rooms provided
	15 Mopani Mufulira	Mining		4	4	8.5	No	Yes	Yes	Yes	Good	Generally clean environment and change rooms provided
	16 African Explosives	Explosives manufacture					No	Yes	Yes	No	Fair	Generally clean environment and change rooms provided
Lusaka	17 Chibuluma Mine	Mine		4	4	8.5	No	Yes	Yes	Yes	Fair	Generally clean environment and change rooms provided
	18 Saw Ltd	Steel plant		3	3	8	Yes	Yes	Yes	Yes	bad	No rest period in production dept, furnace area not clean
	19 Lusaka Brick Factory	Brick Manufacturing		1	1	8	Yes	No	No	Yes	bad	Pitlatrine used as toilet, deplorable canteen as seen on picture index, No change rooms
	20 Pamalat	Dairy Products Production		414	3	8	YES	Yes	Yes	Yes	good	Generally clean environment and change rooms provided
	21 Trade Kings	Production of assortment of items	1995	850	2	8	Yes	Yes	Yes	Yes	good	Showers and toilets too small for huge number of staff and not well kept.
	22 Zanbrian Breweries	Manufacturing			3	8	No	Yes	Yes	Yes	good	Generally clean environment and change rooms provided
	23 Oriental Quarries Ltd	Mining and Manufacturing		870	3	8	Yes	No	No	Yes	good	Dusty environment and not regularly watered, No staff change room provided, canteen provided.
	24 Hendricks Beverages	Manufacturing		245	3	8	No	Yes	Yes	Yes	Good	No proper ventilation in plastic production area
	Nitrogen Chemicals of Zambia				4	8	Yes	Yes	Yes	Yes	Good	Canteen provided and change rooms
	25 Zambia	Manufacturing	1967				Yes	Yes	Yes	Yes	Good	
Number of Companies with Yes							16	18	19	20		
Total Number of Companies Visited							25	25	25	25		
COMPLIANCE							64%	72%	76%	80%		
NON COMPLIANCE							36.0%	28.0%	24.0%	20.0%		

Source: Physical inspections of workplaces and responses to structured interviews.