

**LEGAL FRAMEWORK FOR OCCUPATIONAL HEALTH, SAFETY
AND ENVIRONMENT OF MINING SECTOR: INTERNATIONAL
BEST PRACTICES AND CASE STUDY OF PAKISTAN**



SUPERVISOR

Dr Muhammad Asim Iqbal

SUBMITTED BY

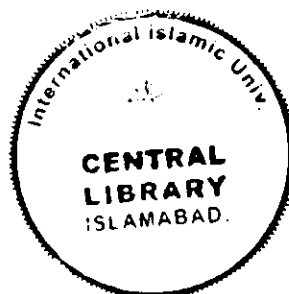
ADNAN

70-SF/PhD Law/F15

FACULTY OF SHARIAH & LAW

DEPARTMENT OF LAW

INTERNATIONAL ISLAMIC UNIVERSITY, ISLAMABAD



Accession No. TH 24131 V44

PHD
346.066
ADL

Corporale Law
Companies Law

**LEGAL FRAMEWORK FOR OCCUPATIONAL HEALTH, SAFETY
AND ENVIRONMENT OF MINING SECTOR: INTERNATIONAL
BEST PRACTICES AND CASE STUDY OF PAKISTAN**

A thesis submitted in partial fulfillment of the requirements of the degree of
PhD in Law Faculty of Shariah and Law
In The International Islamic University Islamabad



SUPERVISOR

Dr. Muhammad Asim Iqbal

SUBMITTED BY

ADNAN

70-SF/PhD Law/F15

FACULTY OF SHARIAH & LAW

DEPARTMENT OF LAW

INTERNATIONAL ISLAMIC UNIVERSITY, ISLAMABAD



ADNAN

©

2021

All rights reserved.

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ


International Islamic University Islamabad

Faculty of Shariah & Law

Approval Sheet

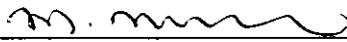
This is to certify that we evaluated the thesis entitled "Legal Framework for Occupational Health, Safety and Environment of Mining Sector: International Best Practices and Case Study of Pakistan" submitted by Mr. Adnan, Reg. no. 70-SF/PhD-Law/F15 in partial fulfillment of the award of the degree of Ph.D in Law. The thesis fulfills the requirements in its core and quality for the award of the degree.

Supervisor



Dr. Muhammad Asim Iqbal
Assistant Professor, Department of Law,
FSL, IIUI

Internal Examiner



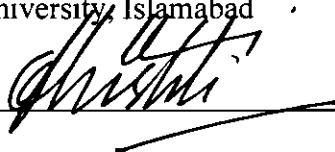
Prof. Dr. Muhammad Munir,
Department of Law, FSL, IIUI

External Examiner



Dr. Nadia Khadam, Assistant Professor,
Department of Law,
Fatima Jinnah Women University, Islamabad

External Examiner



Dr. Ijaz Ali Chishti,
Court Associate,
Supreme Court of Pakistan, Islamabad

DECLARATION

I, Adnan, hereby declare that this dissertation is original and has never been presented in any other institution. I, moreover, declare that any secondary information used in this dissertation has been duly acknowledged.

Student:

Adnan

Signature:



Date:

Supervisor:

Dr. Muhammad Asim Iqbal

Signature:

Date:

ABSTRACT

Mines safety, health and environment is a crucial concern for all—wage earners, employers/management and the society as a whole. This is because workplace injuries and accidents have many ramifications on the life of the individual mineworker as well as others in society. Consequently, countries, as diverse as they are, have put in place mechanisms to ensure the safety of workers through several administrative, policy and legal instruments. Indeed, today the safety and health of workers is considered a global human rights issue. Major changes have occurred in the workplace in the past decades. Technology has changed dramatically, new risks and hazards have been introduced concerning OHSE. The laws and institutions in the different jurisdictions were required to react to the challenges after evolution in workplace risks. The theses will sightsee the retorts from developed jurisdictions like UK, US and ILO. In addition such response is aiding for problem identification with appropriate implementation through legal measures. In spite of this, the formal and informal mining sector employed low-skilled mineworkers in developing economies is often neglected. The informal sector is neglected from government but also from academics, policy researchers and human rights advocacy groups.

The central theme of the theses is how the law can stimulate self-regulation by adopting better laws, regulations, institutional framework and management for mines OHSE to encourage “self-critical reflection about their OHS performance.” Regulations from comparative practices provided different prospects to overcome such lacking the in domestic regime. Modifications to existing approaches are suggested for better enforcement is improved and better targeted.

This research study recommends imposing criminal sanctions, establishing corporate criminal liability, and a compensation system for injured mineworkers. This study has exposed the OHSE conditions and the various risks and hazards that mineworkers face in the workplace.

ACKNOWLEDGEMENTS

I wish to express my deepest gratitude and appreciation towards:

1. My supervisor, Dr. Muhammad Asim Iqbal and my promotor/Advisor Prof James, A Gross from ILR, Cornell University, NYS, USA for their invaluable advice, continuous support, and patience during my PhD study. Their immense knowledge and plentiful experience have encouraged me in all the time of my academic research and daily life. It is Professor Gross and Coordinator Maguliena Tabar kind help and support that have made my study and life in the NYS, USA a wonderful time.
2. Mr. Dr Fakhar Makhdoom, Mr. Dr Aziz-ur-Rehman, Dr Atta Ullah and Professor Muhammad Munir my teachers, and the administrative head of this work, for their immeasurable patience and understanding.
3. My family and friends for their love, support and tolerance. This thesis is dedicated to my beloved mother and Aunt. In addition, I would like to thank my parents for their wise counsel and sympathetic ear. You are always there for me. Finally, I could not have completed this dissertation without the support of my friends, Shafiq-ur-Rehman, Dr Asif, Akif Khan and Hasanin Ashraf who provided stimulating discussions as well as happy diversions to rest my mind outside of my research.
4. To Almighty Allah, through whose grace and blessing I have been able to start and complete this work in good health.
5. Mr. Sami, Dr Adil Nawaz, Adnan Bashir, Shoaib Khan, Waqar Bangash and others friends for their bursary, encouragement and assisting in completion of this work.
6. I would also like to thank the School of Industrial and Labor Relations, Cornell University, USA for supporting me during my research fellowship and particularly my colleagues in the School of creating such conducive environment for completion of this work.

ACRONYMS

OHSE	Occupational Health, Safety and Environment
ILO	International Labor Organization
ILS	International Labor Standards
EIA	Environmental Impact Assessment
SEA	Strategic Environmental Assessment
UDHR	Universal Declaration of Human Rights
WHO	World Health Organization
OECD	Organization of Economic Cooperation and Development
SDGs	Sustainable Development Goals
IDNDR	International Decade of Natural Disaster Reduction
CSR	Corporate Social Responsibility
PPE	Personal Protective Equipment
NIOSH	National Institute of Occupational Safety and Health
OSHA	Occupational Safety and Health Act/Administration
UNEP	United Nations Environmental Programme
IPCC	Inter-governmental Panel on Climate Change
EEC	European Economic Community
COP	Code of Practices
SMEs	Small and Medium Enterprises
ASEAN	Association of South East-Asian Nations
CIS	Center for Information on Safety
WB	World Bank
UNDP	United Nations Development Programme
IMF	International Monetary Fund
EITI	Extractive Industry Transparency Initiative
ICMM	International Council on Mining and Metals
ETUI	European Trade Union Institute
NLRA	National Labor Relations Act
NLRB	National Labor Relations Board
MSHA	Mines Safety and Health Act
MHRAC	Mine Health Research Advisory Committee
MINER	Mines Improvement New Emergency Response
PEL	Permissible Exposure Limit
WWT	Work Well Together
FDI	Foreign Direct Investment
NILAT	National Institute of Labor Administration and Training

TABLE OF CONTENTS

LEGAL FRAMEWORK FOR OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENT OF MINING SECTOR: INTERNATIONAL BEST PRACTICES AND CASE STUDY OF PAKISTAN.....	1
DECLARATION.....	4
INTRODUCTION.....	15
SKETCHING THE TERMS OCCUPATIONAL SAFETY AND HEALTH.....	17
OBJECTIVES OF RESEARCH.....	17
RESEARCH QUESTIONS.....	18
THEORETICAL FRAMEWORK.....	18
RESEARCH METHODOLOGY.....	19
LITERATURE REVIEW.....	20
STRUCTURE OF THE THESIS.....	23
MINES OHSE: A CONCEPTUAL LEGAL FRAMEWORK.....	25
INTRODUCTION.....	25
1.1 LOOKING AT HEALTH FROM DIFFERENT PERSPECTIVE.....	26
1.1.1 UNPACKING OCCUPATIONAL SAFETY AND HEALTH.....	27
1.1.2 OHSE SIGNIFICANCE.....	28
1.1.3 SAFETY AND HEALTH.....	29
1.2 OHSE: AS A HUMAN RIGHT.....	30
1.2.1 WORKPLACE.....	32
1.2.2 WORKPLACE HAZARDS AND REPERCUSSIONS FOR HEALTH.....	33
1.3 DEFINING MINES.....	34
1.3.1 MINE PROJECTS AND ITS STAGES.....	35
1.3.2 MINING INDUSTRY GENERALLY.....	35
1.3.3 MINING OF RARE EARTH.....	35
1.4 MINING WORKPLACE SAFETY AND HEALTH.....	38
1.4.1 HEALTH HAZARDS OF MINING.....	38
1.4.2 SAFETY AT MINES.....	40
1.5 MINING AND “SUSTAINABLE DEVELOPMENT”.....	41
1.5.1 CONFERENCE ON SUSTAINABLE DEVELOPMENT (SD).....	42
1.5.2 ENVIRONMENT AND SUSTAINABLE DEVELOPMENT GOALS (SDGs).....	43
1.6 RISKS, MISHAPS AND OHSE.....	44
1.6.1 CAUSES OF OCCUPATIONAL INJURIES, ACCIDENTS AND HAZARDS.....	46
1.7 KEY PRINCIPLES OF OHSE.....	48
1.7.1 DIFFERENT ROLE PLAYERS DUTIES.....	49
1.7.2 PRODUCTIVITY AND PERFORMANCE OF OHSE.....	49
1.8 WORK AND ENVIRONMENT “THINK GLOBAL ACT LOCAL”.....	51
1.8.1 OHSE AND GLOBALIZATION.....	52

1.8.2 STOCKHOLM CONFERENCE 1972	54
1.8.3 BRUNDTLAND REPORT 1987	54
1.8.4 RIO EARTH SUMMIT 1992	55
1.8.5 THE 2002 "JOHANNESBURG SUMMIT"	56
1.8.6 KYOTO PROTOCOL	56
CONCLUSION.....	57
CHAPTER# 02	59
INTERNATIONAL LAW RELATED TO MINES OHSE: THE EXPERIENCE OF ILO AND OTHER ORGANIZATIONS.....	59
INTRODUCTION.....	59
2.1 GLOBAL ACTION FOR OHSE.....	60
2.1.1 ILO AND OHSE	60
2.1.2 ILO COVENTION 155 ON OHSE	61
2.1.3 OTHER INSTRUMENTS AND OHSE	63
2.1.4 OHSE AND ILO	63
2.1.5 OHSE ROLE PLAYERS	64
2.2 BUSINESS AND INTERNATIONAL ORGANIZATION OF EMPLOYERS (IOE).....	65
2.2.1 ENTERPRISE AND OHSE	65
2.2.2 IMPROVEMENT OF WORKING ENVIRONMENT AND THEIR CONDITIONS	66
2.3 COLLABORATION OF ILO WITH OTHER ORGANIZATION.....	66
2.3.1 CENTRE FOR INFORMATION ON SAFETY (CIS).....	67
2.3.2 OHSE WORKERS PARTICIPATION WITH GLOBAL ATTITUDES.....	67
2.3.3 WORKERS INVOLVEMENT UNDER ILO-OHS PRINCIPLES	68
2.4 OCCUPATIONAL HAZARDS AND ILO.....	70
2.4.1 ILO LABOUR INSPECTION	70
2.4.2 ILO MINES OHSE CONVENTION No: 176.....	71
2.4.3 GUIDELINES AND CODES OF PRACTICES (CoP) ON OHSE.....	72
2.4.4 ILO PROTECTIVE AND PREVENTIVE MEASURES	72
2.4.5 OSHE PLAN OF ACTION	73
2.4.6 OHSE CAPACITY BUILDING.....	74
2.5 UNITED NATION AND MINING.....	74
2.5.1 UN INSTITUTIONAL FRAMEWORK ON PROTECTION OF MINING ENVIRONMENT	74
2.5.2 MINING AND UNEP	75
2.5.3 SHORTCOMINGS IN THE UN APPROACH TO THE MINING INDUSTRY.....	76
2.6 WORLD BANK EFFORTS FOR MINING ENVIRONMENT.....	77
2.6.1 "THE INTERNATIONAL COUNCIL ON MINING AND METALS" (ICMM)	80
2.6.2 GLOBAL MINING INITIATIVE (GMI) AND GLOBAL COMPACT (GC)	81
2.7 PROTECTION OF WORKING AND GENERAL ENVIRONMENT UNDER ILO.....	82
2.7.1 SUSTAINABLE DEVELOPMENT UNDER ILO	83
2.7.2 OHSE AND SUSTAINABLE DEVELOPMENT	84
2.7.3 DECOMMISSIONING OF MINES	85
2.7.4 MINE CLOSURE AND OHSE	86
2.8 MINING ENVIRONMENTAL ASSESSMENTS AND PUBLIC PARTICIPATION.....	86

2.8.1 ENVIRONMENTAL IMPACT OF MINING	86
2.8.2 EIA OF MINING PROJECTS	87
2.8.3 STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)	88
2.9 OHSE UNDER “EUROPEAN ECONOMIC COMMUNITY” (EEC).....	88
2.9.1 EU AND WORKER PARTICIPATION IN OHSE	90
2.9.2 MANAGEMENT IN NATIONAL OHSE LEGISLATION.....	91
CONCLUSION	92
CHAPTER # 03	93
COMPARATIVE ANALYSIS OF MINES OHSE: US AND UK PRACTICES	93
INTRODUCTION.....	93
3.1 MINE OHSE: A LEGAL ANALYSIS OF US AND UK.....	94
3.2 “MINES SAFETY AND HEALTH ACT” (MSHA, 1977) AND 1974 UK ACT.....	98
3.2.1 MSHA, 1977.....	98
3.2.2 ENFORCEMENT OF OHSE UNDER 1974 ACT	99
3.2.3 MINER ACT AND OHSE	100
3.2.4 RISK MECHANISM AND WORKERS REPRESENTATION IN 1974 ACT	101
3.3 OHSE OFFENCES/CRIMES: LEGAL DEVELOPMENT OF US AND UK.....	103
3.3.1 OHSE OFFENCES AND RELEVANT LEGAL DEVELOPMENT IN UK.....	103
3.3.2 WORKERS OHSE: CRIMINAL AND TORT SANCTIONS.....	104
3.3.4 MINES OHSE OFFENCES: A COMPARATIVE APPROACH	106
3.3.5 OHSE PENALTIES IN UK AND US	107
3.4 CONCEPT OF BUSINESS HOMICIDE IN UK	109
3.4.1 OHSE LEGISLATION UNDER 2007, 2008 AND OTHER OHSE LAWS.....	110
3.4.2 OHSE AND “DUTY OF CARE”	112
3.4.3 OHSE LAW REFORMATION AND LEGISLATIVE CONTROVERSY IN UK.....	113
3.5.1 REGULATORY OR CRIMINAL.....	118
3.5.2 NIOSH AND OSHA	119
3.5.3 PROCESS STANDARDS	121
3.6 OHSE AND WORKERS ROLE: UK APPROACH	122
3.6.1 OHSE AND EMPLOYEES PARTICIPATION	123
3.6.2 WORKER INVOLVEMENT	124
3.7 MINES OHSE HAZARDS US APPROACH	125
3.7.1 US RECOGNISED HAZARDS.....	125
3.7.2 HAZARDS AND RESPONSIBILITY	126
3.7.3 OSHA AND MINES OHSE HAZARDS	127
3.8 OHSE ALTERNATIVE AT WORKPLACE IN US AND UK.....	128
3.8.1 INCENTIVE METHOD	128
3.8.2 VOLUNTARISM	129
3.8.3 PUBLIC RELATIONS AND SIGNS	131
3.8.4 LICENSING SYSTEMS IN OHSE LEGISLATION.....	131
3.8.5 SUPERVISION AND TRAINING OF OHSE	132
CONCLUSION.....	133
MINES OHES IN PAKISTAN: LEGAL AND INSTITUTIONAL FRAMEWORK	135

INTRODUCTION.....	135
4.1 OHSE AND CONSTITUTIONAL POSITIONS.....	135
4.1.1 OHSE AND CONSTITUTION	136
4.1.2 OHSE SITUATION AT POST 18 TH AMENDMENT	137
4.2 LEGISLATIVE FRAMEWORK	138
4.2.1 MINES OHSE LEGISLATION: MINES ACT, 1923	139
4.2.3 STAKEHOLDERS RESPONSIBILITIES.....	142
4.2.4 LEGISLATIVE ENFORCEMENT	143
4.2.5 NATIONAL LABOUR AND MINERAL POLICIES	143
4.3 ILO-OHSE TREATIES AND PAKISTAN.....	144
4.3.1 MINES OHSE AND ILO CONVENTIONS	144
4.3.2 MINES AN UNSAFE OCCUPATIONS	145
4.3.3 ILO AND THIRD-PARTY RIGHTS OF TRIBAL	146
4.4 MINES OHSE INSTITUTIONAL FRAMEWORK.....	146
4.4.1 INSTITUTIONAL FRAMEWORK.....	146
4.4.2 OHSE IN MINES UNDER POLICIES	146
4.4.3 PAKISTAN MINERAL DEVELOPMENT CORPORATION (PMDC) AND DIRECTOR GENERAL MINERALS (DGM)	147
4.4.4 EXPLORATION AND RECONNAISSANCE MINING LICENSES	147
4.4.5 COAL-MINING	148
4.4.6 REGISTRATION OF COAL MINES IN PAKISTAN.....	148
4.4.7 STRUCTURE OF MINERAL INDUSTRY	149
4.5 PROTECTION OF MINING ENVIRONMENT.....	149
4.5.1 MINES OHS AND ENVIRONMENTAL REGULATION.....	149
4.5.2 ASSESSMENT PROCEDURES	150
4.5.3 PEPA AND MINES EXTRACTIONS	151
4.6 OHSE PROTECTION AND CONSULTATION.....	151
4.6.1 MINES PREVENTIVE AND PROTECTIVE MEASURES	151
4.6.2 DILEMMA OF EFFECTIVENESS	152
4.6.3 CONSULTATION AND COOPERATION	155
CONCLUSION.....	156
CHAPTER # 05.....	157
OHES CHALLENGES IN PAKISTAN’S MINING SECTOR.....	157
INTRODUCTION.....	157
5.1 SAFETY AND HEALTH DISQUITS	158
5.1.1 OCCUPATIONAL HEALTH IMPACTS OF MINING	159
5.1.2 MINERS LIFE QUALITY	159
5.1.3 MINES WASTE AND WATER CONTAMINATION	159
5.1.4 HEALTH AND MEDICARE EVASION OF OWNER	160
5.1.5 MINES NOISE IMPACT	160
5.1.6 FATIGUE	160
5.1.7 EXPOSURE TO NOXIOUS GASES AND PPE	161
5.1.8 DUST EXPOSURE	162

5.2 ENVIRONMENTAL DEGRADATION DURING MINING	162
5.2.1 ENVIRONMENTAL INCENTIVES IN MINES	163
5.2.2 ENVIRONMENT RELATIONS WITH OTHER SUBJECTS	164
5.3 LABOR RIGHTS CONCERNS IN MINES OHSE	164
5.3.1 PAKISTAN AND ILO CONVENTIONS	165
5.3.2 BONDED AND CHILD LABOUR PROBLEM.....	166
5.3.3 PROBLEM OF LABOUR RIGHTS AND MINERS ABUSES: RISK AND RIGHTS.....	167
5.3.4 KIDNAPPING.....	167
5.3.5 EMPLOYMENT CONTRACT AND LIABILITY FRAGMENTATION.....	167
5.3.6 LACK OF REGULATORY FRAMEWORK.....	168
5.3.7 DEFICIENCY OF PENAL PROCEEDINGS AND REPORTING.....	168
5.4 INSTITUTIONAL CONCERNS OF OHSE IN MINING	169
5.4.1 DISQUIET OF MINES LABOUR INSPECTION	169
5.4.2 OHSE AND MITIGATION METHODS	170
5.4.3 WEAK UNIONISM IN MINING.....	170
5.4.4 MINERS REGISTRATION	170
5.4.5 ABSENCE OF SOCIAL SECURITY.....	171
5.4.6 INAPT RECORDS AND DATA	171
5.4.7 OHSE INADEQUATE MECHANISM	171
5.4.8 COMPENSATION DURING MINES OHSE	172
5.4.9 MINING COMPENSATION AND COMPARISON	173
5.5 MINES OHSE.....	174
5.5.1 LACK OF TRAINING, EDUCATION AND PPE	174
5.5.2 PREVENTION AND REDUCTION OF WORK-RELATED ACCIDENTS.....	174
5.5.3 NON- EXISTENCE OF WORKPLACE MANAGEMENT	175
5.5.4 EXTENSIVE DUTY HOURS	175
5.5.5 DEARTH OF OHSE ADVOCACY GROUPS	175
5.5.6 EXISTENCE OF MINES OHSE HURDLES	176
5.5.7 LEASE AND OWNERSHIP.....	176
5.5.8 EXISTENCE OF OHSE CONCERNS AT NATIONAL AND GLOBAL LEVEL.....	176
CONCLUSION.....	177
CHAPTER # 06	178
MINES OHSE: AN ENCOURAGING RESOLUTION	178
INTRODUCTION.....	178
6.1 MINES OHSE: DEFICIENCY IN LEGAL FRAMEWORK IN PAKISTAN.....	179
6.1.1 LEGISLATIVE DEVELOPMENT AND IMPLEMENTATION.....	179
6.1.2 INSTITUTIONAL ENFORCEMENT.....	182
6.1.3 ENFORCEMENT ADAPTATION OF MINES OHSE	186
6.1.4 RECTIFYING AND STRENGTHENING LEGAL PROVISIONS	186
6.1.5 INFORMATION AND IMPROVING COMMUNICATION IN MINES OHSE.....	187
6.1.6 NEED MINES OSHE CONSULTANT OR MANAGER	188
6.1.7 REFINING INTER-AGENCY COORDINATION	188
6.2 CLAIMS AND COMPENSATION SYTEM.....	189
6.2.1 BUSINESS RESPONSIBILITY FOR OCCUPATIONAL DISEASES AND INJURIES	189
6.2.2 STATE REGULATION FOR WORKER COMPENSATION	190

6.2.3 UK INDUSTRIAL INJURIES BENEFIT SCHEME	191
6.2.4 INCAPACITATION BENEFIT WORKERS' INDUSTRIAL INJURIES	192
6.2.5 WORKERS COMPENSATION FOR OHSE INJURIES	193
6.2.6 WORKERS' COMPENSATION COVERAGE	194
6.2.7 APPORTIONMENT OF WORKERS' COMPENSATION BENEFITS	195
6.2.8 IMPAIRMENT TIME LIMITATIONS BENEFITS.....	196
6.2.9 DISABILITY COMPENSATION AND THEIR CALCULATION	197
6.2.10 COMPENSATION SYSTEM FOR OHSE DISEASE	198
6.2.11 COMPENSATION FOR OHSE INJURIES	199
6.2.12 PROCEDURE FOR LODGING CLAIM.....	199
6.2.13 COURTS AND WORKERS' CLAIM.....	200
6.2.14 EMPLOYER VICARIOUS LIABILITY	201
6.2.15 BREACHES OF EMPLOYER LIABILITY INTERPRETATION	202
6.2.16 NEGLIGENCE AND RELEVANT PROOF.....	202
6.2.17 "STANDARD OF CARE".....	203
6.2.18 DAMAGES AND INSURANCE.....	205
6.3 OHSE ENFORCEMENT	206
6.3.1 OHSE COMPLIANCE AND CRIMINAL PROVISIONS	206
6.3.2 OCCUPATIONAL OHSE CRIMES AND SUBSTITUTE PENALTIES	207
6.3.3 ANCILLARY PURPOSES OHSE CRIMINAL LIABILITY	209
6.3.4 OHSE OFFENCES IN COMPARATIVE JURISDICTIONS	210
6.3.5 PROCEDURES FOR EFFECTIVE ENFORCEMENT THROUGH INSPECTION	211
6.3.6 APPORTIONMENT OF RESOURCES	212
6.3.7 INCENTIVE MECHANISM AND ENCOURAGEMENT.....	213
6.3.8 OHSE NEEDS DETERRENT MECHANISM.....	214
6.3.10 OHSE PROSECUTION.....	215
6.3.11 COURTS AND ITS FINANCIAL PENALTIES	216
6.3.12 PROSECUTION AND OHSE COMPLIANCE.....	217
6.3.13 EMPLOYER-EMPLOYEE OBLIGATIONS.....	218
6.3.14 EMPLOYER LIABILITY	220
6.3.15 WORKERS' AND EMPLOYER OBLIGATIONS UNDER STATUTORY REGULATION	221
6.4 PAUCITY IN INSTITUTIONAL FRAMEWORK	223
6.4.1 OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)	223
6.4.2 OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION (OSHRC).....	224
6.4.3 PENALTIES OF CIVIL NATURE.....	225
6.4.4 NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)	226
6.4.5 PROSECUTIONS AND NOTIFICATIONS	226
6.4.6 OHSE STRUCTURE: THE HEALTH AND SAFETY EXECUTIVE (HSE).....	227
6.4.7 PROSECUTIONS AND PRESCRIPTION NOTICES	228
6.4.8 HEALTH AND SAFETY COMMISSION (HSC).....	228
6.4.8 OHSE AUDIT	229
6.4.9 WORKERS SELF-REGULATION AND THIRD PARTIES	231
6.4.10 OHSE SELF-REGULATION ENFORCEMENT	231
6.4.11 ESTABLISHED INSPECTION MECHANISMS.....	232
CONCLUSION.....	233
FINAL CONCLUSION AND RECOMMENDATIONS	235
RECOMMENDATIONS.....	238
BIBLIOGRAPHY	243

BOOKS	243
JOURNAL ARTICLES	244
PAPERS, REPORTS, CONFERENCE PROCEEDINGS AND DISSERTATIONS.....	245
CODES OF PRACTICE AT INTERNATIONAL LEVEL	248
DOMESTIC LAWS	248
CASE LAWS	249
OHSE ACCIDENTS IN PAKISTAN	249
DICTIONARIES.....	251
WEBLIOGRAPHY	251

INTRODUCTION

All over the world, the force of law is recognised as the most essential factor to ensure that there is an acceptable level of performance in occupational health, safety and environment (OHSE) in mining resources sector. Pakistan, in theory, is a highly regulated country on account of various laws inherited from the British, such as Mines Act, 1923; Factories Act, 1934; and Petroleum Act, 1934. It is worth noting that some crucial laws on OHSE have been enacted since 1974, which are quite comprehensive and incorporate modern technology and good industrial practices. The latter legislation includes: the Oil and Gas (Safety in Drilling & Production) Regulation, 1974 (issued under the Mines Act); Pakistan Nuclear Safety and Radiation Protection Ordinance, 1984 and Regulations, 1990; and the Pakistan Environment Protection Act, 1997 and various other legislations. It is a pity that, despite these laws, OHSE compliance in both public and private organisations relevant to mining sector is poor. This may be attributed to employers' greed — considering OHSE expenditure as unnecessary — and to un-train and unprofessional workers' negligence in compliance, although there is no doubt that employers are lacking attention for workers' training.¹

In today's technology oriented world, advancement in the sphere of law has been the introduction of international standards concerning OHSE. However the lives of mineworkers are put in danger due to OHSE violations. Furthermore, these OHSE measures are formulated in a tricky manner by various sectors like they contain less visible and incomprehensible clauses. These measures are drafted in a capricious and arbitrary manner and are hard to read or understand.²

The mining industry in Pakistan is in the grip of a safety crisis as the avoidable loss of workers' lives continues in the country. In Pakistan the situation of occupational health and safety is fast deteriorating and there is no independent legislation on health and safety except the Hazardous Occupation Rule 1963 under the Factories Act 1934 and Mining Act, 1933. Practically, the above mentioned laws are obsolete and do not conform to international legal best practice.³ Working in a safe and healthy environment is the right of every individual working in any industry and company at small or large level. More than half of Pakistani's population consists of youth. Most of them are under working age, part of various occupations. Ratio of

¹ "2 Chinese engineers die in Pakistan mine collapse", accessed August 1, 2017 Read more at: <http://www.sify.com/news/2-chinese-engineers-die-in-pakistan-mine-collapse-news-international-lcoludhijcg.html>

² Hina Irfan, "Occupational Health and Safety in Pakistan," *social views. Wordpress*, July 13, 2017, <https://socialviews.wordpress.com/2012/07/01/occupational-health-and-safety-in-pakistan-by-hina-irfan/>.

³ "Mine safety crisis in Pakistan: 10 more people killed," <http://www.industrialunion.org/mine-safety-crisis-in-pakistan-10-more-people-killed>. accessed August, 3, 2017,

workers aware of safety and health standards is nominal. Every year thousands of workers become victim of various health hazards, due to poor environmental management system; lack of hazard assessment and environmental audits on regular basis, which is so far not even carried out once in six months at many places, such concerns are just being part of documents.⁴

Furthermore, Health and safety is the fundamental constitutional right guaranteed to the worker under article Article 37(e) in the Constitution of Pakistan that makes provision for securing and humane conditions of work.⁵ Based on above, we see that Mines Act and Factories Act being old legislation, provides only the basic principles related to OHSE and sanctity of labors and principles for the effective enforcement of modern OHSE standards for the stakeholders which could mend and alleviate the unfair practices related to safe work environment. Hence, there is need for legislation in the form of a new special law in Pakistan may be on the pattern of developing and developed states for the Occupational Health, Safety and Environment which extend controls on such abuses related to labors and to address the modern trends of OHSE in the standard form.⁶

Working conditions of mine workers and worker of petroleum sector, particularly coal mines, are very poor. The severe lack of safety measures in these mines cause widespread deaths every year. Government agencies have not been able to stop accidents because of very poor physical and technical standards observed by small and medium mines. Accumulated methane gas reportedly caused a blast inside the mine, while heavy rainfall added to difficulties in rescuing 27 workers who were trapped inside.⁷ While comprehensive data on mine fatalities is not available, a survey of news reports shows that since 2010, at least 228 mineworkers have been killed in 38 separate incidents. This may be a low estimate, but nonetheless reflects the magnitude of the problem. The unabated loss of life proves that Pakistani mines continue to be operated with poor safety standards and bad ventilation.⁸

A survey by the Lahore based Centre for the Improvement of Working Conditions and Environment (CIWCE) found that industry lacks basic hygiene facilities, has inadequate exhaust filters, fire prevention and medical facilities, emergency transport, waste disposal systems and

⁴“Workers Employers Bilateral Council of Pakistan,” accessed June 28,2017, <http://www.paycheck.pk/main/labour-laws/health-safety-at-work/occupational-safety-and-health>

⁵ Article 37, Constitution of Pakistan, 1973

⁶“ What Are the Most Common Mining Accidents?”, accessed August,2, 2017, www.thebalance.com/most-common-accidents-occurring-in-the-mining-industry-2367335

⁷ “Fifteen die in Pakistan coal mine blast”, accessed July, 31, 2017, <https://www.timesofmalta.com/articles/view/20040527/local/fifteen-die-in-pakistan-coal-mine-blast.121964>

⁸ “Mine safety crisis in Pakistan: 10 more people killed,” accessed August, 3, 2017, <http://www.industrialunion.org/mine-safety-crisis-in-pakistan-10-more-people-killed>.

hazard warning signs. Workers in hazardous industries such as textile, tanning, chemicals, paper, sugar, electrical and electronic suffer from higher rates of occupational accidents and are likely to get diseases such as lung cancer, skin and eye allergies, deafness and headaches.⁹

SKETCHING THE TERMS OCCUPATIONAL SAFETY AND HEALTH

Definition of Occupation Health and Safety: The definition of occupational health was adopted by the joint ILO/WHO (International labor organization/ World health organization) in 1995.⁶ “The promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention among workers of adverse effects on health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of workers in an occupational environment adapted to physiological and psychological capabilities; And to summarize, the adaptation of work to man and of each man to do his job”.¹⁰ And The definition of Occupational hazards “Source or situation with a potential for harm in terms of injury or ill health, damage to property, damage to the workplace environment, or a combination of these”.¹¹

According to the International Occupational Hygiene Association, occupational safety is the science of anticipating, recognizing, evaluating and controlling health hazards at the workplace with the objective to protect worker health and wellbeing and safeguard the community at large. As stated by ILO DG in 2009, occupational safety and health is human right and that decent work eventually is safe work.¹²

OBJECTIVES OF RESEARCH

The major objectives of this research are to:

- 1) To identify the similarities and differences between the OHSE measures adopted in Pakistan and in other developed and developing countries.
- 2) To show that the Pakistan’s legal regime have got peculiar problems that exacerbates the problem of OHSE and therefore need specific attention.

⁹ “Annual report for 2004, of Centre for the Improvement of Working Conditions and Environment, (CIWCE) Lahore. This Centre is the focal institution within the Directorate of Labour Welfare Punjab, providing information, training and advisory services to the industry, workers and concerned agencies for the improvement of working conditions and environment. It is encouraging for us that the industry has given full backup and support to the activities of CIWCE and has joined hands with us in reducing the toll of accidents and diseases at the workplaces.”

¹⁰ Definition of Occupation Health and Safety: The definition of occupational health was adopted by the joint ILO/WHO (International labor organization/ World health organization) in 1995.⁶

¹¹ Riaz. Engr. Ms. Hafsa, ” Occupational, Health Safety And Environment In Textiles,” Assistant Professor Department of Fabric Manufacturing, *National Textile University*, Faisalabad.

¹² “Occupational Health and Safety Worldwide,” NEBOSH accredited course provider, 1178, <http://www.paycheck.pk/main/labour-laws/health-safety-at-work/occupational-safety-and-health/occupational-health-and-safety-worldwide>, accessed 24 June, 2017

- 3) Diagnose unresolved issues which permeate the relevant legislation and case laws of relevant jurisdictions and compare problems that affect their law. A comparative evaluation will ultimately allow the identification of the best solutions which are available in one legal system and that can be incorporated by the other in order to improve the way that this system deals with the problem.
- 4) Comprehensively analyze the set of rules which control OHSE in contemporary legal standards, and examine how these might be integrated into and reconciled with the judicial and legal practices in relevant legal jurisdictions and to find out the extent to which other legal best practices recognizes this issue and what kind of legal effects it considers for it.
- 5) To assess and analyze the impact of inadequate legal protection on the problem of OHSE the adequacy of the existing international legal regime in the control of such issues in Pakistan.
- 6) Furthermore, it is also expected that this research will provide an invaluable insight of the issue and its recommendations prove to be helpful for the concerned in improving further the OHSE model in Pakistan.

RESEARCH QUESTIONS

The analysis of the problems regarding OHSE brings out the following major issues:

- 1) What is lacking the existing legal and institutional framework concerning mines OHSE in Pakistan?
- 2) How effective is the existing international legal and institutional framework regarding OHSE?
- 3) What is the international legal response and efforts for the mineworkers OHSE issues?
- 4) Who should be responsible and what is the way forward towards adequate protection of OHSE concerning issues in Pakistan to curb mineworkers' exploitation and injustice?

THEORETICAL FRAMEWORK

According to the opinion of Howard C. Kelemme "The truth is that the law is always approaching, and never reaching, consistency." Mines OHSE is the contemporary issue and there are established practice in developed states as per their comparison with developing states. The "enterprise liability theory" is linked with mineworkers' compensation as per the industrial accidents and injuries basis. The better implementation of this theory is that the entity as well as owner/directors deserves absolute liability for the injuries and accidents of OHSE subject to nature of negligence. The public policy required the fixation of liability for the reduction of OHSE hazards in an efficient manner. Such cost, compensation, punishment and risk required

insurance or other remedy from the owner or directors. This theory redesigned the concepts of torts law and revised the concepts of vicarious and strict liability in the enterprise or corporate liability theory.

The philanthropy theory used for the better foundations and further will bring into line operational, policy level and to create better impact amongst OHSE stakeholders in mining sector. Moreover, the theory is bitterly quoted for foundational change to achieve better position for the workers and other employees. The theory provides a mechanism for OHSE practitioner and scholars to understand and operationalize philanthropy at grassroots level. Moreover, this idea is to establish a humanitarian relationship for social movement and philanthropy alongwith innovation in mining businesses. In the present study, the researcher will utilize the theories of Enterprise liability, and philanthropic philosophy. The protection of mines OHSE is necessary for the investment protection at state level while better human rights practices are call of the day for better regulatory mechanism in the mining sector. There are various differences amongst various factions for the better understanding and resolution of such issues in this sector.

RESEARCH METHODOLOGY

Methodology is a plan of principles, guidelines and techniques that guide exploratory. Research methodology offers principles to assemble affirmation and truths about the issue for elucidating why it happens and for doing it in such a way that distinctive investigates can check the revelation. It is appreciated that exploratory authenticity is concentrated around the sufficiency of the rationality. The inspiration during driving method is to depict and illuminate investigation arrangement and techniques of the study. The research will employ library based research and for the purpose of this study, doctrinal and comparative research methodology will be followed. Moreover there will be reliance of primary and secondary data which refers to designs, procedures, analytical techniques and tools used to determine the state of the legal phenomena, with appropriate recommendations to remedy the situation. This view of research methodology is aligned with many other laws related scholarly inquiry which has been demonstrated.

Doctrinal research methodology refers to the systematic process of examining the current law, “arranging, ordering and systematizing legal propositions, and study of legal institutions [as well as creating] law and its major tool to do so is through legal reasoning or rational deduction”. In large part, the ‘legal doctrine is primarily characterized by the hermeneutical discipline interspersed with logical, argumentative, normative and empirical imperative aspects’. In this case, it critically interprets legal texts, reasons with the sense the texts make, argues or presents

positions, and considers values and norms to form reasonable viewpoints. Thus, doctrinal methodology focuses only on legal reality. In this study, doctrinal methodology was deployed through utilization of expository and analytical research techniques. These techniques entail careful retrieval and critical analysis of documents and applicable articles or principles of legal instruments such as constitutions, legislations, covenants, and treaties. The doctrinal research methodology, as applied here, seeks to critically establish the current discourse in mines OHSE. Of particular focus, under this methodology, is the analysis of the mines OHSE legislations, framework and policies etc.

There are a number of approaches or rationale for conducting comparative legal research. A comparative legal research aims at 'identifying legal solutions from foreign legal systems that are deemed to be better enough to be incorporated into the domestic law'. The approach resounds with the doctrine of legal transplantation which essentially means transmission of a rule, set of rules and or a legal system from one jurisdiction to be integrated into the legal system of another jurisdiction. This study utilizes adaptive and integrated legal transplantation which focuses on making use of only foreign rules that are suitable for the domestic legal system and aspirations.

In the light of the above, the comparative analysis was conducted on mines OHSE including UK and US and the OHSE international standards adopted by the International Labor Organization (hereinafter referred to as ILO). The jurisdictions selected helped the study to establish the general character and pattern of current mines OHSE legal frames for Pakistan in order to make an appropriate case for possible reforms. This by no means completely represent the specific situations and dynamics in all mines OHSE legal regimes. Rather, it depicts a reasonably representative characterization of Pakistan. It merely provides an opportunity to establish the teething gaps of and solutions for mines OHSE legal frameworks as used to connect socioeconomic rights of mineworkers. The country-specific and international practices would, therefore, act as a useful experiential guide to generate original propositions that sustainably resonate with the legal conditions of Pakistan.

LITERATURE REVIEW

Due to the magnitude of the problem, the mines OHSE is an issue that has of recent drawn the attention of many writers. US and UK in particular have been the focus of many writers, however much of the writings have taken the form of established write up while academic research is missing in that part. Though there are lesser importance to such issue relevant to Pakistan. Nevertheless, available literature on mines OHSE as a whole cannot completely be ignored if a meaningful study of the problem of mineworkers in Pakistan is to be made. Hence

following is a study of some of the reviewed literature:

Cave and Baldwin makes a very important contribution to the study “Understanding Regulation. Theory, Strategy and Practice” related to the study of criminal liability of corporate criminal liability, which, which apart from being the most comprehensive document on the normative framework on health and safety study provide the relevant structure on the relevant issue.¹³

Status of Occupational Health and Safety in Brick Kiln Industries at Hatter Industrial Estate Haripur, Pakistan by Zia-ur-Rahman¹, Noshi Ambreen, Tariq Khan and Dr. Abdullah Khan, Department of Environmental Science, Hazara University, Pakistan, N. Ambreen et al/ Journal of Environment (2012), Vol. 01, Issue 02, pp. 56-63. The study focused on OHSE status in brikkiln and coal and at Hatter Industrial Estate Haripur (Khyber Pakhtunkhwa, Pakistan) in relation to the current health and safety laws. It is a legal and moral requirement that owners of the Kilns should provide accident free working environments and basic welfare facilities for their workforce but Pakistan has a poor OHSE status and highlighted numerous issues.

Howells and Barret argues that, “, the argument that the imposing of punishment will act as a deterrent is weak in situations where the wrongdoing is not premeditated, but is committed through failure to perceive the consequences of an action or inaction.”¹⁴

Occupational Health Safety Management, A practical Approach, Second Edition, CRC Press, Taylor and Francis Group, A book by Charles. Reese. The work focus the OHSE management at global and local level concerning control, prevention, injuries/illness and relevant techniques. The work has many significant aspects for the improvement and change of the mining corporations and behavioral approach of the employer-employee relationship. It is designed to guide you in having an effective OHSE effort at your company and will provide you the specific areas for each aspect of incorporating occupational safety and health into your company.

The work of Bonner and Forman 1993 *San Diego Justice Journal* presumes that individuals and enterprises behave rationally, and will choose conduct which will result in the greatest benefit. Criminal punishment will therefore deter the offender or potential offenders, as it outweighs the benefits of committing a crime.¹⁵

Professor James Gross makes a very important contribution to the study of OHSE in the

¹³ Baldwin and Cave, *Understanding Regulation. Theory, Strategy and Practice* op. cit. n.359, p.158 et seq.

¹⁴ Barret and Howells (1995) *Cases and Materials on Occupational Health and Safety Law* 189.

¹⁵ Miller and Anderson 1986 *The Journal of Criminal Law and Criminology* 418, and Bonner and Forman 1993 *San Diego Justice Journal* 7.

form of articles and books specifically at US regime, apart from that these documents provide a comprehensive study and better institutional framework on the subject and further elaborated the mineworkers' human rights.

“ILO Conventions and Gender Dimensions of Labour Laws in Pakistan, South Asian Studies, A Research Journal of South Asian Studies, Vol. 30, No.1, January – June 2015, pp. 257 – 271 by Muhammad Javaid Iqbal, Government of Punjab, Lahore. The article is an essential insight of the Occupational issues related to labour laws and gender discrimination as a result, various efforts were made in the country to make labour laws and policies in line with these conventions. The paper examines country labour laws with an objective to explore whether these are in accordance with the Pakistan's international commitments. It also highlights weaknesses of labour laws and suggests means and ways as a way forward for overhauling of these laws, especially, in the context of the scenario after the 18th Constitutional Amendment.”

Emily E, Spieler, works on “Risks and right: A case of Occupational Safety and Health as a Core Worker Rights,” is one of the academic contribution that though not a legally binding document but reflects with existing human rights and risks at the mining sector. Moreover, the work highlighted the challenges and menaces at workplace and address gaps and grey areas.

Benjamin P discusses about the various reforms and reports about mineworkers compensation and social security along with institutional structure for better understanding of mines OHSE. The author further provided realistic solutions for mineworkers' protection of health, safety and environment.

Status of Labour Rights in Pakistan, Pakistan Institute of Labour Education & Research PILER by Advisor Karamat Ali, Editor Zeenat Hisam. This is a report compiled by PILER which was comprehensively discusses the issues of Labour rights in Pakistan. The study will help me to understanding the labour struggle, labour conditions and legislative changes in Pakistan. This report, fourth in the series, is yet another modest attempt to put together glimpses of the world of work in Pakistan and present a picture of the current status of labour in the country. The work gives an overview of the socio-economic and political context, human development indicators, legislative development, labour market indicators and the existing terms and conditions of employment. Moreover the report presents a collection of research articles, case studies, and analyses of trends and issues related to labour and employment. PILER is greatly indebted to the researchers and writers who contributed to this section.

Hazardous Waste Handbook for Health and Safety, by William F. Martin, John M. Lippitt, Timothy G. Prothero, an exhaustive handbook on OHSE in Mining as well as other relevant sectors. This book will help in comparing the US regime on the subject matter and further provide a guiding document for OHSE supervisors at hazardous waste sites. The goal of this handbook is to improve hazardous waste operations efficiency through knowledge and training of the work force and to reduce the cost of hazardous waste cleanups through reduced law suits and liability losses of employers and individuals.

There are various case laws and incidents and decided by Pakistani superior judiciary on the issue of standard remedy related mines OHSE, however, the courts have discussed the OHSE issues under various legislations and there is no specific code of OHSE in mining sector or in other relevant sectors. Here follows a brief review of the selected cases:

- General Secretary Salt Miners Labour Union (CBA) Khewra, Jhelum v The Director, Industries and Mineral Development, Punjab, Lahore (1994 SCMR 2061),
- Tradesmen International (Pvt.) Ltd. V Federation of Pakistan, 2008 CLD 1217.
- “The Supreme Court, relying on Shehla Zia,(PLD 1994 SC 693) and reiterating its openness to procedural constraints in public interest litigation cases, stated that “The right to have unpolluted water is the right of every person wherever he lives”.
- M/s World Wide Trading Co. v. Santo Electric Trading Co. Ltd., PLD 1986 Karachi 234.

STRUCTURE OF THE THESIS

Chapter 01 examines the conceptual framework of health, safety and environment in general terms and will provide historical development of OHSE and mineworkers’ rights.

Chapter 02 offers an overview of the mines OHSE and workers participation made by international organizations such as ILO and European Union states.

Chapter 03 discusses the legal and institutional basis for OHSE and mineworkers’ laws in UK and US and investigate the existing legislations in these developed states practices. This includes the development of liability without fault and the “enterprise liability theory”, especially in the United States of America.

Chapter 04 identifies the features of OHSE laws designed to prevent the occurrence of industrial accidents and diseases and the strategies of control available to the state. These include: the compensation system through statutory standards under labor and environmental legal regime.

Chapter 05 addresses the role of authorities and agencies in enforcing workplace OHSE; issues such as resource allocation, inspection and enforcement approaches are main obstacles in

Pakistan legal system. Furthermore, it highlight the legal challenges and other impediments in Pakistan.

The discussion in Chapter 06 provides workplace OHSE by means amongst others jurisdictions through various standards and identifies other alternatives to these standards, such as voluntarism, and incentive-based approaches. This chapter considers the role of criminal sanctions and prosecution in regulating workplace safety and health. It addresses the compensation for occupation diseases and accidents with comparative approach. The different approaches to compensating injured workers in the US, the UK will be identified.

It should be noted that this work is broad-based and policy-oriented and an attempt to address the detailed content of OHSE legislation in any jurisdiction. The aim is rather to compare the similarities and differences regulation in the UK, US and Pakistan and thereby to create an awareness of the different options available to authorities and agencies to ensure a safer and healthier environment for mineworkers.

CHAPTER # 01

MINES OHSE: A CONCEPTUAL LEGAL FRAMEWORK

Introduction

Most of the mineworkers die as result of accidents, hazards and injuries at workplace. There are huge sufferings concerning life mineworkers while the protection of “occupational health, safety and Environment” (OHSE) are in a degraded situation with weakening sustainable development. The role of the mining sector is vital for economic development and is often associated with accidents: disasters and environmental degradation. Mine disasters of any nature received wide attention due to the miseries of mineworkers. OHSE is the foremost expectation that to provide quality life and livelihood to mineworkers and to avoid risks in such industry. These accidents, injuries and risks can affect environment, health and safety and link with sustainable development. There are disastrous situations caused due to human error but such accidents can be avoided through efficient management and planning. Various laws had been promulgated to address the cause and decrease the environmental and OHS hazards but such issues have not been resolved yet. There is dire need to focus on the existing legal regime to identify gaps among the mining companies OHS and environmental laws. Pakistan has diverse mineral resources and the list ranges from precious minerals by explorations and industrial minerals. Mining sector play vital role in economy and is a fast-growing industry. The aim is to provide work opportunity for the rural population to alleviate poverty to secure employment. There are gaps concerning implementation, ineffective administration of environmental quality control on part of States.¹⁶

The literature for this study was based on, issues, cost and causes of the workplace, problems in mines OHSE. This review bases in summarizing, evaluation of OHSE in Pakistan and other practices as well. The ratio of OHSE protection in the mining sector is poor as compared to other sectors while accidents and injuries are higher. The construction, manufacturing, mining and rail are dangerous and noxious sectors concerning health and safety issues. Miners work in confined situations and in contact with heavy equipment causes ergonomic hazards. These threats are connected with weak engineering design and add safety hazards. For example, coal miners are subjected to OHS hazards, such as dust, gas, noise, vibration which may manifest of immediate danger. OHSE can be controlled by new legal mechanisms, approaches and

¹⁶ Chiras, D. *Environmental Science: A System Approach to Sustainable Development* (1998) Wadsworth Publishing Company, at pp 306-308.

alternative processes and making changes in the method and planning for the mining extraction procedure.

1.1 Looking at Health from Different Perspective

It is important to determine and understand what lies under “health and safety” in the “workplace”. These are connected to different terms such as “hygiene”, “hazards”, “reasonable practice” and “risks”. People working in different environments may attach different meanings to these terms. But it is better to have a common understanding of these terminologies in different industries and the present chapter’s focus is on providing a background to health and safety legislation in terms of definitions, enforcement, and the relevant role players in legislation. Well-being of every human being is a fundamental right across the globe. For a complete and balanced life good health is the most important factor. It is not only an individual’s responsibility but also a social goal for every nation on the earth. For centuries different schools of thought have been existed dealing the area of health. According to a school of thought health is termed as “*absence of disease*”. There are different definitions and standards of health being discussed with the passage of time. In the contemporary era due to spread of education and awareness, the overall attitude of individuals, governments and social organizations towards health has been improved upto a great extent.

It is not concurrently possible for a person to be active at mental, biological and social as we all have some health issues or diseases.

Besides this, other definitions of health are as follows:

- According to Oxford dictionary,

“Health is that condition of mental and physical soundness which enables the body to perform its functions timely and effectively. Health is the soundness of the body, mind or spirit, especially the state of being free from diseases or pain.”¹⁷

Report of a technical study on health states that, “*Health is a condition or the quality of appropriate functioning of a human being in the given circumstances, genetics and environment*”. The definition of health have various interpretation as per the World Health Organization (WHO) has general acceptance. Recently, the economic, spiritual and social has be incorporated in the definition. In short, health can be described as the state of absence of diseases, normal functioning of a person as per age and gender, under the prevailing social and

¹⁷ Oxford Dictionary, Latest edition, 2017

geographical conditions and also his/her ability to work automatically based on coordination and balance among different organs of the body.¹⁸

1.1.1 Unpacking Occupational Safety and Health

The “International Labor Organization (ILO)” and WHO agreed to the definition of health in 1995.

“The promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention among workers of adverse effects on health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of workers in an occupational environment adapted to physiological and psychological capabilities; And to summarize, the adaptation of work to man and of each man to do his job”.¹⁹

Occupational safety and health aim to protect human resource in the workplace. OHS through its professionals focus and work to prevent workplace injuries and other diseases to workers. For example safety professionals through conducting pre-inspections can prevent fires and explosions that could abolish entire structures. In an organization the management function is dealt by OHS for example during product movement the safety professionals guides and manages on how to move a product to avoid lifting injury exposures. Furthermore these professionals also strive to eliminate environmental hazards, facility damage, waste, and costs that an organization may operate more productively. Companies are legally bound to promote OHSE and governments across the globe needs to protect workers from workplace accidents through proper legislation and formulation of realistic policies.²⁰

Unfortunately for more productivity and increased profit, companies and some employers may not pay heed to it's workers' health and safety. The managing authority may view illnesses and injuries to the workers at workplace as a routine part of the job. While in reality, the amount of production required to cover costs associated with accidents in the workplace may far outweigh the expense of providing a safe and healthful working environment to the workforce. Safety professionals and employers are duty bound to monitor workplace conditions. These

¹⁸ “Conclusions concerning Future Action in the Field of Working Conditions and Environment, adopted by the 70th Session of the International Labour Conference on 26 June 1984, section I, paragraph 2.”

¹⁹ “ILO, (1995). Occupational Safety and Health Convention (No.174). Geneva: International Labour Organization, Switzerland.”

²⁰ Gregory R. Watchman, *Safe and Sound: The Case for Safety and Health Committees under OSHA and the NLRA*, 4 Cornell J. L. & Pub. Pol'y 65 (1999).

professionals are also required to advise management regarding making critical corrections for moral, financial and legal issues.²¹

1.1.2 OHSE Significance

OHSE is significant for workers, their committees and representatives for their earning. These mineworkers face numerous issues due to their old age. Sometimes, their interests clash with their employer or business entities. These corporations or mines businesses assess the OHSE issues in a traditional manner with less importance. The previous findings indicate huge human and financial costs to such organization. The OHSE professionals in these organizations initiated various activities and programs to curtail the costs of health and safety. Furthermore, the findings indicated few things like relationship of employee-employer relationship, employee retention and acquisition, workforce diversity, morale of employee.²²

Numerous business entities and informal mining sector are not paying attention to improving of OHSE. Financial growth is connected with welfare of workers and organizational efforts for putting OHSE at prior stage. OHSE needs instant attention in legal, economic and personal terms for stressful, unsafe and unhealthy for dreadful workplace. Numerous publications in the last few years focused on the prevention of occupational injuries, diseases and accidents. In history it was believed that manpower is not exhaustible and industries may replace workers so easily. However in the contemporary industries can not afford to lose experienced and committed employees because of unhealthy working conditions. The cost of selection and recruiting of new employees is a tiresome and expensive task for the industries. Others have concentrated upon the wages, compensations and profit losses associated with workplace injuries, accidents and diseases.²³

Furthermore, an enterprise's failure to ensure workplace OHSE can increase its direct and indirect costs. Many researchers identify direct cost as expenses that consist of repairs to equipment, a replacement for damaged material, payment of high insurance premiums, compensation to the injured worker and medical bills. The indirect cost includes low productivity due to lost time by workers and supervisors attending to an injured worker, loss of earnings to the injured worker, time and money spent on training replacement workers as well as the damage caused to the image of the company in the public. Again, poor working conditions can affect the performance of the industry by increasing its operational cost and lowering profitability. An

²¹ "Kenneth D. Rosenman, *How much work-related injury and illness is missed by the current national surveillance system?*, 48 J. Occup. Envir. Med. 357 (2006)."

²² "Freeman and Rogers, *What Workers Want* (2D ED.) (Cornell Univ. Press, 2006).

²³ Gregory R. Watchman, *Safe and Sound: The Case for Safety and Health Committees under OSHA and the NLRA*, 4 Cornell J. L. & Pub. Pol'y 65 (1999)."

enterprise with a bad record of occupational health and safety may create an image problem that could make it difficult to attract workers and customers alike.²⁴

For all organizations, OHS, has been remained an important concern, especially those organizations which are engaged in high-risk operations like mining. Proficient OHS practices provide a safer working environment and improves worker efficiency. Industries pursuing good OHSE practices, face fewer workplace injuries, gets higher employee retention rates and a better corporate image in the market. Furthermore it also lessens the costs arising out of production delays, and recruiting new staff. Industries and businesses who endeavor to improve their OHS performance create safer workplaces, which are not only beneficial for employers and employees but also for their families, communities and overall economies.

The employers and other social partners should take interest in workplace hazards that include biological, physical, emotional and chemical. More investment in OHSE marks better economy and highest productivity while less investment conceded weak results. Low investment in OHS is disadvantage for economic prosperity while active input is connected better development. The cost and effect of occupational accidents and hazards cannot be underestimated. It was revealed that workplace accidents and injuries have consequences for all in the working sector. It is, however, important to identify the predisposing factors leading to workplace accidents and injuries.²⁵

1.1.3 Safety and Health

It is significant to define health appropriately before defining of OHSE. The "Occupational Health and Safety Convention" define "health" as "not merely the absence of disease or infirmity, it also includes the physical and mental elements affecting health which are directly related to safety and hygiene at work". WHO defined it "is the complete physical, social and mental state of well-being." Other components of health well being, prosperous, absence of disease. Public health is different form occupational health and the later is used at workplace. In 1950 the ILO and WHO defined "occupational health" as the "promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations by preventing departures from health; controlling risks and the adaptation of work to people, and

²⁴ Browne Jacobson, *Sentence Handed Down Following Fifth Corporate Manslaughter Conviction* (Jan. 17, 2014), http://www.brownejacobson.com/about_us/resources/bulletins/sentence_handed_down_following.aspx (accessed May 6, 2014);

²⁵ Alli, Benjamin O. *Fundamental principles of occupational health and safety* Geneva, International Labour Office, 2001

people to their jobs". The health is associated with well-being, physical and mental integrity of workers and should not be adversely affected.²⁶

According to the Webster Dictionary, "safety" is deemed as the "freedom from danger or harm or a state of being safe". The workers involved is not deemed to be in harmful and dangerous situation.

"OHSE" has been defined as the study of hazards arising in the workplace and the analysis, recognition, anticipation and control thereof. "Occupational health and safety" is certain if the employer does "health and safety management".

For purposes of this dissertation, OHS is defined "the control, prevention, anticipation and analysis of any hazards which could occur in the workplace and which could cause injury or illness, or which could affect the workplace health and well-being of the employee in workplace." The "occupational health" is further elaborated as "the physical, social and mental elements relating to a worker's well-being in the workplace by ensuring a disease and injury-free workplace, a workplace where risks are controlled; where the work is adapted to the people and the people to their work".²⁷ Member countries of the WHO have approved the following definition of "Health for all": Health for all means "Attainment of a level of health that will enable every individual to lead a socially and economically productive life."²⁸

1.2 OHSE: As a Human Right

The protection of health and life of mineworker is a basic human right and is highly recognised while safety is another important element for a decent work environment. It is the duty of miners to be careful about their safety as well as other co-workers during their employment. This infers a right to stop unsafe work which causes vulnerability to mineworkers health and safety. The right to information is another basic right to know about the management of OHSE. Further, the mineworker must take care of their OHSE and must need to know about the dangers, possible accidents and occupational risks. The workers should be appropriately trained about safety and informed about possible health hazards. The mineworkers and their work supervisors must collaborate with an enterprise to make progress in OHSE for the better enforcement of preventive measures.

²⁶ "Joint ILO/WHO Committee on Occupational Health defined the purpose of occupational health. It revised the definition at its 12th session in 1995."

²⁷ Chris W. Johnson, *Corporate Manslaughter Legislation, Public Policy, and the Legal Response to Workplace Accidents*, 46 *Safety Science* 349 (2008), available at <http://www.dcs.gla.ac.uk/~johnson/papers/Corporate> (accessed May 6, 2014).

²⁸ Quinlan, M., Mayhew, C. and Bohle, P., "The Global Expansion of Precarious Employment, Work Disorganization and Occupational Health: Placing the Debate in a Comparative Historical Context," *International Journal of Health Services*, (2001), 31(3):507- 536.

The governments are answerable for ensuring of mineworkers rights general as well as OHSE rights and implement relevant policies for their betterment. Such policies must be part of future legislation with effective enforcement for mineworker's protections. Most of the time it is difficult to cater to all workplace hazards and risks through legislation and the convent mechanism to address OHSE issues through collective agreements amongst stakeholders. OHSE are likely to be implemented and supported through their business sector in the form of codes, collective agreements, regulations or law. The relevant authority should bound to review or issue codes or regulations, conduct research for hazard identification and overcoming them. Further, the authority is to take appropriated steps to avoid calamities where risk is high and informed the workers and employers about the possible danger.²⁹

The right to OHSE at work is enshrined in the "United Nations Universal Declaration of Human Rights, 1948," which states:

"Article 23: Everyone has the right to work, to free choice of employment, to just and favourable conditions of work"³⁰

The "United Nations International Covenant on Economic, Social and Cultural Rights, 1976" reaffirms this right in the following terms:

"Article 7: The States Parties to the present Covenant recognize the right of everyone to the enjoyment of just and favourable conditions of work, which ensure, in particular:(b) Safe and healthy working conditions."³¹

The human rights policy of mineworkers in many states includes numerous provisions regarding the operation of occupational health services, progressive extension and establishment. In developed states, they introduced the OHSE surveillance system at the national and organizational level for workers protection, promotion and preventive approach. The surveillance system will help to ensure the implementation of OHSE to protect the mineworkers. The following are three objectives concerning the effectiveness of OHSE.³²

"The maintenance and promotion of workers health and working capacity further to improve the working environment for conducive OHSE. The development of work organizations and cultures in a direction that supports work OHSE and promotes a positive social climate and smooth operation and may enhance the productivity of the undertakings. The principle of working culture is intended in this context to mean a reflection of the essential value

²⁹ "Technical and ethical guidelines for workers. health surveillance, Occupational Safety and Health Series, No. 72 (Geneva, 1999)."

³⁰ Article 23, United Nations Universal Declaration of Human Rights, 1948.

³¹ Article 7, The United Nations International Covenant on Economic, Social and Cultural Rights, 1976

³² "Encyclopaedia of occupational health and safety, 4th edition, edited by Jeanne Mager Stellman, 4 Vols. (Geneva, 1998)."

systems adopted by the undertaking concerned. There need a culture of personnel policy, training, better management, of the enterprise.”³³.

The definition of Occupational hazards is given as; “Source or situation with a potential for harm in terms of injury or ill health, damage to property, damage to the workplace environment, or a combination of these.” According to the “International Occupational Hygiene Association,” its main purpose is to protect mineworkers OHS after evaluating, anticipating, controlling risks. Moreover, to secure the well-being and health of entire community. The ILO in 2009 stated the OHSE as human rights and demanded for workplace safety.

“It is increasingly recognised that protection of life and health at work is a fundamental workers’ right: in other words, decent work implies as of work. Mineworkers have to take care of their OHSE, and others as well. This implies a right to know and to stop work in the case of imminent danger to OHSE. To take care OHSE of workers need to understand occupational risks and dangers. They should, therefore, be properly informed of hazards and adequately trained to carry out their tasks safely. To make progress in OHSE within enterprises, workers and their representatives have to cooperate with employers, as well as to participate in elaborating and implementing preventive programmes.”³⁴

1.2.1 Workplace

The definition of “workplace” given under the Occupational Health and Safety Convention, is that the “workplace” includes any place where employees need to go on directly or indirectly upon the instruction of the employer. “workplace” can also be defined as “the physical location where the operations or work of an agency is performed”. The Singapore OSH profile indicates a few different places included in the term “workplace”.³⁵

Certain places are excluded from mines definitions like abattoirs. “Workplace” has also been defined as “an establishment or facility at a particular location, one or more work area.” Workplace is not clear about driving or about employment and a business dictionary can define “course of employment” as;

“Regular activities through which an employee carries out (or is supposed to carry out) the orders of his/her employer. Wrong is considered committed during employment only if what the employee was doing (at the time the wrong happened) falls within the scope of those activities. A “workplace” was defined as every independent premises or place or operation with regards to size, function

³³ Jackson, C.A. (2004) *The evaluation of occupational health advice in primary health care*. (HSE Research Report 242) Health and Safety Executive, London, <http://www.hse.gov.uk/research/rrpdf/rr242.pdf>.

³⁴ James, P. and Walters, D. (2004) Is workplace health and safety really revitalised? *Occupational Health Review* 108: 12.

³⁵ “European Commission. Commission staff working document: Evaluation of the European Strategy 2007-2012 on health and safety at work. SWD(2013) 202 final 2013.”

or organisation where an employee acts on instruction of the employer, including driving to and driving from the workplace, and may include one or more places managed by one central head office.”³⁶

Interpreting the definition, it seems as if the "workplace" would include driving to and from the workplace. In the case of Association of Mineworkers and Construction Union and Others v Chamber of Mines of South Africa and Others, the court interpreted the term "workplace". Section 213 of Labor Relation Act consider different mines as workplaces. It is defined as "the place or places where the employees of an employer work". The court states that "If an employer carries on or conducts two or more operations that are independent of one another because of their size, function, or organisation, the place or places where the employees work in connection with each independent operation constitutes the workplace for that operation". The court mentioned that a "workplace" is "effectively, an independent operation concerning its size, function or organisation". Mines are managed financially and operated under specific authority as found by courts. The mines company or industry is employer as legal personality and individual cannot be employer. The court of appeal agreed with court opinion a quo.³⁷

Workplace is a place or premises for operation of an organization and its function or size and workers follows the instructions of their employers including drivers. Besides, there are other places connected with such premises like head offices, or cabins etc. furthermore, workers are exposed to hazards and risking situations in operation area and unhygienic for their OHS.³⁸

1.2.2 Workplace Hazards And Repercussions for Health

Health problems reported in the literature in the formal sector appear to be similar to those that occur in the mining sector. The common causes of health problems include poor housekeeping, poor lighting, long working hours that lead to fatigue among workers, poor workplace design, ignorance of risks posed by chemicals and increased practice of self-medication. Furthermore, the accommodation is recognised as serious factor for mechanics health. Due to overcrowding, the mineworkers and their families were exposed to airborne

³⁶ Alli, Benjamin O. *Fundamental principles of occupational health and safety* Geneva, International Labour Office, 2001

³⁷ "Stephens C & Ahem M (2001): Worker and community health impacts related to mining operations Internationally(A report commissioned by Mines Minerals & Sustainable Development (MMSD) Project of International Institute for Environment and Development(IIED); pp-14."

³⁸ European Commission. Commission staff working document: Evaluation of the European Strategy 2007-2012 on health and safety at work. SWD(2013) 202 final 2013.

iseases such as upper respiratory tract infection, pneumonia, tuberculosis and skin infections such as scabies, which is spread through body contact.³⁹

Mechanics, especially those who work in a coalmine, generate a lot of dust and toxic waste into the climate. The dust which comes out as a by-product of materials that are taken through processes explorations and exploitations is a source of health hazard for the mineworkers and residents of nearby communities. This is because the dust, involuntarily inhaled can have serious implications for the respiratory and pulmonary functions of the body. The polluted air due to carbon emissions also affects vegetation by blocking plant pulse and reducing light penetration and photosynthesis.⁴⁰

Mine sector workers are also exposed to common chemicals that have serious implications for their health. Especially, when production takes place at home, family members and workers are potentially exposed to harmful chemicals. For example, loss of eyesight, skin HIV has been reported in homes due to dust particles and powered chemicals make contact with the eye. This has been corroborated by a study in Kenya where chemicals used by home-based jewellery workers (e.g. boric, sulphuric, nitric acid, cyanide and caustic soda) led to the eye and respiratory disorders. With an indication of the types and causes of hazards accidents and injuries workers, in general, are exposed to in their work as well as their health problems, there is the need to discuss hazards, accidents and injuries in informal small-scale enterprises.

1.3 Defining Mines

The “Mineral and Petroleum Resources Development Act 28 of 2002” defines “mines” in section 1 as

“(a)(i) any excavation in the earth, including any portion under the sea or other water or in any residue deposit, as well as any boreholes, whether being worked or not, made to search for or win a mineral; (ii) any other place where a mineral resource is being extracted including the mining area and all buildings, structures, machinery, residue stockpiles, access roads or objects situated on such area and which are used or intended to be used in connection with such searching, winning or extraction or processing of such mineral resource, and if it is used as a verb (b) in the mining of any mineral, in or under the earth, water or any residue deposit, whether by underground or open working or otherwise and

³⁹ MacEachen E, Konsy A, Ståhl C, O'Hagan F, Redgrift L, Sanford S et al. Systematic review of qualitative literature on occupational health and safety legislation and regulatory enforcement planning and implementation. *Scand J Work Environ Health*. 2016;42(1):3-16. <http://dx.doi.org/10.5271/sjweh>.

⁴⁰ IUSLabor. Comparative labor law dossier. Health and safety in the workplace. Barcelona: IUSLabor, 2015. http://www.upf.edu/iuslabor/_pdf/2015-2/CLLD_HEALTH_AND_SAFETY_IN_THE_WORKPLACE accessed 25 September 2019.

includes any operation or activity incidental thereto, in, on or under the relevant mining area".

It can also be defined as, "the process of extracting minerals of economic value from the earth's crust for the benefit of mankind. ... the earth's crust refers to the outer surface of the earth extending to a varying depth of about 20 miles, including the oceans, lakes and rivers, embraced by the surrounding atmosphere."⁴¹

1.3.1 Mine Projects and its Stages

The exploration of mines begins with sampling, mapping and surveying after a suitable area for mining is found through areal, satellite and geological surveys. The mining choice, its methods, designing, engineering and ore processing are requirements of the planning stage. After approval and fulfilling other legal formalities, the construction and operational phases take place. The operation includes the extraction and processing while the removal of overlying rocks, shafts, tunnel are part of the construction phase. The other stage is mine closure, filling the vaccum, recovery and future utilization of that area. Different phases of mines area had been theorized from exploration to closure are "exploration, project planning, acquisition, operation and production stages."⁴²

1.3.2 Mining Industry Generally

It is important to understand the mining industry which will help in getting known about sustainable development. The mining industry is composed of 1 trillion dollars (USD) of the global economy and historically makes up half of the world's primary products. Gold, silver, platinum and precious gems are the most recognizable mine products while coal contributed off to world 40 % electricity needs. Valuable content and grade of the ore (rock) being mined, transportation costs, and proximity to purchasing markets are the main costs of the industry. Copper and rare earth are the less common mined products contributing to the technology industry. Those are crucial to the technology industry, as discussed below. Rare earth is linked with future sustainable development initiatives and needs proper discussion.⁴³

1.3.3 Mining of Rare Earth

Unlike ancient copper, rare earth metals were only identified and isolated in the past hundred years, and their uses only became known in the past few decades. Also unlike copper, which

⁴¹ Cedric Gregory, *A Concise History of Mining*, AA Balkema Publishers, The Netherlands, 2001, xv.

⁴² Chachage, C.S.L. "Mining and Environmental Issues Under SAPS in Tanzania: Examples from Three Case Studies, in Bagachwa, M.S.D. and Limbu, F.(eds) *Policy Reform and the Environment in Tanzania* (1995a) Dar es salaam University Press, Tanzania, at 13.

⁴³ World Trade Organization, *International Trade Statistics 2015*, Table II.1, "World merchandise exports by major product group, 2014" < http://www.wto.org/english/res_e/statis_e/tradebysector_e.htm > accessed 19 November 2019.

nearly everyone can identify by sight, few people outside the mining and technology industries or science teachers have heard of rare-earth features. These metals are rudimentary metals with properties that make them crucial to the global technology industry. All of the rare earth are metals, some lighter in weight and some heavier. As metals, they conduct electricity and heat, some have magnetic properties, and some have optical properties such as glowing certain colours.⁴⁴

Light-weight rare earth is more abundant than heavy rare earth, although rare earth abundance in a particular deposit can vary widely. Approximately two-thirds of the Earth is covered by water, making access to otherwise abundant solid elements difficult, and few elements are in abundance while various are not spreaded around earth crust. The rare earth is deposited in pockets, some underwater and some on land in Inner Mongolia, Australia and the US. Commercial viability for these deposits is also a concern, as mining and processing are expensive, so rare earth quantities must be significant enough to justify the cost. Additionally, not all rare earth have known economic values, so mining and separation of some rare earth elements are not presently done.⁴⁵

Low weight, magnetism, electrical conductivity, malleability and other properties of rare earth make them nearly indispensable to the modern world. Rare earth is used in a wide range of technology products including solar panels, wind turbines, electric and hybrid car motors, automotive catalytic converters, laser and hard disk drives, cell phones and “earbuds,” appliances, LEDs and compact fluorescent lights, and military defence applications. Without rare earth, many of the world’s modern technologies would not be viable or affordable.⁴⁶ The rare-earth is all distinct elements, and each element requires a different process for extraction.⁴⁷

This makes rare earth mining more expensive because, even though they are co-located, many different separation processes are needed to separate the different rare-earth. But rare earth have other properties that make them challenging. Some metals, such as gold and copper, are found with high levels of purity, making mining a labourious but not technologically difficult

⁴⁴ “Some rare earth metals were originally used in pottery and glass coloring and television tubes. The phrase “rare earth elements” commonly refers to the lanthanide series in the periodic table of elements plus one or two elements with similar properties: scandium (periodic table symbol SC, atomic number 21), and yttrium (Y, 39).”

⁴⁵ Charles Rousseaux, US Department of Energy, “Critical Materials and Rare Futures: Ames Laboratory Signs a New Agreement on Rare-Earth Research” <http://energy.gov/articles/critical-materials-and-rare-futures-ames-laboratory-signs-new-agreement-rare-earth-research> accessed 23 November 2019;

⁴⁶ Joshua Allsop and Kenneth P. Green, Mining News, “Rare Earths Elements – China’s weakening hold” (27 August 2014) <www.miningfacts.org> accessed 20 February 2020.

⁴⁷ US Geological Survey, “The Principal Rare Earth Elements Deposits of the United States—A Summary of Domestic Deposits and a Global Perspective,” <<http://pubs.usgs.gov/sir/2010/5220/pdf/SIR2010-5220.pdf>> accessed 8 November 2018.

process.⁴⁸ Rare earth is different. “The rare earth production process is complex and expensive. The stages of production consist of mining, separating, refining, alloying, and manufacturing rare earth into end-use items and components.” The Mountain Pass, California rare earth mine with sufficient purity and quantity for commercial purposes after various stages of extraction. The cost of the energy and water required for rare earth mining is a major input cost for mining rare earth. The environmental and human costs of this local energy and water usage, including opportunity costs, is typically not calculated into the true mining cost.⁴⁹

The elements extracted as a result of mining must be economically feasible. After the location of ores, estimation is made about the metal concentration multiplied by the market value of the metal. The market must be strong and risk accepting for private and public companies to produce initial capital to fund exploitation and startup. The economic viability may reverse in the exploration of mining and other legal formalities of acquiring ownership and licenses. Besides, the market fluctuations reverse some times.⁵⁰ Thorium causes impurity and environmental issues for workers and the natural environment. OHSE standards are needed to be enforced for the eradication of radioactive concerns and mining environment hazards.⁵¹

The hidden effects of environment escalate financial costs concerning OHSE in those states facing human health and environmental laws. The Chinas regulatory structure concerning environment focusing on preventive approach and is different from EU and US regulation. China levies fines in case excessive waste or closure of mines on violations of available environmental quality limitations. Besides, they recover the cost of damage or remediation.⁵² The local and national OHSE requirements put impacts on operations, mining and costs which is a significant consideration. Unions have a vital role in the costs and operations and mineworkers facilities. It has been found out that some mining enterprises seek out countries with OHSE protections or weak enforcement. Their certain countries considered as “pollution haven,” and the industries are

⁴⁸ Valerie Bailey Grasso, “Rare Earth Elements in National Defense: Background, Oversight Issues, and Options for Congress” Congressional Research Service (23 December 2013) 14; <<http://www.gao.gov/new.items/d10617r.pdf>> accessed 12 January 2019.

⁴⁹ US Geological Survey, Mineral Commodities Summary (January 2012) <http://minerals.usgs.gov/minerals/pubs/commodity/rare_earths/mcs-2012-raree.pdf> accessed 3 November 2018.

⁵⁰ US Geological Survey, “The Principal Rare Earth Elements Deposits of the US—A Summary of Domestic Deposits and a Global Perspective,” Scientific Report 2010-5220 (2010) 3 <<http://pubs.usgs.gov/sir/2010/5220/pdf/SIR2010-5220.pdf>> accessed 18 January 2019.

⁵¹ The “cut-off grade” or level of economic feasibility used at Mountain Pass is just 5%. Molycorp 2012 Annual Report 38 <<http://www.molycorp.com/wp-content/uploads/Molycorp-Year-End-Reivew-2012.pdf>> accessed 25 March 2019.

⁵² Molycorp 2012 Annual Report 11-14 <<http://www.molycorp.com/wp-content/uploads/Molycorp-Year-End-Reivew-2012.pdf>> accessed 3 November 2019.

planning to shift with flexible environmental regions to avoid hindrances.⁵³ An OECD analysis recommends regulations and policy formulations for pollutions and polluters' responsibility.⁵⁴ The theory of pollution haven proves that few industries prefer the country with low cost and flexible OHSE practices and minimum implementation. Further, the purpose is to maximize benefit with low cost.⁵⁵

1.4 Mining Workplace Safety and Health

Mining is a highly hazardous industry throughout the world. The mining industry is no exception to this as miners work with a range of workplace hazards that can cause not only injuries and ill health but also death. Some of the major mining disasters that have happened in Australia include those at Mount Kembla in 1902, Mount Lyell in 1912, Bellbird Colliery in 1923, Kianga in 1975, Appin colliery in 1979, Moura No.4 in 1986, Bulli colliery in 1987, and Moura No.2 in 1994. Common mining hazards include falls from height, fire, gas, explosion, rock falls, chemicals, dangerous machines, and electrocution and mining employees develop serious health problem such as lung diseases. In Australia, thousands of coal mining workers died from pneumoconiosis in the late 19th and 20th century. This legislation introduced safety and health representatives into the Western Australian mining industries due to 19 fatalities.⁵⁶

1.4.1 Health Hazards of Mining

A "hazard" can be defined as likely to cause damage. There are different categories of hazards namely chemical, ergonomic, physical, and biological hazards. Work-related hazards include the inhalation of or exposure to hazardous substances and the use of electricity that may lead to fire or explosions. Every possible effort should be made to make mining sector hazard free as these hazards can greatly affect both the physical and mental health of the employees and which will be beneficial for the economy also.⁵⁷

⁵³ "Pollution Havens and Foreign Direct Investment: Dirty Secret or Popular Myth?," Contributions to Economic Analysis & Policy vol. 3(2) (Berkeley Electronic Press 2004) 1244 <<http://www.nber.org/papers/w8465>> accessed 1 October 2018."

⁵⁴ Muthukumara Mani and David Wheeler, "In Search of Pollution Havens? Dirty Industry in the World Economy, 1960-1995," <<http://www.oecd.org/industry/inv/investmentstatisticsandanalysis/2076285.pdf>> accessed 12 January 2019.

⁵⁵ "Principle 1 of the United Nations Conference on Environment and Development (UNCED), One such international initiative was the (IDNDR)."

⁵⁶ Nancy Birdsall and David Wheeler, "Trade Policy and Industrial Pollution in Latin America: Where Are the Pollution Havens?" Journal of Environment and Development 2(1) (January 1993) 137-149.

⁵⁷ "ILO, Promoting safe and healthy jobs: the ILO global programme on safety, health and the environment (Safe work) at: http://www.ilo.org/global/publications/magazines-and_journals/world-of-work-magazine/articles/WCMS099050/lang-en/index.htm (last accessed 23 August 2019)."

⁵⁷ Rikhardsson, P.L. Corporate Social Responsibility and Environmental Management, Accounting for the Cost of Occupational Accidents. vol. 11, 2004. pp. 63-70.

Majority of states do not have reliable information about occupational accidents and injuries concerning mineworkers' health. Most of the information is incomplete and fragmented while hazard exposure data are unreliable and limited and predictive of diseases. The information collection and its reliability are complex and stringent and every state has their mechanism to overcome the health hazards in the mining sector. The occupational health hazard information and the reporting mechanism are not well recognized and up-to-date in the developing states. It was estimated that mines occupational disease deaths were seven times more than OHSE accidents. The ILO showed concern over occupational mines and diseases from many years. There are more deaths connected with mines accidents and the issue of occupational diseases is a burden on current and former miners.⁵⁸

There are many pollutants encountered in mines which cause health risks such as vibration, noise, silica dust, and heat and coal dust. Numerous other risks not associated with underground extraction are skin disorders, radiation, ergonomic stresses, gases and specifically decompression illness connected with the diamond sector. These occupational health hazard risks can be eluded through control of mines environment which is the main producer of noise, diseases and dust.⁵⁹

There are various other factors for mines health hazards like dust monitoring and airborne pollutants risks. In 1980, the gravimetric method was common for the mining sector. The new problems for severe health risks were working hours and employment patterns. The limited-time period was practised for many decades and the miners were returned after the duty hours. The silicosis respiratory diseases were evident after a time and might be a cause for miners to left the mines. The huge number of miners suffered from occupational diseases as exposed to dust because of their occupational exposure limits and long working hours.⁶⁰ Employer should take care about hazard and risk free working environment after implementation of environmental legal principles after precautionary approach. The significant assumption is to take evidence based decision to avoid hazardous situation. The employers are lacking interest to take effective measures for safety of workers. The definition of hazard is "any circumstance which has the potential to cause harm or exposure to danger". Hazards are connected with risks.⁶¹

⁵⁸ Kessel, F. Dust Control Methods in Tunnels and Underground Mines. Journal of the Mine Ventilation Society, vol. 55, no. 4, October/December, 2002.

⁵⁹ Hermanus "Occupational health and safety in mining: status, new developments, and concerns" (2007) 107 The Journal of The Southern African Institute of Mining and Metallurgy 531.

⁶⁰ Crush, j., Ulicki, t., Tseane, t., and Janse van Vuuren, e. Undermining Labour: Migrancy and Sub-contracting in the South African Gold Mining Industry. Migration Policy Series, no. 5. The South African Migration Project. 1999.

⁶¹ Alli, Benjamin O. *Fundamental principles of occupational health and safety* Geneva, International Labour Office, 2001

Miners and people in vicinity are suffering form OHSE issues due to hazardous mining exploration and exploitation. Such diseases are related to respiratory, skin or disorders which may take a much longer duration to show its symptoms in the body which makes its detection. And cure more difficult e.g. pneumoconiosis and silicosis among coal mineworkers. Occupational accidents and hazards causes enduring physical disabilities due high-risk and poor workplace situation. In private contractual mining and illegal mining, it is rampant globally while child labor and their abuse are there in various states.⁶²

1.4.2 Safety at Mines

The work-related accidents and fatalities are assessed around the globe by the ILO. Moreover, ILO publishes the mines accidents data of the developing states where the death ratio of mineworkers are very high due to safety accidents in mines. The accidents and fatalities rate is very high if we compare it to developed practices like Australia, UK and USA in the mining sector.⁶³ The Australian mining safety practices secure the mineworkers and the fatalities ratio is lower than developing state practices like Pakistan, South Africa etc. The issue of the Pakistani mining sector is worse concerning safety and no one is ready to take the liability of the sector concerning mineworkers OHSE. The miners lose their lives due to safety issues in mine accidents than developed states. The difference between developed and developing state is the labour intensiveness and underground depth of mines is a logistical challenge for the organization. Miners are not exposed to hazardous and risky situation in developed states as they are more mechanized. The coal sector and mining methods and conditions are different from state to state practices while the fatality or accidents ratio is high in developing state like Pakistan.⁶⁴

The safety performance in the mining industry must improve like developed states. There is no change in the safety of the mining sector and the traditional methods are followed for working in mines and hiring of mineworkers in Pakistan. There is a need to improve and update the decades-old methods and develop the infrastructure for underground mines and their transportation. South Africa and other developing countries improved their mining techniques

⁶² "Hermanus, M. Trends in Occupational Health and Safety Policy and Regulation—Issues and Challenges for South Africa. Development and Labour Monographs 1/01. Institute of Development and Labour Law, University of Cape Town. 2001. pp. 42–45."

⁶³ ILO, Promoting safe and healthy jobs: the ILO global programme on safety, health and the environment (Safe work) at: http://www.ilo.org/global/publications/magazines-and_journals/world-of-work-magazine/articles/WCMS099050/lang-en/index.htm (last accessed 23 August 2019).

⁶⁴ Barten et al "Contextualizing workers' health and safety in urban settings: the need for a global perspective and an integrated approach" (2008) 32 *Habitat International* 224-233; See, also "Brown 'Protecting workers' health and safety in the globalizing economy through international trade treaties' (2005) 11 *International Journal of Occupational and Environmental Health* 207-209."

due to its safety performance and there is a fall in the mining accidents.⁶⁵ The coalmines accidents show the lack of safety measures and the fatality rates are higher in this sector. There are other mining sectors like gold, chromite and platinum which have different accident ratio.⁶⁶

There is always an issue of accurate data concerning injuries, accidents and fatalities in various states. The mining information mostly connected with heinous accidents of transportation, machinery and fall of ground respectively. There are issues of safety that leads to serious injuries and disasters. The mining disaster connected with fire, water and mud flood, rock bursts and explosions of flammable gases. There is another category of safety accidents which is not fatal and cause injuries like the hand or bodily injuries, fall and slips etc.⁶⁷ The role of leadership is important to address OHSE issues and setting expectations regarding OHSE objectives with business, risk management on leading indicators, the openness of response and communication. Some measures can reduce the effects and accidents of safety risks level include,

“Standards for mines explosive, administrative control of explosives underground, stone-dusting in coal mines, flame-proofing of equipment, improved cap lamp technology and control, improved ventilation systems, Installing explosion-proof walls to seal off mined out areas, Explosion barriers, Regional support systems in seismically active mines, Hydraulic props and other forms of active roof support.”⁶⁸

1.5 Mining and “Sustainable Development”

Sustainable development is an integrated principle of environment and development in the past two decades for enforcement in the mining industry. It has generally been agreed that incorporated environmental protection and economic development.⁶⁹ In the year 1972, The Stockholm Conference’s declaration proclaimed that environmental protection is the duty of all governments and persons. The environment is an integral part of every developmental activity.⁷⁰

⁶⁵ Plumber, I., Strahlendorf, P., and Holliday, M. Excerpt from: The Internal Responsibility System in Ontario Mines. Final Report: The Trial Audit and Recommendations. p. 15. Full report from webirs@mol.gov.on.ca.

⁶⁶ “Hermanus, M. Trends in Occupational Health and Safety Policy and Regulation—Issues and Challenges for South Africa. Development and Labour Monographs 1/01. Institute of Development and Labour Law, University of Cape Town. 2001. pp. 42–45.”

⁶⁷ Hermanus “Occupational health and safety in mining: status, new developments, and concerns” (2007) 107 The Journal of The Southern African Institute of Mining and Metallurgy 531.

⁶⁸ Leigh, J., Macaskill, P., Kuosma, E., and Mandryk, J. Global Burden of Disease and Injury due to Occupational Factors. Epidemiology. vol.10, no. 5, Sept. 1999.

⁶⁹ “Report of the United Nations Conference on the Human Environment (16 June 1972), A/CONF.48/14/REV.1, Para. 2.”

⁷⁰ John Bassett Moore, *History and Digest of the International Arbitrations to which the United States has been a Party* vol. 1 (United States Government Printing Office) 935, <legal.un.org/riaa/cases/vol_XXVIII/263-276.pdf> accessed 11 April 2015.

It enshrines industrialization and technological development is the tail end consequences for environmental challenges. The environment is connected as a right to life and dignity and its associate responsibility “to protect and improve the environment for present and future generations.”⁷¹ Besides minerals as non-renewable resources, that “must be employed in such a way as to guard against the danger of their future exhaustion and to ensure that benefits from such employment are shared by all mankind.” The state has the sovereign right as the legal principle “to exploit their resources according to their environmental policies.” The state assumes the responsibility of not maligning and damaging environmental standards.⁷²

Environmental sustainability is ensured by Goal 7 of the “Millennium Development goals”, along with (a) integrating “the principles of sustainable development into country policies and programs and reversing the loss of environmental resources and improvement of health.” This recognized definition incorporated environmental protection integration of every financial project.⁷³ Environment control and Climate Change management are integral parts of the “Sustainable development Goals” (SDGs). The development of the universal climate agreement provided new goals at the UN Climate Change Conference, Paris 2015.⁷⁴ The growth in recognition of sustainable development has occurred rapidly while environmental protection is part of it.⁷⁵

1.5.1 Conference On Sustainable Development (SD)

Rio Declaration 1992, (UNCED) talks about the relationship of humans, environment and development. It tried to prove that there is less harmony between man and the environment. The environmental hazards negatively affected the environment to a great extent caused by the introduction of the new technologies⁷⁶ hazards and introduction of technologies. After 1992, shows a gradual degradation on the international level to promote sustainability under the

⁷¹ Report of the UN Conference on Environment and Development (14 June 1992), A/CONF.151/26/Rev.1 (also “Rio Declaration”). “(Principles 3, 4)”.

⁷² Patricia Birnie, Alan Boyle, Catherine Redgwell, *International Law and the Environment* (Oxford University Press 2009) 4.

⁷³ Environmental damage from the *Torrey Canyon* disaster continues today. Patrick Barkham, “Oil spills: Legacy of the *Torrey Canyon*,” <<http://www.theguardian.com/environment/2010/jun/24/torrey-canyon-oil-spill-deepwater-bp>> accessed 1 November 2019.

⁷⁴ UN, “Historic Paris Agreement on Climate Change: 195 nations set path to keep temperature rise well below 2 degrees celsius” (12 December 2019) <<http://newsroom.unfccc.int/unfccc-newsroom/finale-cop21/>> accessed 28 January 2019.

⁷⁵ UN, “Consensus Reached on New Sustainable Development Agenda to be adopted by World Leaders in September” (2 August 2015), <<http://www.un.org/sustainabledevelopment/blog/2015/08/transforming-our-world-document-adoption/>> accessed 16 January 2019.

⁷⁶ United Nations, “Launch of new sustainable development agenda to guide development actions for the next 15 years” (31 December 2015) <<http://www.un.org/sustainabledevelopment/blog/2015/12/launch-of-new-sustainable-development-agenda-to-guide-development-actions-for-the-next-15-years/>> accessed 22 March 2019.

auspices of the Rio Declaration.⁷⁷ The “International Decade of Natural Disaster Reduction” (IDNDR) was initiated by the UN for rising human loss in developing and developed states. The declaration recommended precluding and reduced mines risk. The social and physical scope environment and integration were discussed in Johannesburg Plan. The concept of SD is used in the evaluation of mining disaster, hazards and risks during mining operations.⁷⁸

The slogan of ‘human global society’ was proposed by various Human rights bodies in Johannesburg plan to focus to ensure people a dignified sustainable life. The “World Business Council for Sustainable Development (WBCSD)”, the “World Energy Council (WEC) and the World Coal Institute (WCI)” followed the Johannesburg Declaration after considerations. These aroused expectations in the mining and minerals sector through guideline rules and regulations for identification and to address key hurdles. These pledges, later on, inspired plans for effective executions of the mining industry.⁷⁹

Rio further focused on negative environmental impact concerning mining and the need for sustainable development in international business. The new programmes or resolutions for the improvement of the mining sector was proposed or adopted. Later on, these resolutions were endorsed as guidelines for the mines sector. Besides, the sustainability problem concerning OHSE was highlighted in the coal mining sector are serious. Some of the adopted principles are to escalate the sustainability in the mining community. Furthermore, the aim is to reduce environmental impacts, OHS issues from mines extractions. The conference aimed to provide social and job opportunities for the local mining communities.⁸⁰

1.5.2 Environment and Sustainable Development Goals (SDGs)

The contemporary global perspectives focus on environmental protection with perception of human rights and not from a sustainable development angle.⁸¹ “Global Thematic Consultation on Environmental Sustainability” of 2015 develops a human rights-based approach for a healthy environment and environmental stability. There is a need for a review of the mining industry in a

⁷⁷ United Nations Millennium Declaration (8 September 2000), A/Res/55/2; United Nations Millennium Project <<http://www.unmillenniumproject.org/goals/>> accessed 25 October 2019.

⁷⁸ Muthukumara Mani and David Wheeler, “In Search of Pollution Havens? Dirty Industry in the World Economy, 1960-1995,” room document presented at OECD Conference on FDI and the Environment <<http://www.oecd.org/industry/inv/investmentstatisticsandanalysis/2076285.pdf>> accessed 12 January 2019

⁷⁹ Natalia Yakovleva, *Corporate Social Responsibility in the Mining Industries* (Ashgate Corporate Social Responsibility Series); Alyson Warhurst (ed.). See also, Gavin Hilson and Barbara Murck, “Sustainable development in the mining industry: clarifying the corporate perspective,” *Resources Policy* 26:4 (December 2010) 227-238

⁸⁰ Parayil Govindan, —Sustainable Development and the Environmentl in Wehrmeyer Walter and Mulugetta Yacob (eds), *Growing Pains*, Greenleaf Publishing, Sheffield, 271.

⁸¹ Luke Danielson, author of *Architecture for Change: An Account of the MMSD Project – History*, Global Public Policy Institute, Germany, 2006, 23-24.

rigorous and professional mechanism for a change.⁸² “International Institute for Environment and Development” (IIED) was retained to conduct collaboration and negotiations amongst stakeholder in the mining sector.⁸³

The established businesses will ensure the need for OHSE at the workplace; ensure human rights including rights at the workplace. These companies will recommend following environmental stewardship responsibilities to facilitate victims.⁸⁴ Few other principles were developed for “Corporate Social Responsibility” (CSR) policy by “UN Global Compact”. These principles are anti-corruption efforts, environmental responsibility, employment discrimination, elimination of forced and child labour and human rights protection. The global compact provides the mechanisms of peer pressure and voluntary reporting for enforcement while it leaves major lacunas concerning relevancy as it is general and not industry-specific.⁸⁵

1.6 Risks, Mishaps and OHSE

It is significant to create a distinction between risk and hazard as risk is probability of destruction or unsafe working condition as ILO defined the later as; “A combination of the likelihood of an occurrence of a hazardous event and the severity of injury or damage to the health of workers caused by this event”. Risk is probability or chance through hazards which is main element of causing harm. In other words, a “hazard is the potential source of harm and a risk is the likelihood of someone being harmed or of a hazard occurring.” The assessment of risk the employers initiative. The meaning of a “risk assessment” is the “process of evaluating the risks to safety and health arising from hazards at work”.⁸⁶

The severity and scope of the hazards applicable, the available knowledge to alleviate such hazard, and the cost and benefits of mitigating the hazard must be considered by the employer. For purposes of this work, “risks” can be defined as the likelihood of an incident/occurrence of hazardous situations that could result in severe injury or illness, as assessed in terms of “risk assessments”.⁸⁷

⁸² UNEP and UNDP, Report of the Thematic Consultation on Environmental Sustainability in the Post-2015 Agenda, <<http://www.undp.org/content/undp/en/home/librarypage/environment-energy/integrating-environmental-sustainability-post-2015/>> accessed 8 November 2018

⁸³ Danielson L, *Architecture for Change: An Account of the MMSD Project – History*, Global Public Policy Institute, Germany, 2006, 21.

⁸⁴ UN Global Compact <<https://www.unglobalcompact.org/>> accessed 27 January 2018.

⁸⁵ International Council of Mining and Metals, *ICMM Toronto Declaration*, 15 May 2002. —Link, Monthly newsletter of the Global Mining Initiative, Vol 2 Issue 4, May 2002, 1.

⁸⁶ Hilgert “The future of workplace health and safety as a fundamental human right” (2013) 34 Comparative Labor Law and Policy Journal 116-

⁸⁷ Walters, D. 2006. “The efficacy of strategies for chemical risk management in small enterprises in Europe: evidence for success?” *Policy and Practice in Health and Safety*, 4(1): 81-116.

According to the WHO, health is not just the absence of disease but it is a state of complete physical, mental and social health. This definition has designed not only the idea but also the delivery of OHS across the globe. Yet, most approaches towards workers OHS problems circle around the medical model. These approaches limits its operations to medical service delivery to avoid accidents and diseases in wage and formal employment. In Pakistan, the limitation of the current definition and approach to OHS is problematic because the majority of mineworkers operate outside the formal mining sectors of the economy.⁸⁸ OHS has steadily advanced from a monodisciplinary risk-oriented activity to a multidisciplinary and wide-ranging approach that reflects the individual's physical, mental and social well-being, personal development and general health. It is a fact that a man state of health determines the output of every business and appreciation of the concept of OHS paves the way towards the success of any business.⁸⁹

An environment where, workers' physical, mental and social well-being is promoted and maintained upto the heighest degree can be termed as a safe workplace. Every possible effort is made to avoid accidents caused by the working conditions adverse to the OHS of mineworkers. These efforts greatly contributes to the success of any business. Various disciplines focus on aspects of the concept during perilous circumstances. For example, the law discipline refers to the concept only when the employers are to pay compensations for the health and safety failures of their employees.⁹⁰

The OHS initiatives conventionally has been on chemical, biological and physical exposures or hazards, diseases, disorders and injuries related to or affecting work, however psychosocial risks at work are still principally neglected and their causes and consequences still lacks understanding. In recent OHS initiatives in developed states, the health issues involving the physical space of work; job stress, work schedules, psychosocial issues in the work environment and types of occupation and their effect on health, are all being given some consideration. According to the World Health Organization, all workers have the right to a healthy and safe work and to a work environment that enables them to live economically and socially a

⁸⁸ Alii "Fundamental principles of occupational health and safety" (2008) ILO 17-19 http://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_093550.pdf (last accessed 23 August

⁸⁹ Alii, Benjamin O. *Fundamental principles of occupational health and safety* Geneva, International Labour Office, 2001

⁹⁰ Hermanus "Occupational health and safety in mining: status, new developments, and concerns" (2007) 107 *The Journal of The Southern African Institute of Mining and Metallurgy* 531.

productive life. This statement puts human life above all financial gains and profits at the cost of workers lives and well being.⁹¹

A workplace accident is an event that takes place without foresight or expectation and can result in some personnel injury and damage to equipment or property. Hazards and disasters or accidents which occur in all aspects of life - at home, at work and elsewhere. A narrow definition of industrial accidents conceives them as resulting from faulty equipment or the improper performance of an individual, i.e. something arising directly out of a situation. Self-inflicted injured cannot be regarded as an accident. The “Royal Society for the Prevention of Accidents” of the UK defines accident at workplace as opposing event having potential of causing harm with unexpected occurrence. All these definitions apply to accidents in the mining sector. Since workplace accidents occur without expectation, there is a need to promote the OHS of workers.⁹²

1.6.1 Causes of Occupational Injuries, Accidents and Hazards

Several factors contribute to workplace accidents and injuries. According to Ghosh, workplace accidents are mainly caused by hazardous condition or dangerous act or both. There are various reasons for accidents at workplace like physical and mental unfitness, poor discipline, ineffective inspection and dangerous practice. The human factor has been identified as the main contributor of workplace accidents while worst working condition, physical causes and faulty equipment are main concerns.⁹³

Human error was the cause of many accidents while employees who worked under stress or who felt insecure about their jobs were prone to accidents more than those who did not have such mental conditions. Identification of ‘unsafe acts’, defined as behaviours and attitudes that cause accidents, and causes occupational accidents. Unsafe acts include the failure to secure equipment and safe attire or personal protective equipment (PPE), indiscriminate littering of refuse, operating or working at dangerous speed levels, lifting improperly and assuming unsafe positioning while performing a task. The hazardous acts or conditions cause accidents by physical and mechanical conditions or short-circuits. These dangerous situations are main factors of accidents due to flawed and unsuitable equipment, congestion, impure air services etc.

⁹¹ *Protection of workers from power frequency electric and magnetic fields: A practical guide*, Occupational Safety and Health Series, No. 69 (Geneva, 1993).

⁹² Mardon “Number of mine injuries decrease, but fatalities increase with more than – Solidarity” (11 May 2011) Media statement at: <http://www.solidaritylegalservices.co.za/number-of-mine-injuries-decrease-but-fatalities-increase-with-more-than-20-%E2%80%93-solidarity> (last accessed 25 November, 2018)

⁹³ Fabiano, B., Curro, F. and Pastorino, R. (2004). A study of the Relationship between Occupational Injuries and Firm Size and Type in the Italian Industry. *Safety Science*, 42, 587-600.

Furthermore, other factors are overloading, insufficient light, improper ventilation and illuminating glare.⁹⁴

Attempts have been made by various groups to demarcate workplace injuries according to whether they were caused by an unsafe physical condition or personal act. Some of the earlier studies ostensibly showed that such injuries were caused by human errors and slightly by hazardous conditions. One concluded that management spends more on accidents prevention by devoting efforts to employee education and ignoring the engineering aspect of safety. According to contemporary analyses of accident statistics the reason behind majority of these accidents are personal acts and hazardous physical conditions. The requisites of a comprehensive workplace-safety program such as employee education, training; showing people how to work safely in the presence of certain hazards and the engineering aspects of safety (hazard elimination) must be satisfied.⁹⁵

Additionally there are three more work-related causes of workplace accidents that includes: the psychological climate of the workplace, the work schedule and the job itself. Timings and work schedules are also a major reason for many accidents as it is evident from the records that the rate of accidents increases late in the day and night time. One of the main causes of these accidents is fatigue. Furthermore psychological climate of the workplace, temporary stress factors such as high workplace temperature, poor illumination and a congested workplace are also argued to be the main cursors of workplace accidents.⁹⁶

The mineworkers whose jobs is insecure, threatened and are under stress are prone to accidents. Sometimes, the physical or mental condition of the person involved may contribute to the accident or a worker may be emotionally upset, inattentive, or fearful. Or he may be extremely fatigued or suffer some physical defects that make an accident more likely. Accidents and injuries experienced by workers are in most cases the result of hazards they are exposed to in their workplaces. It is therefore relevant to identify the source of these hazards at the workplace. Mineworkers experience ergonomic hazards due to the nature of their long periods of job. This is because when the task is performed wrongly, due to strain or pressure on mineworker it can cause injury to his or her intervertebral discs and back muscles.⁹⁷

⁹⁴ "ILO (2005b). *Decent Work – Safe work: A Global Report on Work Related Accidents and Ill Health*. Geneva: ILO."

⁹⁵ Mock, C., Adjei, S., Acheampong, F., Deroo, L. and Simpson, K. (2005). Occupational Injuries in Ghana. *International Journal of Environmental Health*, 11, 238-245.

⁹⁶ Bureau for Workers. Activities (ACTRAV). *Your health and safety at work: A modular training package* (Geneva, 1996).

⁹⁷ "ILO. (2005a). *Number of Work related Accidents and Illnesses Continues to Increase*. ILO/WHO Joint Press Release. Bank Regions."

The biggest burden of occupational injuries among mineworkers was in categories of skills and techniques in the exploration and processing. Mineworkers are also confronted with mines hazards in the course of their processing. The monotony and boredom associated with these tasks can engender carelessness among mineworkers, and this can lead to accidents and can lead to fatality or permanent disabilities. The cost of accidents in terms of economic loss or human suffering can be enormous and cause suffering to the family of the victim and may disrupt a stable family structure. Colleague workers of an accident victim may also not be spared by the anguish and trauma his or her family may experience. It is noted that OHSE hazards are common under the unregulated and small enterprises due to the structure and organization of the informal mining sector. It is thus imperative to study the health implications of the hazards on workers.⁹⁸

Environmental hazards cannot be detached from workplace hazards. What is usually detrimental to the environment is consequently detrimental to OHS. This age-old adage, 'you cannot make an omelet with broken eggs', perfectly describes the work of mineworkers and mining activities that come with some negative consequences. One of such consequences led to environmental challenges like the spillage of poisonous substances on land and drains. This further affected human's life, thereby promoting soil infertility and poor water quality. This has serious OHSE implications for mineworkers themselves and humanity.⁹⁹

1.7 Key Principles of OHSE

The OHSE is a broad subject and covering various issues regarding law, medicines, economics and other scientific fields related to numerous businesses. Some principles need to be recognised and extend to workers rights to OHS. The governments, employers and worker must focus on protection of OHSE rights and for betterment workplace conditions. There are not specific principles related to occupational policies and programmes but a few had recommended by International Labor Conference (ILC) in 1984. Every sector had their own standards and principles regarding OHSE.

- Workplace need to be healthy, safe and as per environmental standards;
- Workers conditions, human dignity and well-being required to be consistent;

⁹⁸ Kiwekete, H.M. (2009). The Role of a Safety Culture in Preventing Accidents in the Workplace. *African Newsletter on Occupational Health and Safety*, 19(1), 12-14.

⁹⁹ "ILO (2005b). *Decent Work – Safe work: A Global Report on Work Related Accidents and Ill Health*. Geneva: ILO."

- Workplace need to offer service to society, self-fulfillment and individual attainment.¹⁰⁰

1.7.1 Different Role Players Duties

The OHSE legal instrument define and determine the responsibilities of the employer, workers and victims of businesses. Furthermore, it put liabilities on employers, institutions, corporations, workers, manufacturers, suppliers and OHS representatives. The equipment or other machinery, engineers, enterprises are subject to OHS.¹⁰¹

1.7.2 Productivity and Performance of OHSE

The rate of occupational injuries and accidents need to investigate the reasons and supporting a debate on these concerns. The work organization, negative and sweeping changes are the concerns of OHSE researchers. These changes are poor OHSE of mineworkers, rise in risky work, and decline of permanent employment of the deprived cluster of labours.¹⁰² The working mechanism has been pushed to alter for an increase in performance and productivity. There needs a new framework for working require OHSE risks, responsibility, business competitiveness, learning prospects and flexibility. These changes are summarized as follows:

“Over the past 20 years, the labour markets of industrialized countries have undergone a series of profound changes. These changes have been associated with significant changes in work processes but until recently no attention was given to the consequences of this for OHSE ... available evidence indicates that labour market restructuring is having a significant (adverse) but often hidden impact on OHSE. In many cases, these effects are compounded by competition, labour market and health care policies introduced.”¹⁰³

The changes of global and domestic work organization came to the attention of governments concerning OHSE in the mining sector. The report of the “National Institute for Occupational Safety and Health (NIOSH)” stated that employers enforcing new organizational practices which are mostly having OHSE negativity. These are contingent labour or temporary employees, downsizing, restructuring, outsourcing and flexible management. The changes in work organization affect the psychological and corporeal risks of OHSE at the workplace. The mineworkers with multiple tasks or long hours are exposed to more risk due to exceeding exposure of dust to noxious substances. The staff reduction and extended work shifts can increase injuries or accident ratio due to overexertion of limited mineworkers. Alternate work

¹⁰⁰ Alli, Benjamin O. *Fundamental principles of occupational health and safety* Geneva, International Labour Office, 2001

¹⁰¹ Ibid, p-156

¹⁰² Walters D. 2004. “Worker representation and health and safety in small enterprises in Europe” *Industrial Relations Journal* 35: 169-86.

¹⁰³ Quinlan, M.(1999) “The Implications of Labour Market Restructuring in Industrializes Societies for Occupational Health and Safety” *Economic and Industrial Democracy*, 20:427-460.

rosters are common in the mining sector and expose mineworkers to violence which is a sensitive risk.¹⁰⁴

“The connection between the physical and psychological environments, and hence the term “organisation of work...are both heavily influenced by high-level management choices and decisions about how work will be organized. When this interaction between the physical environment (“the safety of places and things”) and the psychosocial (“culture and climate”) is taken into account, their joint impact on OHSE is significant.”¹⁰⁵

The changes in organizational work impact employee to make better the OHSE conditions. There is a debate for the increased profit associated with more investment for a better and healthy working condition. The change of manager behaviour and convincing of the employer to introduce OHSE may increase profit with minimum compensation charges. For example, the directors of a British company complying OHSE as the legal domain for performance, competitive advantage and productivity for their business growth accomplish:¹⁰⁶

“If we are to make inroads into the damage that poor OHSE management does to the economy ..., then issues around the relationship between wider corporate culture, safety culture and firm performance are significant. So too the relationship of OHS and corporate aspirations to be ‘world-class’ is an important matter – linking corporate social performance, productivity, quality and financial performance are key if we are to establish healthy organisations (balancing employee, directors, managers and owners health).”¹⁰⁷

OHSE policies and practices are linked with performance and productivity improvement by the rational employer, trade unions and governmental agencies. The trade unions with a progressive employer can provide healthier and safer workplaces to increase better results, job satisfaction and productivity.¹⁰⁸ The productivity and OHSE grades are reinforced by the following explanations.

“The pressure to reduce the social and economic costs of injury and illness, particularly compensation costs. The need to find more innovative ways to reduce the high rates of workplace injury and illness than has previously been the case. The need to provide good working conditions as a way of recruiting and retaining skilled workers in a tight labour market. The need to improve

¹⁰⁴ Cowley, S. 2006. “OHS in Small Businesses: Influencing the Decision Makers”, PhD Thesis, University of Ballarat, Victoria.

¹⁰⁵ Quinlan, M. 2003. *The Global Expansion of Precarious Employment: Meeting the Regulatory Challenge*. Paper presented to the Australian Council of Trade Unions, 2nd September <http://www.actu.asn.au/public/ohs/quinlan.html>.

¹⁰⁶ Shain, M. and Kramer, D.M. 2004. “Health Promotion in the Workplace: Framing the Concept; Reviewing the Evidence” *Occupational and Environmental Medicine*, 61:643-648.

¹⁰⁷ Frick, K. (2003) *Organisational Development and OHS Management in Large Organisations*. National Research Centre for OHS Regulation, Working Paper 14, Stockholm.

¹⁰⁸ Hermanus “Occupational health and safety in mining: status, new developments, and concerns” (2007) 107 *The Journal of The Southern African Institute of Mining and Metallurgy* 531.

labour productivity which does not result in employees working longer hours and taking on more work.”¹⁰⁹

The OHSE best measures expand the business growth as drawn by New Zealand, Labour Department report. The main points for OHSE developments are increase effectiveness, company reputation or image, better class management and better procedure of communication. The standard industries addressed the issue of income through retention and performance by enforcing successful OHSE measures. Better industrial production is the result of appropriate safety and health systems of business practices. The OHSE is part of management and cannot be viewed in segregation.¹¹⁰

A safe and healthy environment can maximize corporate profit and labour productivity. There is an expert opinion that business growth is at the OHSE expense. Further, the employees work efficiently, harder and longer in noxious conditions to implement OHSE mechanisms for the low reward for more production. The issue of long hour is the major cause of fatigue and stress in the mining sector in the majority of states. OHSE must be treated as a priority while it will have a poor result if more attention is given on increasing production.¹¹¹

1.8 Work and Environment “Think Global Act Local”

Since the inception of human civilization, the environment changes had undergone and there are numerous changes in the surrounding ecosystem as the mining process requires mechanical power and substantial power. The mineworkers are victims are the OHS and environmental issues and anxieties. Due to technological development and suitable health facilities, the worries of a mineworker can be eradicated after curbing the health and environmental issues.¹¹² The constitution of ILO states that “the failure of any nation to adopt humane conditions of labour is an obstacle in the way of other nations which desire to improve the conditions in their own countries.” Work nature of ILO for sustaining protection of the worker, collective actions, educational opportunities, social justice and support and gender-based issues. ILO works for the improvement of OHSE and it continued while mines OHSE Convention recognize in the

¹⁰⁹ Landsbergis, P.A. 2003, “The Changing Organization Work and the Safety and Health of Working People: a commentary”. *Journal of Occupational Environmental Medicine*, 45(1): 61-72.

¹¹⁰ Greenberg, M. 2006. The Last Senior Medical Inspector of Factories and His Place in the History of Occupational Health. *American Journal of Industrial Medicine* 49:54-59.

¹¹¹ Gunningham, N. 1985. “Workplace Safety and Law” in Breen Creighton and Neil Gunningham, *The Industrial Relations of Occupational Health and Safety*. Croom Helm, Sydney: 18-53.

¹¹² Bhattacharjee A.(2000) “Coal Mine safety: Where do we go from here; *Journal of mine and fuels*”;48(8);pp.215-221(Department of Mining Engineering Indian Institute of Technology, Kharagpur)

Preamble, “it is desirable to prevent any fatalities, injuries or ill health affecting workers or members of the public, or damage to the environment arising from mining operations.”¹¹³

The industrial accidents impacted the environment and caused environmental hazards and work such as Methyl Isocyanate, Bhopal, Seveso and Dioxin. The chemical release such as mining, fossil fuels, agricultural pesticides, fluorocarbons and organic pollutants caused long-lasting damage to the environment. The improvement required for workplace health and safety, hazards treatments, emergency planning, management and use of cleaner production. The OHSE mentioned in objectives have impacts on the global environment. The ILO is active and developed expertise concerning chemical safety and convention No: 170 and 176 were adopted which provides for “coherent national policy concerning the protection of workers, the public and the environment.” The strengthening of promotion of ILO and WHO programs are highly recommended to reduce diseases, deaths and injuries with internationalization of environment.¹¹⁴

1.8.1 OHSE and Globalization

The integration of world economies into a market is the product of globalization that cause major vicissitudes like relocation of businesses, reorganization and redistribution of work and affect the OHSE of mineworkers. There are other changes regarding technology, enterprise and production model and corporate governance frameworks.¹¹⁵

The production changes may cause changes to the work environment for good or bad. The employer may view to change due to global competition, the mineworkers OHSE protection and prevention of injuries. Further, the OHSE require better management and a hurdle to commerce, trade and production. The issue and rate of worker injuries and occupational diseases are high because the occupation health services are not available to workers.¹¹⁶ The globalized business policies are not good enough for developing states to finance safety services and health facilities for a worker in a competitive market. Though, there are employers who care for workers' OHSE and do not prefer the business advantage to avoid occupational accidents and diseases.¹¹⁷

¹¹³ WHO: *Global strategy on occupational health for all* (Geneva, 1995).

¹¹⁴ UN: *Demographic dynamics and sustainability*, Report of the Secretary-General, Commission on Sustainable Development acting as the preparatory committee for the WSSD, UN Economic and Social Council, Doc. E/CN.17/2001/PC/2, 15 Mar. 2001.

¹¹⁵ “United Nations Research Institute for Social Development (UNRISD), (2004). *Globalisation and its Effect on Health Care and Occupational Health in Vietnam*; Geneva.”

¹¹⁶ Goldstein, G., Holmer, R., and Fingerhut M. (2001), “The WHO-Global Strategy on Occupational Health and Safety,” *Asian-Pacific Newsletter on Occupational Health and Safety*, 8, 52–56.

¹¹⁷ Stiglitz, J. (2001). *Employment, Social Justice and Societal Well-being*. Presentation at ILO Global Employment Forum, Geneva, Switzerland.

The globalization resulted in diseases and work-related hazards in some countries. New chemical and other hazards have familiarized in various sectors like agriculture and mining sectors. There are several noxious substances which cause cancer and other fatal diseases.¹¹⁸ The changes like work due to globalization in developing states caused work-related stress. The developed states are aware of the work stress and their management while the developing states are lagging. The new estimation of ILO shows that occupational diseases and accidents claimed millions of lives in developing industrialized states.¹¹⁹ The issue of flexibility and sub-contracting is the product of globalization and compromise OHSE in developing states. Industrialization is the welcomed phenomenon in the developed world but it is caused by OHSE problems. There are positive OHSE measures adopted by various states but still, it is a global challenge.¹²⁰

The assertion of the “International Commission on Occupational Health” (ICOH) specified the social condition of work and OHSE improvement in industrialized states. The commission highlighted the significance of OHSE background and its utilization. The hazard and risk has altered as compare to traditional hazards and new work-related problems. Moreover, the new occupational issues need research, information, expert knowledge and training to be managed, prevented or controlled.¹²¹ The declaration expresses the OHSE experts and researchers frustration connected to OHSE issues in the developing states. This is a challenge to the developing world due to the rapid globalisation and industrialization. The globalization proved contrary and increased the gaps rather than equalize the condition of work.¹²²

Poor OHSE measures and social conditions of work are connected with underdevelopment, poverty and inequality. Further, the measures are associated with poor access to health services, non-existent or low social protection, illiteracy and lack of education.¹²³ The management of OHSE is linked with nature of work which is more challenging in the globalized

¹¹⁸ Walters, D. (2004). “Worker Representation and Health and Safety in Small Enterprises in Europe” *Industrial Relations Journal*, 35((2), 170-180.

¹¹⁹ WHO (2007). “Raising Awareness of Stress at Work in Developing Countries Protecting Workers” Health Series No. 6; WHO Press, Geneva, Switzerland

¹²⁰ “ILO (2005b). *Decent Work – Safe work: A Global Report on Work Related Accidents and Ill Health*. Geneva: ILO.”

¹²¹ Hasle, P. and Limborg, H.J. (2006) “A Review of the Literature on Preventive Occupational Health and Safety Activities in Small Enterprises” *Industrial Health*, 44, 6-12

¹²² Stiglitz, J. (2001) “Employment, Social Justice and Societal Well-being” Presentation at ILO Global Employment Forum, Geneva, Switzerland.

¹²³ “The assertion of International Commission on Occupational Health (ICOH), 2006.”

world. The developing states have poor finding or inquiry regarding OHSE and modern techniques in industrial workplaces.¹²⁴

The lack of proper information or data or change or work nature needs to generate a suitable mechanism to access for the appropriate information. The WHO data reveals that seventy-five per cent of global labour force work or live in developing states. Ghana is a developing state in the mining sector and a noxious industry at the receiving end of development. Further, it opens avenues for mineworkers' well-being, health, safety and working hours and exploratory research on their OHSE, and life quality. The issue of OHSE is a global one and there is a dire need of the assistance of United Nations international bodies like WHO and ILO to spot it.¹²⁵

1.8.2 Stockholm Conference 1972

The representative of 113 states agreed on "UN Conference on the Human Environment" held in Stockholm, to "consider the need for a common outlook and for common principles to inspire and guide the peoples of the world in the preservation and enhancement of the human environment." The attempt was made to balance economic development and environment which led to "United Nations Environment Programme (UNEP)".¹²⁶ The role of UN is non-responsive, bureaucratic and ineffective to tackle environmental protection on management level and to "ensure that international organizations play a coordinated, efficient and dynamic role for the protection and improvement of the environment." Numerous international environmental organizations were formed but they are lacking efficiency and coordination.¹²⁷ There was no proper coordination or articulate mechanism post-Stockholm. Numerous gaps existed concerning environmental harms like transport, energy and mining.¹²⁸

1.8.3 Brundtland Report 1987

In the 1980's the shortage of material and ceasing of growth of the modern industry was and collapsing was predicted. The Brundtland Commission, 1987 reported the connection between sustainable development and environment and its concerns. Further, the report with the name of

¹²⁴ WHO (2007). Raising Awareness of Stress at Work in Developing Countries Protecting Workers' Health Series No. 6; WHO Press, Geneva, Switzerland.

¹²⁵ United Nations Conference on Trade and Development. UNCTAD (2011). *Growing Micro and Small Enterprises in Least Developed Countries; The "missing middle" in LDCs*. [Online]. Available from <http://www.unctad.org/en/docs/poitetebd5.en.pdf> [Accessed: August 4, 2013]

¹²⁶ UNEP (United Nations Environment Programme) (2004). From Rio to Johannesburg. Retrieved October 2017 from: <http://www.unep.org>

¹²⁷ Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law* (Cambridge University Press 2012) 9; UN Report of the WCED ("Brundtland Report"), A/43/427 (4 August 1987).

¹²⁸ Fonseca, Alberto, "How credible are mining corporations' sustainability reports? a critical analysis of external assurance under the requirements of the international council on mining and metals," *Corporate Social Responsibility and Environmental Management*, 17:6 (Nov./Dec. 2010)

“Our Common Future” was presented by Brundtland in the meeting of “World Commission on Environment and Development”. This report defined sustainable development “development which meets the needs of the present without compromising the ability of future generations to meet their own needs.” The inter-link of development and environment is significant for OHSE.¹²⁹ WCED as the special commission of UNGA has introduced a report to look ahead for future generations regarding sustainable development and environment. This report identified: “the ‘environment’ is where we all live, and development is improvement of living or an attempt to enhance.”¹³⁰ Besides, the report described the generally accepted meaning of sustainable development regarding the environment. The multinational conferences like UNCED and Rio specifically focus on the integration of environmental protection with development or any economic activities. Later on, various environmental assessment procedures were recommended by numerous environmental conventions.¹³¹

1.8.4 Rio Earth Summit 1992

The Rio Earth summit was held in 1992 in Rio de Janeiro, Brazil which developed numerous international agreements. The Rio laid down responsibilities and rights for the member states regarding “polluter pays principle” and “precautionary approach”.¹³² Agenda 21, further highlighted “Act locally, think globally” for the sustainable development regarding the international environment. Statement of Forest Principles, “United Nations Framework Convention on Climate Change (UNFCCC)” and Convention on Biological Diversity were presented in UNCED. UNCED and Agenda 21 were followed by “United Nations Commission on Sustainable development (UNCSD).”¹³³ There is awareness required for the effective implementation of realistic solutions to reduce industrial hazards concerning the environment. The Declaration principle 16 summarizes that to utilize economic tools for making polluter responsible for environmental damage after internalization of environmental costs.¹³⁴ The issue is nothing new in the declaration and is only codifying and collecting the prevailing principles.

¹²⁹ “Brundtland Report, A/43/427 (4 August 1987), Note of the Secretary-General, p. 1; UNGA Resolution 42/187 (1987).”

¹³⁰ UN, “Consensus Reached on New Sustainable Development Agenda to be adopted by World Leaders in September” (2 August 2015) < <http://www.un.org/sustainabledevelopment/blog/2015/08/transforming-our-world-document-adoption/> > accessed 16 January 2020

¹³¹ Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law* (Cambridge University Press 2012) 9.

¹³² “Principle 16 of Rio Declaration.”

¹³³ “UNCED, Rio de Janeiro, 3-14 June 1992”

¹³⁴ Elliott Lorraine, *The Global Politics of the Environment*, MacMillan Press Ltd, London, 1998, 22.

The government having criticism on the contents of declaration due to is philosophical and lofty nature.¹³⁵

1.8.5 The 2002 “Johannesburg Summit”

A major earth summit and a conference held in Johannesburg, involving the representatives from 190 countries, for issues of environment and UNCED outcomes. The consensus of the leaders for poverty alleviation, effectiveness of Agenda 21, proper sanitation, water access, energy service, biodiversity, and improvisation of OHS and ecology.¹³⁶ Four partnership initiatives have been proposed in minerals and mining grouping in 2003, by developing and developing countries like France, Canada, Indonesia and South Africa.¹³⁷ The main purpose to harmonise environmental management and performance in ASEAN countries mining sector and relevant mining products from presented project. Major mining industries, mining associations fund for the implementation of the mining industry.¹³⁸

The Conference outcomes to link sustainable development with environment, poverty and use of natural resources. The governments, civil society and private sector partnership is an appropriate solution for sustainable development to support the government.¹³⁹ Sustainable development is the issue of human rights in modern days approach as well as environmental.¹⁴⁰ Private business entities need to undertake basic human rights for sustainable development. The governments need to ensure corporate liability related to human rights.¹⁴¹

1.8.6 Kyoto Protocol

The states reached an agreement to lower down the total emission to 5% before 2015. Further, the Indian mining industry was aware of environmental concerns in the early eighties. The “Berlin Guidelines” an action plan for environment and mining was followed by “Environmental Management for Mining and mineral resources Development.” The mining congress input forwards the environmental concerns in the mining sector in 2003. The mechanism for managing environmental resources is aimed through “command and control.” There is a need to curb

¹³⁵ Ibid, principle 15 of the Rio Declaration

¹³⁶ WSSD *The Road from Johannesburg: What Was Achieved and The Way Forward*, United Nations Department of Public Information, 2003, 1. 184 Ibid, 1.

¹³⁷ World Bank's both the IBRD. World Bank Group also includes the IFC and the Multilateral Investment Guarantee Agency.

¹³⁸ UN Division for Sustainable Development, —Sustainable Development in Mining Activities, Partnership Initiatives Information Sheet, 9 June 2003, at <http://www.un.org/esa/sustdev/partnerships/Minerals.htm> (accessed 24 July 2018).

¹³⁹ “World Summit on Sustainable Development, above n 183, 2.”

¹⁴⁰ Walker Paul, —Ecological Sustainability under IPA – Post Johannesburg Earth Summit (2002/03) 8(38) *Queensland Environment Practice Reporter* 128-138 at 128.

¹⁴¹ McBeth Adam and Kinley David, —After Johannesburg: can human rights be privatized too? (2002) *Alternative Law Journal* 292-294 at 292.

inadequacies in the mining sector after adopting international standards in the light of sustainable development. There need for numerous institutional, legal and financial regulations for sustainable development to evade lacuna in the mining industry. There is a need for incorporating environmental costs in project evaluation as the traditional techniques do not cover the environmental damages.¹⁴²

“Intergovernmental Panel on Climate Change” (IPCC) is product of Climate change convention and numerous governments incorporated the subject at policy level. The clean initiatives such as clean coal and green lead of the mining industry will be canvassed. It is early to predict the success of the Kyoto Protocol and Climate Change Convention on international mining issues while conventions, conferences and resolutions will elaborate on the developing environmental issues.¹⁴³

Conclusion

The issues of mines OHSE developend in previous century at the era of industrialization. In the era of industrialization, the issue of mines OHSE is miss-handled in developing countries. The developed states improved the safety performance but the developing states are lagging. There is a huge percentage of occupational diseases and deaths in developing states in mining sector specifically in coal mines. The information and research are unreliable, incomplete and limited on OHSE accidents and diseases. There is a significant burden of accidents and diseases regarding OHSE in the mining sector. The “system thinking” mainly focuses on the developments in accidents investigation, risk management, mineworker involvement in OHSE measure and legislation. There is legislation on OHSE but it not effectively appreciated and implemented in its true spirit.

There are few limitations for the improvement of OHSE in the mining sector due to changes like the industry. These constraints are the consistency of risk and training, a holistic approach of OHSE hazards, the recruitment of better workers, supervisors and managers and the supervision and resources to address the requirements of the ad-hoc worker, juniors and miners. The mining sector undervaluing OHSE hazards and lack of effort to overcome the risks occurred or apprehended. The past practices are connected with the dilapidated OHSE measures in mines. Mining is a destructive sector with OHSE damaging effects. Mining operations lack mandatory

¹⁴² Pearse P .H. (1991) Scarcity of natural resources and the implications for sustainable development; Natural resource Foruni; 1991; pp.79

¹⁴³ Prince, W. and Nelson, D. (1996) Developing an environmental model: piecing together the growing diversity of international environmental standards and agendas affecting mining companies, 7 Colorado Journal of international Environmental Law &Policy 247

and voluntary OHSE measures to overcome damages. The huge cost of casual mining operations discourages the investment. The mining companies reap financial gains if comes to environmental protection costs. The countries with abundant energy resources need for enforcement and adoption of domestic laws along-with positive and negative conclusions for environmental protection and transparent investment. The UNDP, UNEP and other UN entities have successfully used financial incentives such as project financing to encourage adoption of environmental protection through projects.

CHAPTER# 02

INTERNATIONAL LAW RELATED TO MINES OHSE: THE EXPERIENCE OF ILO AND OTHER ORGANIZATIONS

"Mines are the source of the treasury, from treasury comes the power of Government ".¹⁴⁴

Introduction

"International law" embodies OHS provisions formed by international organizations such as ILO and "European Economic Community (EEC)." The corporate culture needs to inculcate better policy measures for providing a better working environment. Mining sector being a hazardous one causes OHSE issues and can be minimized to a greater extent with due care and control procedures. World economies and globalization are the prime factors behind workplace OHSE. These factors are effecting demographic growth, the struggle for the global environment, and population movements up to a great extent. All these factors have bound the states to make legal adjustments in their structures accordingly. The era of industrialization has brought many changes with itself that changed the whole fabric of societies. With the advancement in the mining sector, the quest for the OHSE and well-being of workers continued side by side. By the end of nineteenth-century industrial sector witnessed many lethal issues such as exposures to mineral dust and fibres, toxic metals, infections, risky machinery and biological hazards. It is important for the world states to abide by the rules and laws of OHSE to have a contribution to the world economy.¹⁴⁵

Mining operations need due diligence and specific care as they could become a source of environmental destruction if not handled with specific precautions. Mining has affected the physical and chemical characteristics of the environment including flora, fauna and human life. The environmental impacts are expected to happen in exploration, ore processing, tailing (waste), management, plant operation for mining.¹⁴⁶ Numerous unavoidable impacts are tailing dumps, loss of agricultural land and their collapses, water pollutions, soil impurity and visual effects.¹⁴⁷ Besides, the compliance of mining companies and standards provided by international organizations for enforcement of laws must have complied. Furthermore, environmental

¹⁴⁴"The words are from *Kautliya's Arthashastra*, a 4th century treatise written by Chanakya, conveys the critical role that mining industry has played in the growth of civilization."

¹⁴⁵Loewens on *Occupational Health and Safety Legislation in Southern Africa: Current Trends* (1996).

¹⁴⁶ Lissu, T. A M. "Environmental Impact Assessment of Foreign Investment Projects: A Study in the Law, Policy and Governmental Decision-making in Tanzania" (1999). Accessed from <http://www.daneprairie.com>.

¹⁴⁷ Chiras, D. *Environmental Science: Action for Sustainable Future*, (1993), 4th ed. Benjamin Cummings Publishing Company, at pp 308.313.

behaviour, corporate compliance for the environment, regulatory framework, influence of financial institutions and corporate culture need a thorough look.¹⁴⁸ The public participation of environmental assessments its guidelines, procedures, access to information for environmental protection while investing in the mining sector is discussed.¹⁴⁹

2.1 Global Action for OHSE

The scope and definition of OHSE have certain stages like economic activities, environmental concerns, practices and workplace issues. OHSE is complex because connected with multiple disciplines and must incorporate at a national level for protection of the environment and workplace. There required a standard procedure for member states and corporate bodies to develop effective coordination concerning environment and OHSE. Occupational accidents and injuries are millions and lots of workers become incompetent to work. ILO reports indicated that accidents are decreasing in developed industrialized states and accelerating in developing industrialized states. Japan was a major site of occupational accidents but claimed reduction like the USA and EU.¹⁵⁰

2.1.1 ILO and OHSE

ILO, a specialized agency of the UN serves labour and employment issues concerning OHSE. The ILO headquarter based in Geneva administers international labour standards (ILS) and developments globally. All measures related to labour such as, employment policy, social security, labour administration, special categories of workers and working times are dealt with by ILS among which a major portion relates to OHSE. International Labour Committee (ILC) recommendations adopted on a tripartite basis are not binding while ILS conventions bind the states upon ratification. ILO codes are tripartitely negotiated only and provide guidance and do not affect national laws and regulations. OHSE issues are dealt by ILS with COP on an ad-hoc basis by a tripartite group of experts whose duty is to work on the agriculture sector, machinery and mining sector and with hazards such as drugs, alcohol and other risks associated with the workplace.¹⁵¹ ILO and CoP involve different sections of industry and governments to deliver

¹⁴⁸ Zamora, A. "Small Scale Mining: A Social and Environmental Problem Turned into an Opportunity for Economic Development".(1999). Accessed from <http://www.dundee.ac.uk/cepmlpljournalhtml/article6-6.html>

¹⁴⁹ Chachage, C.S.L. "Mining and Environmental Issues Under SAPS in Tanzania: Examples from Three Case Studies, in Bagachwa, M.S.D. and Limbu," F.(eds) *Policy Reform and the Environment in Tanzania* (1995a) Dar es salaam University Press, Tanzania, at 13.

¹⁵⁰ International Labour Organization, "Labour Standards" <<http://www.ilo.org/global/standards/lang--en/index.htm>> accessed 5 December 2019 "for more information on the work of the ILO in developing International Labour Standards."

¹⁵¹ ILO, *Safety and health in the use of machinery*. ILO code of practice, Geneva, International Labour Office, Programme on Safety and Health at Work and the Environment, 2013

better performance in this area. ILO uses the mediums of ILS, technical advice, CoP and the circulation of information for OHS promotion. These actions are deemed to decrease occupational accidents and other health-related issues by improving OHSE conditions. They have played a vital role in providing OSHE in development sectors through recording, observation and notification at mines. These tripartite experts meetings formulate ILO guidelines.¹⁵²

ILO works to promote workers opportunities to have decent work with freedom, security, dignity and equity and to deal with workplace OHSE issues. These type of measures are incorporated in the daily ILO activities. OHSE has developed into a complex subject linking many other disciplines like human life. The concern of ILO and WHO is to improve OHS related issues in the mining sector while facing numerous issues domestically and globally. ILO is working and observing OHSE improvement for the development of this sector.¹⁵³ The standards are like models for state laws to be incorporated and modified in domestic laws and many governments consult ILO for compatible standards. The ILO further provides better practices and performance for workplace OHSE. Besides, provide guidance and rules for businesses, employers, workers, governments and OHSE protection bodies in the mining sector. ILO treaties on OHSE define authorities' responsibilities along-with workers' rights and duties. They do not affect national law or regulation and persuasive to keep the pace with changing needs to cover all aspects of OHSE.¹⁵⁴

2.1.2 ILO Covnention 155 on OHSE

ILO idea to adopt international standards for the elimination of workers issues regarding injustices, hardships and privation. The "Declaration of Philadelphia" was incorporated to have a more humane standard to address the OHSE issues in mines. ILO standards are treaties needs states ratification and recommendations, codes, resolution and declaration have a normative effect and preventive. States that ratify conventions should monitor all the required steps from formulation to implementation relevant to OHSE. National policy should chalk out respective functions and responsibilities of, employees, workers and public authorities for better

¹⁵² "2013. *Labour migration and development: ILO moving forward, background paper for discussion at the ILO Tripartite Technical Meeting on Labour Migration* (Geneva)."

¹⁵³ 2014. *Occupational safety and health (OSH) in the informal economy* (Geneva). Available online at: https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/publication/wcms_313828.pdf, accessed 12 December, 2019.

¹⁵⁴ "Compilation of international labour Conventions and Recommendations/International Labour Office. Geneva: ILO, 2015."

performance.¹⁵⁵ For criminal breaches, the institution of criminal prosecution is formed that provide penalties upon breach of laws relevant to the workplace. It is state duty to comply with legal obligations relevant to workers guidance and training. These conventions provide the general duties of employers concerning workers safety. The C-155 protects workers refusal to hazardous work due to threat to OHSE. EU adopted a similar approach of “risk assessment” by an employer towards prevention of OHSE accidents in mines. Employers should guard against less hazardous substances and should provide with proper PPE. The contractor duty to take responsibility for OHSE in mining industry and make sure the construction and design of mine ergonomically and environmentally friendly.¹⁵⁶

C-155 is of greater importance for those state having special circumstance, climatic situations and imperfect industrial development.¹⁵⁷ The state should formulate, review and enforce OHSE policy after consultation with stakeholders. The convention aims to eradicate injuries and accidents in the working environment. C-155 further specifies its scope and working issues that need to overcome to attain better results.¹⁵⁸ Chemicals Convention deals with the use and hazards involved in mines and manufacturing chemicals. All the measures required such as information, classification, precautions, hazards involved, identification, OHS protection, and emergency procedures should be chalked out. The “Prevention of Major Industrial Accidents” poses a duty to provide information on the international level. Further exchange of information on OHS practices, major accidents and prohibited substances, technology and procedures for importing states must know about risks. These type of protective and preventive measures in installation helps to utilize the best OHS technologies, which goes beyond “what is reasonably practicable”.¹⁵⁹

¹⁵⁵ “ILO: Report of the Committee of Experts on the Application of Standards, Provisional Record No. 16 (Part One (Rev), International Labour Conference, 98th Session, Geneva, 2009, para. 209.”

¹⁵⁶ “ILO Standards regarding mining hazards,” <http://www.ilo.org/>.

¹⁵⁷ “Other recent Conventions dealing with health and safety include: Radiation Protection C-115 of 1960; Guarding of Machinery C-118 of 1963; Hygiene (Commerce and Offices) C-120 of 1964; Maximum Weight C-127 of 1967; Benzene C-136 of 1971; Occupational Cancer C-139 of 1974; Working Environment (Air Pollution, Noise and Vibration) C-148 of 1977; Occupational Health and Safety (Dock Work) C-152 of 1979; Occupational Health Services C-161 of 1985; Asbestos C-162 of 1986; Safety and Health in Construction No. 167 of 1988; Chemicals C-170 of 1990; Prevention of Major Industrial Accidents C-173 of 1993; Maternity Protection C-138 of 2000; Safety and Health in Mine C-176 of 2000.”

¹⁵⁸ Jeske, T. 2016. “Opportunities and challenges of digitalization for occupational safety and health”. (Kommission Arbeitsschutz and Normung). Available online: <https://www.kan.de/en/publications/kanbrief/digitalization-and-industry-40/opportunities-and-challenges-of-digitalization-for-occupational-safety-and-health/>

¹⁵⁹ ILO, “Plan of Action (2010-2016) to achieve widespread ratification and effective implementation of the occupational safety and health instruments (C-155, its 2002 Protocol and C-187)” “Adopted by the Governing Body of the International Labour Organization at its 307th Session (March 2010).”

2.1.3 Other Instruments and OHSE

“Occupational Safety and Health Convention 1981” (no 155) and its 2002 protocol deliver rules for the enforcement of national OHS policy. All the required steps such as recording accidents, diseases, the publication of annual statistics are covered under this protocol while seven new treaties had adopted after C-155. The “Occupational Health Services Convention, 1985” (no.161), regulates the issue of occupational health services not properly discussed in C-155. There are other instruments overlap with the general requirements of C-155 except “Chemicals Convention, 1990” (No 170). However, these instruments do address specific OHSE issues and model for national legislation. Some states ratified the C-155 but other states considered certain provisions as hurdles in ratification.¹⁶⁰

The instruments of ILO regarding OHSE are highly modified and meet the demands of changing time. The present OHSE instruments emphasize more on prevention and ensure healthy and safe environment to mineworkers and their active and constructive participation. The “Occupational Health and Safety Convention 2006(No.187) and its Recommendation (197)” provides a base for a national system with all requisites. This Convention is preventive and requires a national system, policy and programme on OHSE by the ratifying states. For the promotion of OHSE, the national programme should be time-bound to make it more effective. ILS was given the status of central pillar for promotion of OHS in “ILO’s 2003 Global strategy on OHS.” ILS and other instruments on OHSE provide guidelines regarding OHS at the workplace.¹⁶¹ The C-155 is forty years old but still meets the demands of the present time. The employer must well inform about technical and research-based issues. It is also state responsibility to support research and relevant studies or hiring of OHSE specialists for recognitions of hazards or risks. There need OHSE measures as per their size or activities or business. Further, the employer is responsible for the elimination of workplace diseases and trauma.¹⁶²

2.1.4 OHSE and ILO

The ILO goal on OHSE was to develop a platform for globalization challenges like technical and scientific assistance, politico-economic policies and global needs. Treaties were formulated to

¹⁶⁰ “ILO: General Survey concerning the Occupational Safety and Health Convention, 1981 (No. 155), the Occupational Safety and Health Recommendation, 1981 (No. 164), and the Protocol of 2002 to the Occupational Safety and Health Convention, 1981, Report of the Committee on the Application of Conventions and Recommendations (articles 19, 22 and 35 of the Constitution), Report III (Part 1B), Geneva, 2009, paras 3 and 272–275.”

¹⁶¹ ILO code of practice: Safety and health in opencast mines. International Labour Office, Geneva, 2018

¹⁶² Compilation of International Labour Conventions and Recommendations/International Labour Office. Geneva: ILO, 2015

record and notify procedures for diseases and accidents related to work.⁹ the nature of OHSE policies is of preventive nature that needs support and consultation with respective organizations of member states. The promotion of preventive OHSE culture is provided in C-187.¹⁶³ The ILO's Global Strategy on OHSE confirms the role of ILS to maximize impacts, integrated actions and OHSE promotion. The ILO standards enforcements are helping to protect weak workers and their OHSE along with development of national program. For the promotion, ratification and effective implementation of OHSE C-155, C-187 and P-2002 were developed and implemented a "Plan of Action." Through this plan, the ILO secretariat familiarized activities for promotions the conventions, analysis and recommendations for legislation and to support member States. Moreover, ILO provides technical cooperation for preventive measures, workshops, advisory services, tripartite consultations for the elaboration of OHSE policies. The OHSE conventions no.155, 187 received further ratifications with more protocols.¹⁶⁴

2.1.5 OHSE Role Players

OHSE has its administrative system with role players such institutions, managers, designers, representatives, committees, workers, employers and businesses or corporations. Committees are formed when OHS representatives exceed two in number. These representatives follow the local legislation, CoP and regulations and monitor OHS measures. "Employer" is defined as "any physical or legal person that employs one or more workers". Employers are bound to monitor employees' progress, issues related to machinery, workers insurance, training and unions along with cooperation with the government department. Workers are defined as "any person who performs duties, either regularly or temporarily, for an employer." They are bound to obey employers and all relevant instructions regarding training and OHSE. All role players such as importers, designers and manufacturers are bound by the principle of prevention. There must be the certification for machinery safety and other risks should be eliminated with installations. The tripartite relationships created by governments are under obligations for OHSE and dialogue between stakeholders.¹⁶⁵ The mineworkers need to inform about probable risks and hazards and relevant measures for their OHSE protection. The worker should provide PPE and reduction of risks or hazards. It is employer liability to provide all the medical equipment and facilities while

¹⁶³ ILO, *Safety and health in the use of machinery*. ILO code of practice, Geneva, International Labour Office, Programme on Safety and Health at Work and the Environment, 2013.

¹⁶⁴ ILO: *Resolution concerning future action of the International Labour Organisation in the field of working conditions and environment*, International Labour Conference, 91th Session, Geneva, 2003.

¹⁶⁵ Jeske, T. 2016. "Opportunities and challenges of digitalization for occupational safety and health". (Kommission Arbeitsschutz und Normung). Available online: <https://www.kan.de/en/publications/kanbrief/digitalization-and-industry-40/opportunities-and-challenges-of-digitalization-for-occupational-safety-and-health/> accessed 10 October, 2019.

informing the worker about machinery utility. Further, the employer will identify and eliminate the risks or hazardous situation.¹⁶⁶

2.2 Business and International Organization of Employers (IOE)

ILO standards are developed each year at ILC to meet international standards. The idea behind these meetings is to formulate flexible and practical rules. IOE works with the ILO legal framework for effective regulations at the national level. COP and guidance are the needs of the hour for attaining good global standards. There is a need for proper implementation after having an in-depth policy programme for OHSE at international level. IOE guides governments and companies regarding corporate activities for members of international business organizations. Employers share an important role in ILO regarding formulating, implementing and supervising standards along-with fulfilling the needs, progress, guidance and implementation of laws regarding OHSE with the help of IOE.¹⁶⁷

Governments that ratify ILS on OHSE are bound to implement these regulations through national legislation. ILS has global recognition and governments and companies modify their laws and practices in case of lack of national laws to achieve global standards. ILO, “Global Union Federations (GUFs)” and “International Framework Agreements (IFAs)”, provide communication and better consultations concerning OHSE issues.¹⁶⁸

2.2.1 Enterprise and OHSE

The Governing Body in “Tripartite Declaration of Principles” concerning MNEs and was added some other standards regarding OHSE. The Declaration set of global guidelines strike a bargain by governments, employers and workers’ organizations to follow OHSE standards and CoP. A declaration is a productive tool for strengthening of OHSE in MNEs. These business entities can easily donate to ILO concerning OHSE by providing required technical information on best practices. The contemporary OHSE standards, without risking business performance, apply to SMEs for limited awareness, knowledge, expertise and compliance of standards. These enterprises lacks support services to help them in obeying standards. Institution provides business development service to SMEs with compliance issue while local institutional capacity is less responsible for OHSE. Upon the creation of a “win-win” situation only then the standards

¹⁶⁶ ILO Code of Practice Safety and health in the use of machinery.

¹⁶⁷ “ILO: *Second Supplementary Report: Activities of the International Occupational Safety and Health Information Centre (CIS) in 2000-01*, Report of the Director-General, Governing Body, 283rd Session, Geneva, March 2002 (GB.283/16/2).”

¹⁶⁸ OECD. 2016. *The Economic Consequences of Outdoor Air Pollution (Paris)*. Available online at: <http://www.oecd.org/environment/the-economic-consequences-of-outdoor-air-pollution-9789264257474-en>. htm, accessed 23 August, 2020.

become applicable to SMEs. The practical strategies which fully identify and house their specific needs, are made available to them. The ILO programmes focusing on promotion of better workplace environment for business development and to boost workers OHSE.¹⁶⁹

2.2.2 Improvement of Working Environment and Their Conditions

“International Programme for the Improvement of Working Conditions and Environment” (PIACT) presented a significant development to ILO OHSE approach. Further, it integrated the issues concerning environment to policy and development. It enlightened the WHO and ILO role, i.e. the former is concerned for labour strategies, working condition and environment, labour laws and tripartism while later is public health, health policies and laws and health concerning working environment. It paved the way for OHSE policy based on principles of ILO instruments on OHSE.¹⁷⁰ This programme advocated the “participatory approach”, with support of ILO and support OHSE after Chernobyl accident. OHSE must be developed at management level within corporation with emphasis on safety culture. There are interrelated and specific components of OHSE for individual and system based functioning. The management provides mechanism to smoothen the functioning together and the “Guidelines on OHS management systems” embody these principles.¹⁷¹

2.3 Collaboration of ILO With Other Organization

International collaboration of ILO with non-governmental organizations covers OHSE activities with international, regional and local specialised institutions and with EC. These activities cover the technical cooperation for project implementation, programmes, policies and technical standards preparation. Further, it focused on workers training materials, the development of databases, workshops, conference and information materials. The ILO collaborates with UN and other international organizations like WHO, UNEP, EC, “International Atomic Energy Agency (IAEA), the Association of South-East Asian Nations (ASEAN), the Asian Development Bank (ADB), the Pan American Health Organization (PAHO) and the Southern African Development Community (SADC)”.¹⁷² The “IALI, the International Commission on Occupational Health (ICOH) and IOHA” are some of the ILO’s major specialized NGO partners. The “Inter-

¹⁶⁹ “International Labour Organization, “Labour Standards” <<http://www.ilo.org/global/standards/lang-en/index.htm>> accessed 5 December 2019.

¹⁷⁰ ILO, “Plan of Action (2010-2016) to achieve widespread ratification and effective implementation of the occupational safety and health instruments (Convention No. 155, its 2002 Protocol and Convention No. 187)” Adopted by the Governing Body of the International Labour Organization at its 307th Session (March 2010).”

¹⁷¹ ILO: “*Improving working conditions and environment: An international programme (PIACT)*” (Geneva, ILO, 1999)

¹⁷² “FAO, IAEA, ILO, OECD/NEA, PAHO and WHO. 1996. *International basic safety standards for protection against ionizing radiation and for the safety of radiation sources.*”

Organization Programme for the Sound Management of Chemicals” (IOMC) was established in 1995 to harmonize chemical safety activities of the Food and Agriculture Organization of the “UN (FAO), ILO, OECD, UNEP, the UNIDO and WHO”.¹⁷³

2.3.1 Centre for Information on Safety (CIS)

The CIS was founded for OSH information clearinghouse for numerous international bodies. It has developed a global network engaged in OHSE information and technical assistance with many CIS centres in all continents. The CIS has been a pioneer of the latest information technologies. The CIS has produced many OHSE publications using OHSE and database (CISDOC) is established for physical and chemical hazards. Further, these documents are scanned, abstracted or shelved in CIS centers in “virtual ILO OHS library.”¹⁷⁴ The CIS has reorganized the “ILO Safe Work” web to access the available ILO-OHS information. The role of CIS contributes in international arena of IPCS “International Chemical Safety Cards (ICSC)”. The CIS trained the staffed to respond the OHSE queries at every aspects.¹⁷⁵ The Center is well connected to ILO for safe and healthy work condition and for effective management. These sources are authentic and utilized in numerous organization and developing states regarding OHSE. Technical cooperation projects have given training and access to the number of CIS national centres.¹⁷⁶

2.3.2 OHSE Workers Participation With Global Attitudes

The work highlighte the international perspective of OHSE with workers participation. This is a significant area for research because of globalization and volatile global trends that involve workers involvement in OHSE and ILO concern. These analyses in the context of worker contribution in OHSE are regarded as acceptable by ILO and are published as ILS on OHSE. The approach of ILO is similar to that of EU legislation related to workers participation in OHSE.¹⁷⁷ The purpose is to enhance worker participation in OHSE and to adopt the lessons from

¹⁷³“Inter-Organization Programme for the Sound Management of Chemicals (IOMC) Information on the chemical safety and related activities of the seven intergovernmental organizations participating in the coordination programme (UNEP, ILO, FAO,WHO, UNIDO, UNITAR, OECD):” <http://www.who.int/iomc/>, accessed 24 November, 2019.

¹⁷⁴Libraries of “OSH institutions in Austria, Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Sweden, Switzerland and the United Kingdom. The international participants were the ILO, the ISSA, and the European Coal and Steel Community.”

¹⁷⁵ILO: *Second Supplementary Report: Activities of the International Occupational Safety and Health Information Centre (CIS) in 2000-01*, Report of the Director-General, Governing Body, 283rd Session, Geneva, March 2002 (GB.283/16/2).

¹⁷⁶CIS national centres’ global OSH information network, at <http://www.ciscentres.org>, accessed 29 September, 2019.

¹⁷⁷ International Labour Organization, “Labour Standards” <<http://www.ilo.org/global/standards/lang-en/index.htm>> accessed 5 December 2018.

the best practices of other countries. This trend is opted by a few countries to promote innovative approaches to encourage worker contribution in OHSE.¹⁷⁸

The ILO history of social dialogue comprised of various conventions like C-98 “Right to organize and Collective bargaining” and C-98 regarding association freedom. Moreover, its emphasis on cooperation and consultation between workers and employers apprehensions at mining businesses.¹⁷⁹ R-94 proposed cooperation within the organization amongst stakeholders for consultations, laws promotions through agreements. There need to determine the functions, scope, methods and structure of such bodies. R-129 provides the undertaking communications requirements for a communication policy, for communicating and exchanging information.¹⁸⁰ These recommendations are not legally binding but supplement convention on technical and specific labour standards and provision of OHSE. ILO labors participation regarding workers involvement provides minimum international standards concerning OHSE.¹⁸¹

R-130 addressed workers participation and examination of grievances submitted relating to employment condition, labour relation and appropriate procedures of grievances. C-135 and 376 and R-143¹⁸² elaborates facilities and protections at workplace to employees and their representatives.¹⁸³ C-135 provides that election will be conducted for a trade union or workers representatives. C-158 and R-166 provide that workers representative can consult on employment termination and service contracts to mitigate or avert negative repercussions.¹⁸⁴

2.3.3 Workers Involvement Under ILO-OHS Principles

The ILO standards ILS published by former incorporated workers participation in OHSE issues. These ILO provisions are poorly ratified by the EU because they may consider that they surpasses the organization necessities.¹⁸⁵ ILO requirements are vital for workers involved in OHSE and these suggestions have minimum requisites at the international level.¹⁸⁶ Important conventions concerning OHSE are C-155 and C-174 provide broad foundations for states to enforce OHSE laws. The conventions were to enforce at national level policy requirements,

¹⁷⁸ J Stiglitz, *Globalization and its Discontents* (Penguin Books, London, 2002) and J Bhagwati, *In Defence of Globalization* (Oxford University Press, New York, 2004)

¹⁷⁹ “International Labour Organization, C87 Freedom of Association and Protection of the Right to Organise Convention, 1948.”

¹⁸⁰ P Davies and M Freedland, *Labour Legislation and Public Policy* (Open University Press, 1993) 42^3

¹⁸¹ International Labour Organization, “Labour Standards” <[http://www.ilo.org/global/standards/lang--en/index.htm](http://www.ilo.org/global/standards/lang-en/index.htm)> accessed 5 December 2019.

¹⁸² ILO, R143 Workers' Representatives Recommendation, 1971.

¹⁸³ ILO, R166 Termination of Employment Recommendation, 1982.

¹⁸⁴ ILO, C87 Freedom of Association and Protection of the Right to Organise Convention, 1948.

¹⁸⁵ 2014. *A 5 STEP GUIDE for employers, workers and their representatives on conducting workplace risk assessments*.

¹⁸⁶ B Boockmann, *Domestic Political Determinants of Treaty Ratification: The Acceptance of ILO Conventions by Industrialized Countries* (Centre for European Economic Research, ZEW, 2001).

arrangements for various sectors and industries in the country.¹⁸⁷ ILO Conventions are general and to be followed by the domestic legal regime after ratification while designed for a global and national level. The technical and detailed guidance provided by R-164 which is supplement of C-155.¹⁸⁸

The C-174 and C-155 need effective measures for enforcing their provisions through policy, planning and management system of OHSE. Employees and their representatives must be “enabled to enquire into and are consulted by the employer, on all aspects of OHS associated with their work”. For this purpose, “technical advisers may, by mutual agreement be brought in from an outside undertaking.”¹⁸⁹ The C-155 provision 19 stated about OHSE protection at business and management level.¹⁹⁰ There need sufficient information regarding OHSE measures taken by an employer to workers representative. The information will not include the business secrets of the undertakings.¹⁹¹

ILO C-155 and R-164 focuses that consultation and information on OHSE need to be granted to workers, OHSE committees and representatives, participatory institutions and safety delegates. The recommendation determines principles for the content and nature of consultation and information. The mechanisms empowers workers representation “to contribute in the decision making process at undertaking level regarding matters of OHS.”¹⁹² Workers and their representatives should be part of planning for an alteration of contents and process which may cause hazardous implications for workers. Further, workers should inform about any changes and their recommendation must be appreciated regarding OHSE. The workers' consultation and support are required for implementing new OHSE measures.¹⁹³ Besides, workers should be informed under R-129 about any measures which are harmful to OHSE and for “effective policy of communication.” The management will communicate information and consultation on a matter of interest between parties.¹⁹⁴

ILO and European “Framework Directive 89/391/EEC” have similarity on the participative approach. The ILO requirements are to align OHSE committees and representative and reference to consultation and information. The liability is reasonably practicable referred in ILO Conventions and Recommendations. The consultation and information need to be enforced

¹⁸⁷ ILO, R164 “Occupational Safety and Health Recommendation,” 1981

¹⁸⁸ ILO, C155 “Occupational Safety and Health Convention,” 1981

¹⁸⁹ ILO, C-155 Occupational Safety and Health Convention, 1981

¹⁹⁰ Ibid, page 14.

¹⁹¹ B Boockmann, *Domestic Political Determinants of Treaty Ratification: The Acceptance of ILO Conventions by Industrialised Countries* (Centre for European Economic Research, ZEW, 2001)

¹⁹² (Article 12(e) of Recommendation. 164 supplement with C-155.

¹⁹³ “ILO Recommendation No. 164 supplementing Convention No. 155.”

¹⁹⁴ “Paragraph 3 of ILO Recommendation 129.”

in a workable and sensible way under C-155. Moreover, the decision making required the balance of time, cost, management connected risk or hazards.¹⁹⁵

The ILO has a prominent role in handling labour issues but seen a divide on OHSE issues and human rights. ILO adopted the “Declaration on Fundamental Principles and Rights at Work.”¹⁹⁶ This declaration provides that all ILO member states had ratified ILS but not applicable to OHSE. The ILO stated that workers should participate in employment issues globally. ILO's specific decisions were termed as important conventions for human rights were quickly ratified by many countries. So the narrative of division between OHS and human rights was false. The ILO considers the workers participation as basic human right.¹⁹⁷

2.4 Occupational Hazards and ILO

The main concern of ILO is workers Safety and health and lessening industrial accidents. Each year due to industrial accidents, workplace hazards and exposures, millions of workers lose their lives or sustains injuries. This huge human loss cannot be borne as the price for economic development. For soothing human sufferings and preventing loss of human lives these industrial accidents and hazards must be reduced. According to a study, the annual losses resulting from work-related injuries and diseases, in terms of compensation, lost work-days, interruptions of production, training, medical expenses, and so on, makes over 4 per cent of the overall earning at international level.¹⁹⁸

2.4.1 ILO Labour Inspection

Labour Inspection has been a solid mechanism of workers protection since inception of ILO. Standard-setting was eradicated with approval of “Labor Inspection Convention, 1947, (C-81)” along with 1995 Protocol Convention for services and non-commercial activities. Many states have changed both in policy and practice. The C-81 was given the place of “governance conventions” as given by the 2008 “ILO Declaration on Social Justice for a Fair Globalization.” The convention further emphasizes on its objective for good working conditions and social protection under “ILO Decent Work Agenda.” ILC reaffirmed labour inspection and OHS in the

¹⁹⁵ ILO, C-155 Occupational Safety and Health Convention, 1981

¹⁹⁶ P Alston, *Core Labour Standards and the Transformation of the International Labour Right Regime* (2004) European Journal of International Law 15 (3) 460

¹⁹⁷ ILOLEX database at International Labour Organization, “ILOLEX Database of International Labour Standards” <<http://www.ilo.org/ilolex/english/convdispl.htm>> accessed 5 December 2018, “C87 Freedom of Association and Protection of Right to Organise, 1948 and C98 Right to Organise and Collective Bargaining, 1949”

¹⁹⁸“Data provided by the ILO's SafeWork Programme.”

2011 session. The association of OHSE and ILO underlined by restructuring of its functions within ILO.¹⁹⁹

2.4.2 ILO Mines OHSE Convention No: 176

The various aspects of mines OHS characteristic are workers PPE, better inspection and special working devices are dealt under “Safety and Health in Mines Convention” 1995(No. 176). It also guides about my rescue. This Convention provides for the protective and preventive measures regarding mining sector safety, compressed air, equipment and machinery.²⁰⁰ The Convention is functional for all workplaces, employers and mines and gives a rational national policy on OHSE issues at the the workplace. Additionally, it depicts a risk management approach to OHSE. This Convention thoroughly draws mineworkers’ rights and relevant issues. The Convention designed for OHSE in the mining sector is also complemented by CoP.²⁰¹

The convention objectify the prevention of health, safety and accidents related issues in mines. The convention draws measures to eradicate mines diseases and accidents like handling machinery transport and safety, chemical management, accommodation and welfare.²⁰² OHSE provisions in mining industry demand input from stakeholders representing general public, wokers and employers. Many states are consented provisiton regarding mines safety and health and relevant hazards. The Mines Convention focuses on workers training, supervision, an inspection of mines, reporting, and investigation of accidents and compilation of data for OHSE compliance. The Convention covered matters like amenities, first aid, medical facilities, emergency plans, respiratory devices and my rescue are dealt under this Convention. Security of abandoned mine workers is assured by the Convention. The activities can be suspended or restricted through enforcement tools or legislative compliance concerning OHSE. Further, to ensure the rights of mineworkers or their representative participation need to be protected concerning OHSE.²⁰³

¹⁹⁹ “Labor Inspection Convention No: 81.”

²⁰⁰ International Labour Organization, “Labour Standards” <<http://www.ilo.org/global/standards/lang--en/index.htm>> accessed 21 December 2018.

²⁰¹ “*Declaration on Fundamental Principles and Rights at Work and its Follow-up*, International Labour Conference, 86th Session.1998.”

²⁰² “International Labour Office (ILO). 2010. Emerging risks and new patterns of prevention in a changing world of work (Geneva, ILO). Available at: www.ilo.org/safework/info/video/WCMS_123653/lang--en/index.htm” accessed 19 September, 2019.

²⁰³ ILO, “Plan of Action (2010-2016)to achieve widespread ratification and effective implementation of the occupational safety and health instruments (Convention No. 155, its 2002 Protocol and Convention No. 187)” Adopted by the Governing Body of the International Labour Organization at its 307th Session (March 2010)

2.4.3 Guidelines and Codes of Practices (CoP) on OHSE

The CoP and guidelines of ILO provided practical recommendations and technical description. Moreover, it states the applications of standards, explains the role of stakeholders and complement ILS. These practices and guidelines are not substitution of national laws or regulations nor legally binding. Furthermore, CoP provides guidance regarding collective agreements and national regulations in private and public division. It elaborated the OHSE measures and work risks in mining and economic sector. These documents elaborate on developing countries transfer of technology, occupational diseases and accidents notification and recording, workers data and OHSE conditions at the workplace. ILO Guidelines intends to provide OHSE guidance concerning radiation protection, ergonomics, and management system and health surveillance. The codes are considered for academic and scientific institutions, national authorities, workers, professionals and businesses. It provides enforcement mechanisms for OHSE and tools for enterprises and practitioners.²⁰⁴

2.4.4 ILO Protective and Preventive Measures

The C-155 and R-164 provides policy or strategy at business and national level for enforcing protective and preventive measures concerning OHSE. The Convention focuses on stakeholders' participation, review, enforcement and formulation of OHSE policy at national level. This further includes the role of state institutions for a recording of occupational diseases and accidents. These measures define the role and responsibilities of an employer. The workers' rights are included for their training, information and education.²⁰⁵ The Protocol of 2002 (No. 155) and the "List of Occupational Diseases Recommendation, 2002" (No. 194) complemented the Convention. The protocol provide various procedures for publication, recording, notification and statistical data of occupational diseases and accidents. The Recommendations are given by the tripartite experts' opinions regarding reviews and updates about diseases and other issues. Recognition and identification of injuries and diseases are mentioned in the new list provided by the protocol. The disease in the list are there to establish a connection with risk, exposure of workers.²⁰⁶

²⁰⁴ International Labour Organization, "Labour Standards" <<http://www.ilo.org/global/standards/lang-en/index.htm>> accessed 5 December 2018.

²⁰⁵ "ILO: *General Survey concerning the Occupational Safety and Health Convention, 1981 (No. 155), the Occupational Safety and Health Recommendation, 1981 (No. 164), and the Protocol of 2002 to the Occupational Safety and Health Convention, 1981*, Report of the Committee on the Application of Conventions and Recommendations (articles 19, 22 and 35 of the Constitution), Report III (Part 1B), Geneva, 2009, paras 3 and 272–275."

²⁰⁶ ILO: Working Environment. Report VI (1), ILC, 61st Session, 1976, Geneva, 1975, p. 5. 2 ILO document GB.224/4/3, p. 9.

The C-161 and R-171 provides “occupational health services” at enterprise and national level. Further, it ensures the enforcement of emergency response, health surveillance, OHSE enforcement, protective and preventive procedures. The health services include facilitation of workers, their mental and physical health, preventive actions and maintaining a healthy and safe working environment. The services required absolute professional autonomy from workers representatives, employers and workers due to its multidisciplinary nature.²⁰⁷

The C-187 and its R-197 accepts previous core standards and maintains a preventive OHSE culture at the national level with a policy by the responsible institution. This process needs to consider ILO principles as listed in Recommendation No. 197.²⁰⁸ The ILO works domestic authorities and the “International Social Security Association in the organization of the World Congress on Safety and Health at Work”. The main purpose of this event to connect all stakeholders, researchers, OHSE practitioners and regulators.²⁰⁹ The outcome of the event to develop a consensus for ministerial summit for approval of new declaration regarding OHSE such as, “Seoul Declaration of 2008 and the Istanbul Declaration of 2011”. The Seoul Declaration works for a preventative OHSE culture to participate actively. The Istanbul Declaration recognizing the fundamental human right of OHSE, preventive measure and social responsibility from businesses. The World Congress in Singapore that resulted with calls from the ILO and other global partners to address emerging OHSE challenges.²¹⁰

2.4.5 OSHE Plan of Action

The ILO opted for an action plan to get enforcement and ratification of the OHS instruments (2010–2016) for developing a more holistic and integrated approach concerning OHSE. It stands on the “2003 Global Strategy, the Convention, No. 187, and the 2009 General Survey on OHSE”. This Plan of Action chalks out strategies at domestic and global action for enforcement of conventions and overcoming obstacles. There need improvement of OHSE at informal mining sector along-with preventive measures. The implementation report on such strategies will be presented to the governing body of ILO in 2016.²¹¹

²⁰⁷World Bank: *World Development Report 1995* (Washington, DC, 1995).

²⁰⁸ “The Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187) and its accompanying R-197.”

²⁰⁹ ILO: Working Environment. Report (1), ILC, Singapore, March, 2010.

²¹⁰ “International Labour Office (ILO). 2011. *ILO introductory report: global trends and challenges on occupational safety and health*, Report, XIX World Congress on Safety and Health at Work, Istanbul, 2011 (Geneva). Available at: www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/safework/documents/publication/wcms_162662.pdf accessed June 19, 2020.”

²¹¹ “This chapter is based mainly on the Working Environment (Air Pollution, Noise and Vibration) Recommendation, 1977 (No. 156), the Occupational Safety and Health Recommendation, 1981 (No. 164), the Asbestos C-162, and R-172, 1986, the Safety and Health in Construction Convention, 1988 (No. 167),

2.4.6 OHSE Capacity Building

The learning about OHSE is very relevant to the workplace and technical and quite different from mainstream learning. The collaborative effort is carried out with UNEP and WHO concerning chemical risks and hazards, scientific assessments. There is a need to inculcate OHSE in mainstream general education for workers while entering into practical workplace life. There are policies formed on this subject but the need is to make it a reality after research and analytical work. Further, the useful future actions are occupational diseases and accidents cost, OHSE economic aspects, industrial hazards and levels of national investments to be considered for OHSE enforcement. Integrating OHSE with vocational training and education can be beneficial for better OHSE of mineworkers. OHSE Awareness, trainings, education are other effective tools for safe and health working conditions.²¹² The “ILO Global commission” for the future of workplace, “a universal entitlement to lifelong learning that enables people to acquire skills and to reskill and up-skill”.²¹³ The approach assists people through transformative and transitions plan strengthening social protection and acquiring gender equality. OHS formal and informal education and training can equip stakeholders to minimize or control risks after adaptations abovementioned tools.²¹⁴

2.5 United Nation and Mining

2.5.1 UN Institutional Framework on Protection of Mining Environment

The Hague Declaration 1989 and few other conferences forward various suggestions environmental protection in mining sector.²¹⁵ In the absence of vivid jurisdiction, there are issues of scope and overlapping activities at the international organizational level. Their overlapping issues are somehow intentional and coordinated with international organizations like WB, UNDP and UNEP for partnership and support environmental projects at the global level. The “Global Environment Facility” provided funds for environmental conventions like Stockholm, UNFCCC, Minamata and funds for environmental projects. It is evident that not all the UN organizations coordinate their activities effectively, and overlap. This creates confusion of agencies work

the Chemicals Recommendation, 1990 (No. 177), the Safety and Health in Mines Convention, 1995(No.176), and PLACT (op.cit.).”

²¹² *ILO guidelines on occupational safety and health management systems* (ILO-OSH 2001) (Geneva).

²¹³ (ILO guidelines, 2019a)

²¹⁴ “ILO: *Second Supplementary Report: Activities of the International Occupational Safety and Health Information Centre (CIS) in 2000-01*, Report of the Director-General, Governing Body, 283rd Session, Geneva, March 2002 (GB.283/16/2).”

²¹⁵ Buxton, Abbi, International Institute for Environment and Development, “Responding to the Challenge of Artisanal and Small-Scale Mining” (5 March 2013)

nature, increase costs, challenges for assistance.²¹⁶ The UN forwards certain reforms or initiative at the member state level for a major project which is not implemented. A cluster with the name of UNCTAD²¹⁷ is undertaken and regional commission to improve work conditions and operations.²¹⁸ It is formed to curb the issues of jurisdictions and other challenges. The clusters formed for International issues don't address the issue rather come up with issues of confusing jurisdictions and impediments. The agenda for the next 15 years was recommended and adopted with the name to "Global sustainable development goals".²¹⁹

The SDGs inadequacies are concerned about the mining industry and other relevant sectors. The goals lack the rare earth metals in technological developments and green economy for future generations.²²⁰ Few goals were indirectly related to sustainable water management, poverty alleviation, mining industry, land conservation and ensuring OHSE.²²¹ Various mechanism has been applied by UNDP to the mining sector but the SDGs process for adoption is not properly addressed nor engaged in the mining sector. All human being has equal rights for basic services, financing and natural economic resources. These decreases diseases and accidents from noxious and hazardous substances in the mining industry. These goals further focus on the conservation of wetlands, dry-lands, freshwater and particularly sustainable use of other natural resources.²²²

2.5.2 Mining and UNEP

The role of UNEP is obliged with tasks with supporting environmental institution, evaluating conditions and trends and focusing on local and global environmental covenants.²²³ Other programs run by UNEP are disasters, ecosystem management, chemicals and waste,

²¹⁶ "UNEP and UNDP, Report of the Thematic Consultation on Environmental Sustainability in the Post-2015 Agenda, "Breaking Down the Silos: Integrating Environmental Sustainability in the Post-2015 Agenda," (16 October 2013)."

²¹⁷ "The new United Nations Inter-Agency Cluster on Trade and Productive Capacity is led by the UNCTAD (includes UNIDO, UNDP, ITC, FAO, WTO, UNEP, ILO, UNCITRAL, UNOPS and the five UN Regional Commissions"

²¹⁸ Sands, Philippe and Jacqueline Peel, *Principles of International Environmental Law* (Cambridge University Press 2012)

²¹⁹ Jefferis, Keith, United Nations Committee on Trade and Development, "The role of TNCs in the extractive industry of Botswana," *Transnational Corporations* (April 2009)

²²⁰ "International Institute for Environment and Development, commentary on the proposed SDGs" <<http://www.iiied.org/owg-zero-draft-huge-step-forward-now-lets-get-practical>> accessed 15 November 2018.

²²¹ United Nations News Centre, "UN adopts new Global Goals, charting sustainable development for people and planet by 2030" (25 September 2015) <<http://www.un.org/apps/news/story.asp?NewsID=51968>> accessed 27 January 2019.

²²² IIED, "Convergence and Contention: The Least Developed Countries in post-2015 Debates" <<http://www.iiied.org>> accessed 15 November 2019.

²²³ Hans Lofgren, World Economic Forum, "How can we speed up progress on the SDGs?" (11 January 2016) <<https://www.weforum.org/agenda/2016/01>, accessed 9 May 2019.

environmental review and climate change.²²⁴ The integration of the environment with sustainable development to develop capacity-building is the 2030 Agenda. It focuses on sustainability efforts on the partnership with industry, consumer choice and resource efficiency. It has other efforts like safe and clean industrial production concerning national governments with UNIDO and “Resource Efficiency and Clean Production” (RECP).²²⁵

UNEP identifies few regulations concerning mining like hazardous waste issues, pollution, industrial accidents and resource depletion risks. Further, it ameliorates environmental governance and recycles and manufacturing processes to evade the connected risks. The development of global initiative for economic sectors like metals and mining is the great measure taken by UNEP.²²⁶ UNEP is the concerned body for environmental issues to address the mining and sustainable development through organizations like ILO, UNDP and UNIDO.²²⁷

2.5.3 Shortcomings in the UN Approach to the Mining Industry

There are general lacunas of enforcement, coordination and attention concerning the mining industry at the the UN while it is not efficient about the mining sector.²²⁸ The first document adopted by the UN to identify the role of mining in economic development at Johannesburg Summit, 2002.²²⁹

“The Plan of Implementation recognized that environment protection of mined minerals and raw materials requires: (a) addressing the benefits and costs including OHSE, while enhancing the participation of indigenous communities and women in the mining life cycle, including after mine closure and for transboundary impacts, and fostering sustainable mining practices and improving value-added processing techniques and mines rehabilitation”.²³⁰

UNEP, UNCSD and UN-ECOSO recognised the integration principle for every mining project with other agencies. The consent of the local community for the mining project and its

²²⁴

UNEP

website

<<http://www.unep.org/resourceefficiency/Business/CleanerSaferProduction/ResourceEfficientCleanerProduction/UNEP-UNIDOjointRECPProgramme/RECPGlobalNetworkingConferences/tabid/794778/Default.aspx>> accessed 15 November 2018.

²²⁵ World Trade Organization press release, “WTO and UNEP enhance dialogue on trade and environmental issues” (28 April 2015) <https://www.wto.org/english/news_e/pres15_e/pr741_e.htm> accessed 27 January 2019.

²²⁶ UNEP, website, <<http://www.unep.org/resourceefficiency/Business/SectoralActivities/tabid/55545/Default.aspx>> accessed 21 March, 2019.

²²⁷ Marc Bacchetta and Marion Jansen (eds.), *WTO and ILO, “Making Globalization Socially Sustainable”* (2011) <https://www.wto.org/english/res_e/booksp_e/glob_soc_sus_e.pdf> accessed 17 February, 2019.

²²⁸ Smarzynska Javorcik, Beata and Shang-Jin Wei, “Pollution Havens and Foreign Direct Investment: Dirty Secret or Popular Myth?” Contributions to Economic Analysis & Policy vol. 3(2) (Berkeley Electronic Press 2004)

²²⁹ Muchlinski, Peter, “Social and human rights implications of TNC activities in the extractive industries,” in United Nations Conference on Trade and Development, Transnational Corporations 18:1 (April 2009).

²³⁰ Ioannou, Ioannis and George Serafeim, “The Consequences of Mandatory Corporate Sustainability Reporting: Evidence from Four Countries,” Harvard Business School Research Working Paper No. 11-100 (August 20, 2014)

environmental protection is applicable.²³¹ ILO C-169 and “UN Declaration on Rights of Indigenous Peoples” came up with prior consent from local communities for mining operations under the mechanism of “free, prior and informed consent (FPIC).” FPIC is mainly state duty and not concerned industry to consider the rights of indigenous people.²³²

The mining industry is getting minimum attention from the UN which is recognised in the Brundtland Report. There is a need for sustainable development of minerals and metals as surges the pressure of population and development. Developing economies are extracting mines to export for their foreign funds or investments at a local and national level. At the UN level, they do little for environmental protection in the mining industry. Further, they are lacking in the OHSE mechanism, their progress and inadequacies in the mining sector. The role of WTO is vital to evaluate the mining sector environmental concerns in particular.²³³

2.6 World Bank Efforts for Mining Environment

Due to the major contributions toward a global economy, WB and IMF identify the role of the mining industry as an appropriate source of development. Mining is the source of employment opportunities, infrastructure development, domestic revenue increase and technology transfer in local areas as per WB research. These institutions funded numerous project related such issues.²³⁴ This further recognised the risks connected with socio-economic degradation, environmental losses, mining sector growth and lack of policies regime. The WB focus on mining sector incorporating good governance and environmental protection on small and large-scale projects. The institution provides training for women in mining areas. Further, they research the mining industry for inculcating better corporate practices regarding the protection of the environment.²³⁵

WB facilitates mining industry growth in developing countries for environmental protection and funding for technical assistance. There need strict environmental and social guidelines for the financed projects of WB. It further funds projects to facilitate growth in the mining sector in developing countries and considers environmental protection and its

²³¹ Hilson, Gavin and Barbara Murck, “Sustainable development in the mining industry: clarifying the corporate perspective,” *Resources Policy* 26:4 (December 2000)

²³² Muchlinski, Peter, “Social and human rights implications of TNC activities in the extractive industries,” in UNCTD, *Transnational Corporations* 18:1 (April 2009)

²³³ Hilson, Gavin and Barbara Murck, “Sustainable development in the mining industry: clarifying the corporate perspective,” *Resources Policy* 26:4 (December 2000).

²³⁴ Belem, Gisèle, “Mining, Poverty Reduction, and the Protection of the Environment and the Role of the World Bank Group in Mali,” in Bonnie Campbell (ed.) *Mining in Africa: Regulation and Development* (Pluto Press 2009)

²³⁵ Auboin, Marc, World Trade Organization Secretariat, “WTO Discussion Paper No. 13: Fulfilling the Marrakesh Mandate on Coherence: Ten Years of Cooperation Between the WTO, IMF and World Bank” (2007)

incorporation in funding and technical assistance projects. There is a dire need of showing adherence to the financed projects of WB, with strict social and environmental guidelines, poverty alleviation and economic development.²³⁶ There are various environmental issues associated with mining like noise, dust, land disruption, aquifers and tailing disposal. These issues can harmfully affect the livelihood and health of native people during mining extractions. The local stakeholder and mines corporations need to ensure the participation of the local community for local economic growth.²³⁷

WB has specific Mining, Gas and oil department as well as growth and mining governance. The mining, oil and gas unit transfer relevant assistance to 41 states. This unit recognizes the challenge in the mining industry in developing state.²³⁸ The Mining unit further expands the environmental and investment governance while betterment in national level mining governance and management. The mining and petroleum Unit's work has provided technical assistance to Tanzania, Argentina and Madagascar to improve governance for mining investment and environment. The Mining Governance and Growth Support Project assists with funding for improvements in domestic mining management in EU funding for Malawi to improve governance and management in mining.²³⁹ Mining is a key sector for economic prosperity and there need updated environment legislation to attract mining investment. This economic opportunity may risk the environment and social changes in developing states. The government pledge for transparency and authority is significant for environmental and social considerations.²⁴⁰

"Extractive Industry Transparency Initiative (EITI)" is the adoption fund of WB in developed and developing states. This further highlight plans in countries where assistance required in extractive industries or projects of petroleum and mining. EITI through IFC lends policy support, capacity building and private financing.²⁴¹ "Sustainable Community Development Facility" provides consultation for funding of mining companies to manage and

²³⁶ World Bank, "Working Paper: Finance, mining and sustainability (2013) <<http://documents.worldbank.org/curated/en/2013/01/18537799/finance-mining-sustainability>> accessed 24 February 2019.

²³⁷ McMahon, Gary, Joseph Raymond, Susana Moreira, World Bank Group, "The contribution of the mining sector to socioeconomic and human development," Extractive industries for development series no. 30 (2014)

²³⁸ World Bank, Mining Results <<http://www.worldbank.org/en/results/2013/04/14/mining-results-profile>> accessed 25 April 2019.

²³⁹ World Bank, Press Release, "World Bank to Support Good Governance in Malawi's Emerging Mining Sector, (31 March 2011) <<http://www.worldbank.org/en/news/press-release/2011/03/31/world-bank-to-support-good-governance-in-malawis-emerging-mining-sector>> accessed 25 December, 2018.

²⁴⁰ World Bank, Mining Results <<http://www.worldbank.org/en/results/2013/04/14/mining-results-profile>> accessed 25 April, 2019.

²⁴¹ World Bank Inspection Panel <<http://ewebapps.worldbank.org/apps/ip/Pages/AboutUs.aspx>> accessed 24 February 2019.

create community development with the support of IFC projects. There is a suggestion of establishing a website of their work or project on community development practices.²⁴² The WB recommended a regulatory mechanism for the evaluation of mining activities in developing states and corporation. There is an issue of enforcement of self-assessment by the businesses.²⁴³

Measures have been taken by WB for environmental protection but there is an issue of compliance. The WB focuses on to ensure equal and better resettlement of displaced persons by a project. A review was conducted for failed projects to collect information about compensation or displaced.²⁴⁴ The report of Guardian states: “it had no idea how many people may have been forced off their land or lost their jobs due to its projects,” and “also did not know whether these people were compensated fairly, on time or at all.”²⁴⁵ The WB role is definitive and proactive in the negotiation of a contract between investors such as mining companies and national government. WTO recommend WB to liaison with other relevant industries, NGOs and other institutions for establishing better standards for environment, capacity building, monitoring and native people rights.²⁴⁶

This required “[a] clearly articulated mining sector policy that emphasizes the role of the private sector as owner and operator and of government as regulator and promoter.”²⁴⁷ The WB experienced the issue of difference regarding best practices by the mining industry and environmental protection by the international community. Numerous NGOs encourage the mining revenue for sustainable development.²⁴⁸ There was a panel for investigation and inspection of complaints regarding harmful effects from MIGA, IFC and WB projects. Further, impartial fact-finding body, management and report to WBs executive body is part of inspection

²⁴² World Bank Group, World Bank Group in Extractive Industries - 2012 Annuals Review (2012) <http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/05/22/000445729_20130522190042/Rend ered/PDF/778660AR0WBG0E00Box377313B00PUBLIC0.pdf> accessed 16 March, 2019.

²⁴³ Ryan Schlieff, International Accountability Project, “World Bank President Admits Resettlement Failures: ‘What We Found Causes Me Deep Concern,’” <<http://www.theguardian.com/global-development-professionals-network/2015/mar/09/world-bank-president-jim-yong-kim-resettlement-land-rights>> accessed 23 August 2018.

²⁴⁴ Sasha Chavkin, Michael Hudson and Ben Hallman, International Consortium of Investigative Journalists, “As World Bank Admits Failures, Safeguards Questions Remain” (5 March 2015) <<http://www.icij.org/blog/2015/03/world-bank-admits-failures-safeguards-questions-remain>> accessed 28 August 2018.

²⁴⁵ World Bank, Mining Results <<http://www.worldbank.org/en/results/2013/04/14/mining-results-profile>> accessed 25 April, 2019.

²⁴⁶ Theodore H. Moran, World Trade Organization, “Is FDI in Natural Resources a ‘Curse’?” (2010) <https://www.wto.org/english/res_e/publications_e/wtr10_forum_e/wtr10_moran_e.htm> accessed 22 May, 2019.

²⁴⁷ Jeffrey D. Sachs and Andrew M. Warner, “Natural resources and economic development: the curse of natural resources,” *European Economic Review* 45 (2001) 827-838.

²⁴⁸ Natural Resource Governance Institute, Grant Project, “Convert Mining Revenues Into Local Development in Cameroon” <<http://www.resourcegovernance.org/fr/grants/convert-mining-royalties-local-development-cameroon>> accessed 23 October, 2018.

panel.²⁴⁹ The panel highlights the issue of non-compliance in different areas like native people involuntary resettlement and their rights. The WB funded project conducted by NGOs underlined serious issues. The inspection team had various lacking like access to complaints and its resolution, local community follow-up and retaliation from that mining peoples.²⁵⁰

2.6.1 “The International Council on Mining and Metals” (ICMM)

Standards and principles developed by governing body of mining ICMM from GMI. There are the largest metal and mining companies, global commodities association and national Mining Corporation in the council.²⁵¹ The council is designed to identify control of environmental initiatives in mining while it is a body of self-regulation for member corporations. There is president, CEOs of Member Corporation and two elected representatives from member organization.²⁵² ICMM focus on developing operation guidelines and better industrial practices. Further, the council monitors strategies, recognizing gaps, collaboration with different issues and evaluation of emerging issues. ICMM create a partnership with other organizations like UNEP, WB for different initiative concerning mining environment.²⁵³ ICMM help member states to fulfil their environmental commitments and expand the performance of the mining sector which is part of their work plan for implementation. A mechanism of environmental stewardship is adopted for mitigation and industrial environmental performance for the enhancement of the relevant sector.²⁵⁴ The council agreed Brundtland definition of mining sector investment should be technically proper, socially accountable and environmentally sounds. The ICMM principles integrate environment with business and respect mineworkers’ values, customs, rights and culture. Moreover, it aims to improve integration with biodiversity conservation, land planning, environmental performance and OHS. The council facilitate regarding proper reporting,

²⁴⁹ International Finance Corporation, Overview
<http://www.ifc.org/wps/wcm/connect/CORP_EXT_Content/IFC_External_Corporate_Site/Solutions/Products+and+Services> IFC/MIGA, accessed 1 August 2019.

²⁵⁰ World Bank Inspection Panel, “The Inspection Panel at Fifteen Years” (2009)
<<http://ewebapps.worldbank.org/apps/ip/IPPublications/InspectionPanelAt15yearsEnglish.pdf>> accessed 26 February 2019.

²⁵¹ Namely Alcoa, AngloGold Ashanti, Anglo American, Barrick, BHP Billiton, Vale, GoldFields, Lonmin, Lihir Gold Limited, Freeport-McMoRan Copper & Gold, Mitsubishi Materials, Newmont, Nippon Mining & Metals, Rio Tinto, Sumitomo Metal Mining, Teck Cominco, Xstrata and Zinifex.....ICMM Members at http://www.icmm.com/icmm_members.php, accessed 16 July 2018.

²⁵² ICMM, —ICMM Work programme at http://www.icmm.com/html/work_prog.php (accessed 18 September 2018)....Awareness and Preparedness for Emergencies at the Local Level.

²⁵³ ICMM Environmental stewardship at http://www.icmm.com/environmental_stewardship.php, accessed 18 September 2018.

²⁵⁴ Dr. Hodge is Kinross Professor of Mining and Sustainability in the Department of Mining Engineering, and Helen and Arthur Stollery Professor of Mining Engineering and Geological Sciences and Geological Engineering, at Queen’s University, Kingston, Ontario, Canada.

communication with all mining environment stakeholders while it further donates economic, social development of mining peoples.²⁵⁵

The reports against the council guidelines are mentioned within standards for independent assurance. ICMM provided a better mining sector with the appropriate initiative through autonomous consultations verification without proper regulation.²⁵⁶ The work nature of the council is not to explore or exploit in heritage sites but inclined to compliance as per best practices and IUCN. The dialogue amid mining corporations and NGO's are processed by MMSD for the mining and their environment. The larger companies have to commit the implementation of environmental agendas.²⁵⁷

2.6.2 Global Mining Initiative (GMI) and Global Compact (GC)

The GMI project amongst all other measures initiated the environmental aspects of mining. It is accepted that accidents and mistakes occurred in the mining industry. The WB takes measures and recognizes the mining initiative. The mineral sector was expected to join the Johannesburg summit on the preservation of the environment.²⁵⁸ The result of this summit increased environmental and social aspects and expanded mining sector's environmental concerns at all levels.²⁵⁹ The executives of transnational mining companies met at the UK while there was no appropriate international forum to tackle OHSE issues in mines. The GMI is the initial forum for mining concerns in the environmental sector. These executives discussed the problems of land resources, social licence and mining industry environmental performance. The mining sector ability to internalize the cost of the environment was compromised. Numerous issues attached to the metals and mining sector deteriorated the reliability of this industry.²⁶⁰ The GMI connect the stakeholders from the mining industry to recognize the relation amid the environment and mining. Furthermore, it shifts the knowledge to relevant operations procedures, principles and methods.²⁶¹ GMI is connected with certain components for the improvement sustainable

²⁵⁵ "Global Compact, OECD Guidelines on Multinational Enterprises, World Bank Operational Guidelines, OECD Convention on Combating Bribery, ILO Conventions 98, 169, 176, and the Voluntary Principles on Security and Human Rights".

²⁵⁶ ICMM Environmental stewardship at http://www.icmm.com/environmental_stewardship.php (accessed 24 April 2019).

²⁵⁷ ICMM, ICMM Principles – Sustainable Development Framework, at http://www.icmm.com/icmm_principles.php, accessed 16 March 2019.

²⁵⁸ IIED, —Facing the Future: The Report of The MMSD Australia ProjectI, May 2002, 14.

²⁵⁹ Littlewood George, Consultant to WMC Resources Ltd, —The Global Mining InitiativeI, address to Mining 2000, Melbourne, 20 September 2000.

²⁶⁰ Eggleston Peter, Global Mining Initiative Executive and Group Co-coordinator, Sustainable Development, Rio Tinto, —Mining and Metals Sectoral Initiative on Sustainable DevelopmentI, WBCSD Side Event PREPCOMM IV, Bali, Indonesia, 28 May 2002.

²⁶¹ Collins R, —Mining and Sustainability – a Contradiction?I, *Waste Management and Environment, Mining Supplement*, October 2001 at 3.

environmental model for global leadership and performance of metal and mining industry. MMSD project is focusing on the consultation and analysis of the mining industry and its independent process. ICMM aims to focus on the minerals, metals and mining environment and relevant issues at a global level.²⁶²

The initiative was forwarded by a global compact incorporated by numerous mining companies. The GC is the UN initiative to support social and environmental aspects of mining included labour and civil society. Further, it was recommended by corporations to enact, support and embrace within their organization the values of labour standards, environment and human rights. There is no appropriate implementation mechanism and mostly relied on self-interest, transparency and public accountability. Besides, the compact focus on labour and civil society to take appropriate measures for the enforcement of principles. The mechanism of GC is self-regulatory which impose certain limitations on the industry in developing states.²⁶³ The corporate structures need to protect basic human rights and eliminate abuses. Moreover, these business entities need to eradicate child labour, discrimination and forced labour and promote basic labour standards of bargaining and workers associations. The mining environment requires friendly technology, environmental liability²⁶⁴ and precautionary methods to face the relevant challenges.²⁶⁵

2.7 Protection of Working and General Environment Under ILO

The natural and working environment are interconnected but the clash may result in serious issues for the workers and the public.²⁶⁶ R-156 was the first ILO instrument to draw attention to this inter-relationship states; "The control and preventive measures of air pollution, noise and vibration in the working environment, the competent authority should take account of the relationship between the protection of the working and general environment." A series of catastrophic accidents²⁶⁷ have created an understanding of the risks to the environment due to industrial activities. It is high time to maintain a better working environment to keep a balance

²⁶² Wells Dick, —The Australian Minerals Industry – The Way ForwardI, address to the Native Title Representative Bodies Legal Conference Joint Session with the National Environmental Law Association, Townsville, 30 August 2001.

²⁶³ UN Global Compact, The Ten Principles at <http://www.unglobalcompact.org/AboutTheGC/TheTenPrinciples/index.html> (accessed 12 March, 2019).

²⁶⁴ The Jurisprudence of Trial Smelter Case

²⁶⁵ "The principles of the Global Compact were derived from the UDHR, the ILO's Declaration on Fundamental Principles and Rights at work; the Rio Declaration and the UN's Convention Against Corruption".

²⁶⁶ "The Occupational Safety and Health Recommendation, 1981 (No. 164) in Paragraph 4(e) provides for specific measures to prevent catastrophes, particularly in industrial zones where undertakings with high potential risks for workers."

²⁶⁷ Three-Mile Island, Bhopal, Chernobyl and Basel (Sandoz) to name but a few

between general and working environment. The ILO goal is "International Programme for the Improvement of Working Conditions and Environment" (PIACT) is envisioned to meet is "the problems of working conditions and environment should be approached globally within economic, educational and social policy".²⁶⁸

The ILC emphasizes on the promotion of measures to be taken to reduce the risks to workers because of using dangerous substances and work procedures. The committee needs to elaborate such recommendations for the improvement and conservation of working environment.²⁶⁹ Measures such as legislative, administrative, scientific, educational and other practical actions, including public campaigns, have been taken on a national level to balance both environments. OHS legislation has provisions for environmental protection and the report highlights some practical measures. The vastness of the subject can be seen within the Factory Inspectorate for the protection of the environment.²⁷⁰

2.7.1 Sustainable Development Under ILO

ILO provides guidelines to address environmental challenges globally at the workplace through tripartite constituents. The existing mechanism of ILO are is not efficiently addressing the risks concerning OHSE. Furthermore, there need structural changes for OHSE risks and benefits at global level. There need to address adverse environmental and climatic degradation at the workplace regarding OHSE. Mostly states lacking such measures at a global and domestic level.²⁷¹ States with other organization conduct assessments and evaluations of the OHSE risks. Further, they provide a protective and preventive mechanism for OHSE after hazard recognition. Following are relevant conventions to mines OHSE.

"The Hygiene (Commerce and Offices) C-120, the Protection of Workers' Health R- 97, and the Workers' Housing R-115. The C-170 & 174, make it clear that the objective of protecting the environment is pursued equally alongside worker protection. Environmentally sound management of pollution and waste disposals such as regulated by the Asbestos C-162 and R-172, the Chemicals C- 170 and R177. Hazard control and accident prevention such as regulated by the Prevention of Major Industrial Accidents C-174. The protection

²⁶⁸ ILO: International Programme for the Improvement of Working Conditions and Environment (ILO document GB.200/PFA/10/8), p. 17.

²⁶⁹ The Occupational Safety and Health Recommendation, 1981 (No. 164) in Paragraph 4(e) provides for specific measures to prevent catastrophes, particularly in industrial zones where undertakings with high potential risks for workers.

²⁷⁰ ILO: International Programme for the Improvement of Working Conditions and Environment (ILO document GB.200/PFA/10/8), p. 17.

²⁷¹ Neira, M.; Legros, D.; Ivanov, I.D. 2010. "Global environmental change: opportunities and challenges for occupational health" in *Ital. J. Occup. Environ. Hyg.*, 1(2): 76 – 77.

of the environment through OHSE in specific sectors such as regulated through the Safety and Health in Mines Convention, 1995 (No. 176)".²⁷²

ILS managed the risks of working conditions and heat stress that affect businesses. C-155 and R-164 recognised heat stress as OHSE hazards. Besides it helps in enforcement and development of OHSE policies to curb heat stress and other risks. The "Working Environment (Air Pollution, Noise and Vibration) Recommendation, 1977" (No. 156), makes an explicit connection between the protection of the working and general environment.²⁷³ C-148 and R-156 contain provisions that clarify responsibilities about the stoppage of occupational accidents and risks. The matters are the protection of working and general environment, workers-employers responsibilities and incorporation of a provision in domestic law concerning working environmental hazards.²⁷⁴

2.7.2 OHSE and Sustainable Development

The working and natural environment is not isolated and are interconnected. Air pollution from coal-burning directly impacts the OHSE of coal miners in mines. The workplace generates risk and serious measures need to be taken to protect mineworkers and the environment. Man made climatic changes are main factor changing the modern days labor world. Environmental change and degradation can have serious consequences for OHSE.²⁷⁵ There are chances of increasing temperatures, changing precipitation patterns and extreme weather could result in new diseases, health risks, biodiversity and natural resources lost due to over-exploitation of air, and water and soil pollution. Climate and environmental degradation will shape hazards and OHSE issues in the workplace. The Climate change impacts on OHSE gains minute community or political attentions as due its nature of air and chemical exposure pollution. The climatic hazards are lethal and have potential to interact.²⁷⁶

The global temperature is projected to increase resulting loss of millions of jobs till 2030.²⁷⁷ The heat level increase near the equator as compared to the globe. They will face health issues and will negatively impact their work capabilities e.g. Western Africa and South Asia. The working hours that are predictable will be misplaced in the region in 2030 due to heat stress in

²⁷²UNEP/ILO/IOE/ITUC. 2008. *Green Jobs: Towards Decent Work in a Sustainable, Low-Carbon World*. Available at: http://www.unep.org/labour_environment/PDFs/Greenjobs/UNEP-Green-Jobs-Report.pdf, accessed 12 March, 2020.

²⁷³ (UNEP et al, 2008)

²⁷⁴ ILO: *Encyclopedia of Occupational Health and Safety*, Vol. 2, 3rd (revised) edition, Geneva, 1983, p. 2250.

²⁷⁵Gakidou, et, al, 2017. "Global, regional, and national comparative risk assessment of 84 behavioral, environmental and occupational, and metabolic risks or clusters of risks, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016". *The Lancet*, 390(10100): 1345-1422.

²⁷⁶Fogarty, J; McCally, M. 2010. "Health and safety risks of carbon capture and storage". *JAMA*. 303(1):67–8.

²⁷⁷ (ILO, 2018c).

outdoor and indoor workplace risk activities.²⁷⁸ Green industry such as green transportation, forestry, low-carbon technologies, water, renewable energy will be substantially growing. Besides, there is possibility of growth in traditional industries like constructing or retrofitting building. Patterns and structure of employment, jobs or occupation are changing while carbons are reducing in energy production. Mining a high OHSE risks jobs will be at declines due to green activities or jobs as mines will not be safe working place or secure job.²⁷⁹ The practice and policy of OHSE sensitive for prevention of hazards and risks in mining sector due to technological development. Those states adopting new technologies should work for the elimination of risks to OHSE and need recycling activities.²⁸⁰

2.7.3 Decommissioning of Mines

The mines are decommissioned and reclaim when extraction stopped and time for mine closure and stop mines function. The closure is permanent but needs monitoring as caused serious issues but the communities are seldom consulted for unexpected risks. Majority of corporations considered mine closure production stoppage and ignore closure of mines with complicated procedure of social, environmental and effects of OHSE. Mining areas required rehabilitation after closures with responsibility and need to remove dangerous material, equipment, waste disposal amenities, plant and to ensure restoration of land and protection of OHSE.²⁸¹ Despite the rehabilitation and decommissioning challenges as mines closure are lacking funds at global and domestic level. There necessitated policy, technical and human capacity for successful mines closure to materialize. Developing states had problem while permanently closing their mines like Chile, Middle-east etc. There need a strong discussion amongst relevant stakeholder like mining businesses, communities and government and to set priorities concerning mines closure. There required appropriate planning at feasibility and design stage.²⁸²

²⁷⁸Kjellstrom, et, al, L. 2016. *Climate Change And Labour: Impacts Of Heat In The Workplace Climate Change, Workplace Environmental Conditions, Occupational Health Risks, And Productivity – An Emerging Global Challenge To Decent Work, Sustainable Development And Social Equity*. UNDP.

²⁷⁹ Council Directive 89/391/EEC on the Introduction of Measures to Encourage Improvements in the Safety and Health of Workers at Work [1989] OJ L1 83

²⁸⁰Schulte P.; Chun, H. 2009. "Climate change and occupational safety and health: establishing a preliminary framework" in *J Occup Environ Hyg*. 2009 Sep;6(9):542-54.

²⁸¹McGregor, L., (2014). *Improving Corporate Governance of South African State Owned Companies (SOCs)*. Retrieved From <http://www.usb.ac.za/Shared%20Documents/Thinkpiece.Improving%20S.A.%20SOC%20Corporate%20Gove.pdf>, accessed 27 November 2019

²⁸² Sellers, R., & Vogel, P. (2015). Guidelines for Preparing Mine Closure Plans. Conference proceedings from the Department of Mines and Petroleum Mineral House (pp.1 – 100). Retrieved from <http://www.dmp.wa.gov.au/Documents/Environment/ENV-MEB-121.pdf>, accessed 18 December 2019

2.7.4 Mine Closure and OHSE

The premature mine closure is challenge due to firm challenges like social conflict, governing deviation and low prices of products. Mine closure has remained a complex issue at national and international level. The mine closure had long-term financial, public and influential development. There need to enforce suitable process and policies to assist local communities to cope with the issues of mine closure. The mine rehabilitation projects are to be required and associated with OHSE protection globally. Many environmental reclamations and mine rehabilitation projects were challenged due to ineffective provisions. Lack of enforcement and appropriate legal mechanism are hurdles domestically for mines closure. The stakeholders could diminish OHSE risks and hazards from mines and maximize the prospects after coordinating the communities, governments and mining companies.²⁸³

2.8 Mining Environmental Assessments and Public Participation

2.8.1 Environmental Impact of Mining

The EIA is the assessment procedure of proposed projected to predict, identify, mitigate and interpret the environmental impacts. It provides permission or refusal with certain limitations for undertaking a particular activity to mitigate environmental effects. Every state came up with distinct EIA procedures as per their developing needs, while certain states mandates for only governmental projects.²⁸⁴ For a few projects required permission, the test of potentially significant environmental impact and licensing.²⁸⁵ The unsafe mining procedures, environmental hazards, awful living conditions and unrestrained exploitations are a severe issue for mineworkers. The associated issues of prevailing concerns concerning mines are environmental and social and associated with mineral development programme. Sustainable mining development requires a balance of natural environment and a need for social and economic development. The government's policy objects for the promotion of the private sector for the development of exploration and mineral beneficiation.²⁸⁶

The wide impacts of the mining environment can be further categorized into a physical and social environment based on extraction, beneficiation, closure and post-closure. Further,

²⁸³ Milaras, M. (2015). *The Judicious use of Environmental sustainability indicators in support of mine closure in South Africa* (Master's Thesis). University of Johannesburg, Department of Geography, Environmental Management and Energy Studies, South Africa.

²⁸⁴ Coleman, D. and Nixon, F. *Economics of Change in Less Developed Countries*, 3rd Edn., New York and London, Harvest Wheatsheaf.

²⁸⁵ See the Commission for EIA, Utrecht, Netherlands at www.eia.m/os/pdf/tanzaniapdf 2004-03-18.

²⁸⁶ Hussein, A; Ron, B. and Sadler, B. "EIA and SEA: Towards Integrated Approach", (2004) UNEP. Accessed from <http://www.unep.ch.etu>.

includes community involvement in mining activities, for example, labour, changes in demographics and imbalances concerning work opportunities, and the daily household use of coal.²⁸⁷ Subsequent phases of development contribute to the increase in impacts of the mining sector. The impact is relatively low in the exploration phase confined just to the immediate physical environment. The impact is small during exploration for the environment for effecting trees, habitats and displacement. There is an increase in the impact at the *extraction* phase like water quality, erosion, topsoil loss, land-sliding and cave-ins.²⁸⁸ There are issues concerning health and environment like acid and dust, carbon emissions various phases of mines closure. Besides equipment, methods and closure phases cause great troubles to the mining environment.²⁸⁹

2.8.2 EIA of Mining Projects

EIA refers to the prediction of possible environmental impacts and the activities to minimize the unavoidable consequences. The report on the EIA is called "Environmental Impact Statement" (EIS). It is required under law for requiring a work permit, the requirements of which were first introduced in the USA and vary from state to state. It has been introduced in the domestic legislation of various countries; for ensuring transparency in mining projects environmental impacts. The public participation is incorporated in the decision for compliance of the proposed project.²⁹⁰ The state obligations to conduct EIA for mining projects and take care of transboundary pollutions and environmental hazards as indicated in Trail Smelter case. The public participation Convention is adopted by numerous developed countries for future generation and their sustainability. The Espoo Convention may now mandate EIA and SEA for the mining sector to report and care for transboundary impacts of the projects. Some major mining sector companies conduct EIA but States, in general, should make EIA as part of environmental legal regime specifically focused in the mining sector. The significance is the competency for enforceability of EIA and national capacity to curb environmental threats through assessments processes.²⁹¹

²⁸⁷Sellers, R., & Vogel, P. (2015). Guidelines for Preparing Mine Closure Plans. Conference proceedings from the Department of Mines and Petroleum Mineral House, <http://www.dmp.wa.gov.au/Documents/Environment/ENV-MEB-121.pdf>, accessed 4 December 2018.

²⁸⁸ Tutu, H., McCarthy, T.S. and Cukrowska, E., (2008) The Chemical Characteristics of Acid Mine Drainage with Particular Reference to Sources, Distribution and Remediation: The Witwatersrand Basin, South Africa a case study. *Applied Geochemistry*, 23: 3666 – 3684.

²⁸⁹ Vorster, L. (2011). *The Liability of Mines for the Prevention, Minimization and Remediation of Pollution: A Legal Analysis* (Master's Thesis) North West University, Potchefstroom Campus, South Africa.

²⁹⁰ Lister, C. (1996). *European union Environmental Law- A Guide for Industry*. Chichester; John Wiley & Sons Ltd

²⁹¹ Convention on Environmental Impact Assessment in a Transboundary Context <<http://www.unece.org/env/eia/eia.html>> accessed 27 January 2019.

2.8.3 Strategic Environmental Assessment (SEA)

SEA means a formal systematic process of analyzing and addressing environmental hazards and their relevant strategic initiatives, plan, programmes and policies. SEA has a pivotal role in the development sector and its environmental concerns in energy, mining, transport and land-based pollutants. SEA like EIA should be interpreted extensively in health, social and its inter-relationship with sustainable development strategies and concepts.²⁹² SEA process explains the principles and objectives of EIA at the policy level to integrate environmental considerations with development. Further, the issues of environmental hazards are addressed at “upstream and downstream sources” related to the planning of project, policy and project-level. WCED called it the major challenge at the organizational level. SEA is a developed tool for the management of the environment which further extends the EIA plans, policies.²⁹³ SEA is detailed, systematic and formal procedures for environmental impacts. It further based on an evaluation, findings for effective decision-building and relevant alternative policy plan.

SEA has potential impacts on mining resources at the development and planning stages. It is most suitable for mining activity development sustainability and conservation of the environment at the workplace. There are differences in the issues of SEA in mining activities regarding economic and environment.²⁹⁴ The mining operations and production find serious environmental concerns. The mining development is associated with quality of life and other living standards. The developed states can afford to curtail the environmental hazards from development but not developing countries. The mining sector needs to adopt and implement efficient OHSE measures.²⁹⁵

2.9 OHSE Under “European Economic Community” (EEC)

The EEC was established under “Treaty of Rome” and promulgated the OHSE regulations in member states. These regulations have a greater effect than promulgated by the British OHSE Commission.²⁹⁶ The US Department of Labour, OSHA, and the EU Agency for OHSE have

²⁹² Dalal-Clayton, B. & Sadler, B. "The Status and Potential Strategic Environmental Assessment" (2003), International Institute for Environment and Development (IIED).

²⁹³ The limited cooperation and infrequent communication between the two entities is evident at World Trade Organization, “The WTO and UNEP” <https://www.wto.org/english/thewto_e/coher_e/wto_unep_e.htm> accessed 27 January 2019.

²⁹⁴ Mwalyosi, R. "Impact Assessment and the Mining Industry: Perspectives from Tanzania", (2004) at 15.

²⁹⁵ Persson J. (2003) Environmental Impact of mining in a European Context; Master of Science programme; Department of Environmental Engineering Management Group; Lulea University of Technology; Lulea (Sweden)

²⁹⁶ “An example: The *Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2004* which became effective on 10 May 2004, See, also, “Directive 2000/61/EC and Commission Directive 2003/29/EC.” <http://www.hse.gov.uk/>

introduced information sharing on OHSE issues of common interest.²⁹⁷ Council of Ministers proposed awareness, action on OHSE and vinyl chloride. For OSH regulations proposals by the EU are motivated by workers participation in OHSE. There need harmonization of regulations for states to bring strict standards of OHSE enforcement. Further, a directive was adopted covering biological and physical agents injurious to OHSE. These directives focus on the preventive mechanism, medical treatment, emergency procedures and exposure limit provided by state legislation. They provide information to mineworkers concerning mining operations workplace hazards. Further, they provide alternative work to the injured workers and consultations on their OHSE issues.²⁹⁸

The harmonization process is a difficult task to ensure common legislation without conflict with national legislation. Extensive consultation with member states and EU ministers, their Parliament, the “Economic and Social Committee” is done to mitigate the issues. The “*Single European Act*” included Article 100A for standards harmonization.

“Article 100A (3): The Commission, in its proposals envisaged in paragraph 1 concerning OHSE and consumer protection, will take as a base a high level of protection. 4. If, after the adoption of a harmonization measure by the Council acting by a qualified majority, a Member State deems it necessary to apply national provisions on the ground of major needs referred to in Article 36, or relating to the protection of the environment or the working environment, it shall notify the Commission of these provisions.”²⁹⁹

The “Maastricht Treaty”, signed by the Member States without the UK included Protocol on Social policy. Article 100A emphasizes the harmonization of standards throughout the EU for workplace PPE. The Department of Trade and Industry in the UK acts as a government department for harmonized standards. Section 118-A is the basis of the OHSE directives.³⁰⁰

Article 118A provides about working condition improvement.

“Article 118A:1. Member States shall pay attention to encouraging improvements, especially in the working environment, workers OHSE, and shall set as their objective the harmonization of conditions while maintaining the improvements made. The Article shall not prevent any Member State from maintaining or introducing more stringent measures for the protection of working conditions compatible with this Treaty.”³⁰¹

²⁹⁷ “Co-operation between the United States of America and the European Union with regard to safety and health at work was established with New Transatlantic Agenda.” <http://www.useusosh.org/>.

²⁹⁸ Barret and Howells (1995) “*Cases and Materials on Occupational Health and Safety Law*” 379.

²⁹⁹ Article 100 & 100A, *Single European Act*.

³⁰⁰ *Francovich v Italian Republic* [1992] IRLR 84

³⁰¹ Article 118, *Single European Act* included Article

National interests and policies conflict in terms of OHSE issues. The member state has the right to veto if a conflict with domestic laws. For example, Germany wants to assist their refineries on the basis to reduce lead in petrol. There is no specific EU inspectorate and enforcement remains in the hands of member states.³⁰² There are different level of importance attached to the enforcement of OHS standards rigorously implemented in Germany than Italy.³⁰³

The EEC adopted “New Approach to Technical Harmonization and Standards.” The basic requirements for OHSE standards must comply with existing market regulations. The manufacturers, suppliers and importers must comply with standards provided by directives.³⁰⁴ EU directive for familiarised the mechanism to encourage workers OHSE improvement and protection. Modifications in the OHSE are encouraged by “the harmonization of conditions in this area while maintaining the improvements made”. The “Single European Act” provides that employers in member state observe protective and preventive measures for the control and combating of risk source.³⁰⁵ Further directives include manual handling, PPE, the safe use of work equipment. The mentioned directive create a relationship amid EU and member states concerning workers OHSE that is binding on member states to overcome issue for better results and shall hand over to domestic authorities.³⁰⁶

Enforcement can be brought through “European Court of Justice” in case of lacking from European states and disadvantaged by the commission or individual implementation.³⁰⁷ State employees may seek to enforce European law directly against their employers. In case the UK fails to implement a Directive, then the courts have interpreted “State” broadly to include the now privatized public utilities.³⁰⁸

2.9.1 EU and Worker Participation in OHSE

The “European Trade Union Institute” (ETUI), and institute financed by EU, deals with workers participation in OHSE issues in member states. The ETUI works workers involvement, collective bargaining, trade union and EU “European Works Councils.” The institute provides detailed information on worker participation in OHSE in EU countries and provides state comparison tool

³⁰² (1985) *The Politics of Safety and Health (Occupational Safety and Health in the United States and Britain)* 146.

³⁰³ *The European Communities Act, 1972 as amended by the European Communities (Amendment) Act, 1986.*

³⁰⁴ “ILO Standards On OSH, World Day For Safety And Health At Work, 28 April 2015, Join in building a culture of prevention on OSH.”

³⁰⁵ Barret and Howells (1995) “*Cases and Materials on Occupational Health and Safety Law*” 382, and “Wilson (1985) *the Politics of Safety and Health (Occupational Safety and Health in the United States and Britain)* 145.”

³⁰⁶ Gunningham and Johnston (1999) *Regulating Workplace Safety: System and Sanctions* 369. “Sweden is in the process of amending about 55 of its 210 or so statutory instruments, and repealing more than 70, and Denmark regularly amends rules under the *Working Environment Act*.”

³⁰⁷ *Francovich v Italian Republic* [1992] IRLR 84 “it was ruled that private individuals can enforce directives in certain circumstances, which now possibly could extend to employees in the private sector.”

³⁰⁸ *Forster v British Gas* [1991] IRLR 268. In *Griffen and Others v South West Water Services Ltd.* [1995] IRLR 15

for the above subject.³⁰⁹ The EU legislation emphasis on participative provisions and workers participation in OHSE is a vital part of its labour law. Workers participation considers a socially controversial issue and the threat to managerial prerogatives.³¹⁰ Few states in the EU have incorporated workers involvement in their legislative frameworks e.g. Netherland, Italy and Germany.³¹¹

2.9.2 Management in National OHSE Legislation

National OHSE legislation is the cornerstone of national OHSE systems for future legislative basis. Legislation evolves with changing needs and time. Legislative responses require companies due diligence and reporting on labor human rights in holding, subsidiaries and subcontracted undertakings. Emerging legislative initiatives aimed at the mainstreaming OHSE at all stages of education. Some states extended the concept workers and employers to include owner, occupiers, and agents, self-employed under their regime. Some states extended the employers' OHSE to other workers who are not offered employment contract under the concept of "joint and several liability schemes." The changes in working nature no longer specify the liability of preventive measures for control of the workplace and workers. Further, the corporate bodies are in a situation to preventing harm from the workplace.³¹²

OSH management systems have played their role actively. The "ILO OHSE-MS Guidelines" provides for a national management system at workplace. ILO encourage for adoption of management system and its implementation as legal tool. Different states developed their mechanism for enforcement of management system will all relevant guidelines. Few states established audit system and certification like "ILO-OHSE 2000."³¹³ Such management system does not cover workers form informal economy like self-employment, hired labor or "non-standard" employees. Understanding, the application of management system need to train and provide resources for medical personnel, engineers and lawyers. The intermediate actors need to

³⁰⁹ Worker-Participation.EU, 'Compare Countries' <<http://www.worker-participation.eu/National-Industrial-Relations/Compare-Countries>> accessed 21 November 2019.

³¹⁰ R Nielsen and E Szyszczak, *The Social Dimension of the European Union* (HandelshqjskolensForlag, Copenhagen, 3rd Edition, 1997) 304

³¹¹ Worker-Participation .EU, <<http://www.worker-participation.eu/>> accessed 25 November 2018.

³¹² Christopher, P.; Murray, J. 2016. "Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980-2015: a systematic analysis for the Global Burden of Disease Study 2015". *Lancet*, 388:1459-544.

³¹³ "ILO: Report of the Committee of Experts on the Application of Standards, Provisional Record No. 16 (Part One (Rev.)), International Labour Conference, 98th Session, Geneva, 2009, para. 209."

be strengthened for labour inspections for improving OHSE as others small, medium enterprise is too abundant.³¹⁴

Conclusion

The aim of discussion is to focus on international labor laws and to examine relevance, impact and coherence of OHSE implementation under ILO standards. OHSE concerns and workers welfare is integral part of ILO. ILS is the pillar of the ILO comparative advantage and in development in a tripartite context. The main concern of the present discussion is thus on ILO standards and related means of action concerning OHSE enforcement in the mining sector. Strictly speaking “standards-related activities” for the making of OHSE standards are part of ILO activities. The effectiveness of the EU is impacting the workers OHSE in its member states are hampered by various factors. ILO focuses on standards and “Decent Work Agenda.” The member states showed consultations with tripartite constituents and their information for possible direction concerning OHSE in the mining sector. ILO focus on decent working condition and workers-employers role in mines OHSE under their objective. This focus develops the OHSE standards for various sectors and related to workers diseases and accidents. There need the mainstreaming of OHSE with efficient methods need to be considered.

The chapter scrutinized the OHSE aspects of mining during exploration and exploitations of natural energy resources. There are numerous critical factors which need appropriate attentions despite economic benefit from the mining sector. Environmental concerns in mines and their law and practice is relatively new and evolving. The copper, coal and rare earth are “pollution heavens” and mining regulation is poorly enforced. China is contributing massively to environmental degradation for the sake of their economy. IIED claimed that strict environmental standards in North America and Europe created hurdles for mine corporations. The issue of developing states is to lower the environmental and social standards, to attract FDI. There were challenges concerning the environment in mining sector development, exploration and beneficiation. The public sector administered growth and regulations for private mining investment stimulation. EIA and SEA are the legal mechanisms to evaluate the environmental hazards in the mining industry.

³¹⁴Fabiano, B.et,al. R. 2008. “A statistical study on temporary work and occupational accidents: Specific risks and risk management strategies”, in *Safety Science*, Vol. 46, No. 3, pp. 535–544.

CHAPTER # 03

COMPARATIVE ANALYSIS OF MINES OHSE: US AND UK PRACTICES

Introduction

The present work is about the regulatory standards as ideal to regulate industrial activity and minimize mines OHSE issues at the workplace. The mining corporation would be penalized for their failure in observing OHSE standards. There are various types of standards to enforce such as workplace specification, process and performance. States must be clear about what type of standards they need to adopt. A short account of mines OHSE standards will be given. The voluntary tools are useful and designed properly but lacking connection to regulatory system and suitable mechanism. This system can help in building coherence and monitoring, efficiency and covering the ethical side of enforcement. The drawback of voluntary standards required third-party audit which are to be self-monitored and self-licensed. The loophole in the application and development of these standards is that they lack the participation of workers' organizations. These standards need to involve all concerned stakeholders through a consensus-based procedure to become an integral part of the regulation procedure. These standards are clear enough about the rules and their breach which make it easier for the employers and inspectorate to deal with.

In Britain, Robens committee was formed to review the OHS legislation with a report which was published in 1972. The Report identified that everyone, supplier of goods and services, manufacturers, plant installer, employees and employer has the "duty of care." Further, to make sure the workplace, work procedures and goods are safe and healthy for stakeholders.³¹⁵ It suggested that participation, cooperation and consultation is voluntary arrangement amid employees-employers concerning OHSE. The report recommended about OHSE representatives, committees, employer-employees and self-regulation. Inspectors must conduct comprehensive examinations in quarries and identify hazardous issues like ventilation and ground conditions and report such findings. The work scrutinizes the legislative and regulatory mechanism for mineworkers' death due to corporate killing lacking OHSE protection. OHSE in the workplace was regulatory for economic growth and need proper management, care and advice to eradicate the violations. There are insufficient law and weak enforcement to prosecute and convict the corporations causing hazards.³¹⁶ The breaches of duty causing workers death were considered

³¹⁵ Robens, *Safety and Health at Work. Report of the Committee 1970-72* op. cit. n.20, p.188

³¹⁶ Gobert, "The Corporate Manslaughter and Corporate Homicide Act 2007 - Thirteen years in the making but was it worth the wait?" op. cit. n.592, p.415

regulatory and weak criminal sanctions at the early stages.³¹⁷ The difference between regulatory and criminal offences is scrutinized due to workers' death by corporate bodies. The corporate killing was included in "Health and Safety at Work etc. Act 1974 (1974 Act)" in connection with the "Health and Safety (Offences) Act 2008 (2008 Act)" to efficiently deal business liable for deaths out of hazardous activities. The legal professional can distinguish between 'criminal law' and 'regulatory' with stigma for penal convictions.³¹⁸ The contribution to OHS legislations needs innovative measures for workers participation in OHSE issues.³¹⁹ The introduction of the United Kingdom (UK) OHS laws, the inspectors were deployed for the valuable enforcement of legal obligations on workers and employers.³²⁰ To link voluntary standards and formal regulatory frameworks research could be followed. This chapter is about discussing different types of standards and their application in the US and UK.

3.1 Mine OHSE: A Legal Analysis of US and UK

Mining OHSE laws in the US legal system is the product of legislature and executive will enforce the legislation in true spirit. The President is bound to implement constitution "take care that the laws be faithfully executed."³²¹ The Federal judiciary reviews the actions of administrative agencies according to the constitution like mines OHSE and legal frameworks.³²² The "Federal Coal Mine Health and Safety Act of 1969" (Coal Act) was the first OHSE legislation replaced by "Federal Mine Safety and Health Act of 1977 (Mine Act)." US legal rules and political stances work collectively for workers OHSE, protection and to strengthen the market based economy. Free-market enthusiasts on behalf of workers commendably oppose regulatory interventions. Regulatory standards are highly protective while the enforcement mechanism lacks effective implementation.³²³

The major OHSE rights incorporated by the federal regulators are workplace free from retaliation, preventable and predictable risk and right to information. The "Mines Safety and Health Act, 1977" and OSHA, 1970 are major legislations. The OSHA is an ambitious and clear

³¹⁷ Wright, "Criminal liability of directors and senior managers for deaths at work" op. cit. n.3, p.966

³¹⁸ Clare Dyer, "NHS trust is charged with corporate manslaughter over woman's death after emergency caesarean" Online 22 April 2015 <http://www.bmj.com/bmj/350/bmj.h2181.full.pdf> accessed 21 July 2019

³¹⁹ N Gunningham and J Rees, *Industry Self-Regulation: An Institutional Perspective* (1997) Law and Policy 19 (4) 368

³²⁰ Department for Business, Innovation and Skills, 'Better Regulation' <<http://www.bis.gov.uk/policies/better-regulation>> accessed 26 September 2019

³²¹ "Constitution of the USA (Article II, x 3)."

³²² Andrew W. Homer, "Coal Mine Safety Regulation in China and the USA," *Journal of Contemporary Asia* Vol. 39, No. 3, August 2009, pp. 424–439

³²³ Gherardi, S and Nicolini, D 2002, "Learning the trade: A culture of safety in practice" *Organization* 9(2): 191–223. doi.org/10.1177/1350508402009002264.

guarantee about everyone for healthy and safe conditions. The standards will set the OHS standards for workers who are regularly exposed to regular hazards at the workplace. The Labour Department issued numerous standards and the employer will comply as a general duty to ensure OHSE of workers.³²⁴ OSHA enhanced penalties for OHS violations upon employers for their recklessness. The regulatory and administrative OHSE agencies are responsible for inspections, investigations, enforcement and initiating of proceedings. The rights to participate in setting OHSE standards are guaranteed by regulations and statute. Further, workers can participate in the inspection, investigation assistance, and OSHA appeal for violation. They have the right to check the logs of the employer and report the injuries and illness. The workers are entitled to acquire exposure data or medical record of hazardous and chemical substances and relevant information under communication rule.³²⁵

The “Disabilities Act” bound employers for accommodating facilities for disabling workers caused by illness or injuries and with permanent disabilities. If the worker performs certain functions then he cannot be discharged due to work injury disability which is prohibited. The employer should have introduced technologies to reduce the disability burden and elimination of risks.³²⁶ OHS regulations in the US are disabled anti-discrimination, compensation system, NLRA and regulatory laws of OSHA. These regulations recommend OHS rights in the US legal regime.³²⁷ The occupational injuries are not properly reporting and system of data collection is subject to debate. There are various factors for non-reporting as labour and management practices, wages, workers compensation costs and more pay as an alternate of safe working practices. Few experts considered the decline as the product of regulation and OSHA budget. Though, the US developed economy established an efficient and broad legal regime for workers OHSE.³²⁸

In 1980 major accidents occurred and victimised a huge number of workers in UK. The laws to deal with such inhuman activities were inadequate and corporations were involved in workers death. In response, a movement started for legal development and published consultation paper of “Law Commission” on involuntary manslaughter. The task of the

³²⁴ Barret and Howells (1995) “*Cases and Materials on Occupational Health and Safety Law* 52.”

³²⁵ Lee, S and McCann, D 2011. *Regulating for Decent Work: New Directions in Labour Market Regulation*. Geneva: International Labour Office. doi.org/10.1057/9780230307834.

³²⁶ Kniesner Thomas J. and Leeth John D, “Data Mining Mining Data: MSHA Enforcement Efforts, Underground Coal Mine Safety,” and New Health Policy Implications [Journal] // *The Journal of Risk and Uncertainty*. - [s.l.] : Springer Netherlands, 2004. - Vol. 29. - pp. 83–111.-

³²⁷ Rabinowitz RS and Shapiro SS (1997) “*Punishment Versus Cooperation in Regulatory Enforcement: A case study of OSHA*,” *Administrative Law Review* 713.

³²⁸ Gross JA (1998, “*The Broken Promises of the National Labor Relations Act and the Occupational Safety and Health Act: Conflicting Values and Conceptions of Rights and Justice*” *Chicago-Kent Law Review* 351.

commission was to work on corporate killings and make corporations accountable for their hazardous actions. The failed manslaughter prosecution case died 184 workers of “P and O Ferries Ltd.” The other cases are “Southall Rail Crash, Clapham Rail Crash, King’s Cross Fire, Larkhall Gas Explosion and Piper Alpha”. There is inhuman corporate treatment concerning workers OHSE and ineffective dealing of corporate manslaughter and individuals “whose acts of failures have contributed to the deaths.”

It was expressed that corporations were never punished for their hazardous activities and few fines were imposed as exceptions. Minimal fines were imposed for workers deaths. The OHSE crimes failed to impose the same degree of punishment like other offences and were considered as regulatory rather than criminal. Few workers were prosecuted for their crime of business manslaughter due to work activities. The start of 21st century witnessed an urge for legal reforms against manslaughter in the corporate arena. OHS legislation is regulatory than criminal concerning safety and is traced from Factories Act, 1802 and Consolidated Factories Act, 1961.

The OHS Act, 1974 is a major shift towards workers OHSE which provide written laws with specific activities.³²⁹ The Act of 1974 was of significance in nature and includes persons other than employees affected. The 1974 Act proposal to deal business manslaughter proved ineffective due to regulatory and its emphasis on OHSE violations rather than on outcome. There is a lack of formal distinction of criminal and regulatory mechanism and have distinct penalties and enforcement structures. The Act imposed large fines but it lacked deterrence of manslaughter and the only stigma it provided was of the criminal libel.³³⁰ The 1974 Act intends to reduce workers deaths and illness and to provide better working conditions. This Act was effective in reducing death of workers and ill-health at the workplace before the introduction of the 2007 Act. The Act is failed to reduce workers death at the workplace by employers’ actions.

There was a need for corporate criminal liability and punishments under OHSE legislation after Aberfan accidents. There was a lack of indication of business manslaughter and no prosecution was initiated and was a failure on the side of “National Coal Board.” The explosion liability was attributed to operators and regulated the control of installations with no prosecution.³³¹ Corporate criminal liability established from numerous corporation accidents and

³²⁹ (Mines and Quarries Acts, Agriculture Acts, Offices, Shops and Railway Premises Act and Factories Acts,).

³³⁰ Tombs and Whyte, *Safety Crimes* op. cit. n.9, p.168; C. Wells, *Corporations and Criminal Responsibility* (Oxford Monographs on Criminal Law and Justice, 2nd edn, Oxford University Press 1993) 25

³³¹ Norman Lewis, 'Health and Safety at Work Act 1974' (1975) 38 *The Modern Law Review* 442 443 and Phil James, 'Reforming British Health and Safety Law: a framework for discussion' (1992) 21 *Industrial Law Journal* 83

charged for manslaughter, e.g. in “P & O Ferries Ltd.”³³² The large businesses were considered immune from prosecution while more successful in small business which was unjust and unfair to justify the change of law for the former.³³³ The attempt was made to inculcate criminal sanctions against corporations for OHSE crimes as the regulatory regime was lacking.³³⁴ The conviction is more important than regulatory fines as it causes bad publicity, monetary loss and stigma to the organization.³³⁵

The “Corporate Manslaughter and Corporate Homicide Act 2007”, (2007 Act) introduced numerous penalties for OHSE business crimes. Further, the 2007 Act focus on fines, breach of “duty of care,” prosecutions and sentence against individual and corporations for OHSE crimes.³³⁶ The “Health and Safety (Offences) Act, 2008” (2008 Act) extended the fines and imprisonment against corporation and individuals guilty of OHSE crimes.³³⁷ Further, it applies to organizations while individuals are prosecuted for manslaughter negligence. The Act is concerned with OHSE issues at workplace and other circumstance which are excluded from HSW, Act.³³⁸ The provisions of HSW are enforced by OHSE executive for different risks and the 2007 Act is under the police domain with the relevant investigation. The prosecution is initiated by inspectorates under OHS legislations while consent is required from the Director of Public Prosecutions. The 2007 Act is symbolic and reactive and provides imprisonment and fine to end corporate manslaughter. The purpose is to deter corporations to end inhuman treatment of workers their manslaughter and make them accountable.³³⁹

The significance of the 2008 Act is secondary to the 2007 Act and is introduced to punish corporate killing. The 1974 Act covers mostly with imprisonment and unlimited fines. The purpose is to prosecute and accountable the senior managers of huge corporations.³⁴⁰ The 2008 Act is used for terrible injuries to address risky mining and workers OHSE. The 2007 Act mostly used to punish organizations while the 2008 Act familiarised protective sentences for deterrence.

³³² *R. v P & O European Ferries (Dover) Ltd.* op. cit. n.6, p.1; The Law Commission, *Law Commission Consultation Paper No 135, Involuntary Manslaughter (LCCP 135)* op. cit. n.4, p.19

³³³ Farmer (L Farmer, *Criminal law, tradition, and legal order: crime and the genius of Scots law : 1747 to the present* (Cambridge University Press 1997) 21)

³³⁴ Sandra Cahill and Philip Cahill, 'Scarlet Letters: Punishing the Corporate Citizen' (1999) 27 *International Journal of the Sociology of Law* 153 159

³³⁵ 'Corporate Crime: Regulating Corporate Behaviour through Criminal Sanctions' op. cit. n.13, p.1230; Brent Fisse, 'Sentencing options against corporations' (1990) 1 *Crim Law Forum* 211 229

³³⁶ The Corporate Manslaughter and Corporate Homicide Act 2007 (c.19)

³³⁷ 'Corporate Crime: Regulating Corporate Behaviour through Criminal Sanctions' (1979) 92 *Harv L Rev* 1227

³³⁸ Lord Young, *Common Sense Common Safety* (HM Government, Cabinet Office, 2010)

³³⁹ Ministry of Justice, *A guide to the Corporate Manslaughter and Corporate Homicide Act* (The Stationary Office 2007) 18

³⁴⁰ Gary Slapper and Steve Tombs, *Corporate Crime* (Pearson Longman 1999) 196; Steve Tombs and Dave Whyte, *Safety Crimes* (Crime and Society, Willan Publishing 2007) 167; and many others

The purpose is to deter the individual through liability and stigma for corporations connected with the crime which is distinct from regulatory penalties.³⁴¹

3.2 “Mines Safety And Health Act” (MSHA, 1977) And 1974 UK Act

3.2.1 MSHA, 1977

The Coalmine Safety and Health Act of 1969 was amended by consolidating every federal mines OHSE regulations under a single law by the Federal MSHA, 1977. The MSHA enhanced the authorized funding for OHSE research and extended maximum provisions of the 1969 Coal Act entirely to other mines. MSHA has been given the power to enforce OHSE standards for the U.S. mines. Mine operators are bound by these standards. The reports about any accident or stopping mine activities for more than 30 minutes are given to MSHA.³⁴² The MSHA provide amendments to the OHS Act to enhance criminal and civil penalties. Further, it protects the victim’s rights, whistleblower and empowers OSHA to reduce serious hazards. These provisions endorsed by the Obama Administration and strongly supported by the labour department would help OSHA to accomplish its mission to "assure safe and healthful working conditions for mineworkers."³⁴³

Miners are protected under the MSH Act for whistleblower rights at corporate or enterprise level especially in mining. The miner cannot be revenge for reporting injuries, refusing to perform a risky task or to inform the authority about unsafe working conditions. The time limitation for 11(c) complaint was extended from 30 to 180 days for the aggrieved workers. Numerous complaints were not entertained based on 30 days lapse despite a strong claim. The 11(c) developed the adoption of “contributing factor” of MSH Act to determine workers victimization after whistle-blowing. The purpose is to make the MSH Act consistent with other statutes enacted since 1989. It took four decades to legislate for these whistleblower provisions in response to long over-due deficiencies. The MSH Act includes certain provisions of the OSH Act of employer’s violation history of 11(c) to determine civil penalties of aggrieved miners. This vital change also took a long time which could be of great help to miners against retaliation by the employers.³⁴⁴

³⁴¹ Sentencing Guidelines Council *Corporate Manslaughter & Health and Safety Offences Causing Death. Definitive Guideline* (Sentencing Guidelines Council 2010) 7

³⁴² “Part 50, Title 30, of the Code of Federal Regulations.”

³⁴³ Passmore D. L. and Bennett J. D. Confirmatory factor analysis model of the reliability of a measure of the severity of coal [Conference] // AIME Transactions. - Littleton: Society of Mining Engineers of AIME, 1985. - Vol. 280. - pp. 2111-2114.

³⁴⁴ Section 11(c) of MSH Act read with section 17 (j) of OSH Act.

A committee on coalmine OHSE research that operated from 1970 to 1977 was established by the interior secretary. Committees on mining OHSE research were authorized by the 1977 Mine Act. From 1977 to 1996 a new committee operated which was established by the "Mine Health Research Advisory Committee" (MHRAC). It was reconstructed in 1997 as the "Mine Safety and Health Research Advisory Committee" (MHRAC) after the closing of US Bureau of Mines in 1996 and the assumption of OHSE research functions by NIOSH, however under the 1977 Mine Act, MSHRAC advises NIOSH on areas of research.³⁴⁵ MSHA records and maintains mine accidents and injuries for a long time and in 1983 public was given access to this data. This catalogue contains comprehensive information on mining accidents which can be of great help to highlight the issues regarding OHSE.³⁴⁶

3.2.2 Enforcement of OHSE Under 1974 Act

There are diverse enforcement agencies identified by the Robens Report and their administrations are divided by seven inspectorates and five departments.³⁴⁷ The OHSE commission is responsible to take initiative comprising of members and chairman. The OHSE executive comprising of one director and three persons with approval of state secretary is responsible for policy execution. The OHSE commission and executive were integrated for effective implementation. The Robens report recommended the merger of executive and commission and was established after 30 years in 2006.³⁴⁸ The offshore explorations were beyond jurisdiction after the merger of authorities. So, Order in Council extended the territorial limits the provision 84. The provision was extended to offshore rigs in the oil and gas sector. The commission entered into agreement with other departments for effective implementation of OHSE in petroleum explorations. Later on, the OHSE in the oil and gas sector was shifted to energy department which was subject to criticism. The OHSE was transferred to the relevant executive after Piper Alpha accident.³⁴⁹

The local authorities were given discretion for enforcement of OHSE under the 1974 Act. It was recommended to hand over the inspection and enforcement activities to OHS

³⁴⁵ John A. Breslin, Ph.D, "One Hundred Years of Federal Mining Safety and Health Research," Department Of Health And Human Services, Centers for Disease Control and Prevention, (NIOSH), Pittsburgh Research Laboratory Pittsburgh, PA February 2010

³⁴⁶ Coleman Patrick J. and Kerker John C. Measuring mining safety with injury statistics: Lost workdays as indicators of risk [Journal] // Journal of Safety Research. - [s.l.]: Elsevier Ltd, 2007. - 5 : Vol. 38. - pp. 523-533.

³⁴⁷ Lee Hughes, 'Prosecution statistics relating to offences under Sections 7 and 36 of the Health and Safety at Work etc. Act 1974. Freedom of Information Request' ([whatdotheyknow.com](http://www.whatdotheyknow.com/request/prosecution_statistics_relatin#incoming-282464), 2011) <http://www.whatdotheyknow.com/request/prosecution_statistics_relatin#incoming-282464> accessed 20 November 2012

³⁴⁸ Robens, *Safety and Health at Work. Report of the Committee 1970-72* op. cit. n.20, p.9

³⁴⁹ Drake and Wright, *Law of Health and Safety at Work: The New Approach* op. cit. n.156, p.38

executive and eliminate the local authorities' discretion.³⁵⁰ The proposal was that the executive is to enforce OHSE in a proportionate, targeted and consistent manner. The approach of the executive was to advise, persuasion and guidance concerning OHSE at a workplace which is the spirit of Robens Report. The relevant inspectorate has a visible policy of better OHSE standards through skilled advice and information.³⁵¹ The offences are general and inappropriate to initiate criminal proceedings. The OHSE executive is more focused on informal actions, advice and opted for strict implementation policy. It creates confusion to inspectors for the inadequate performance of advisor and enforcer.³⁵²

3.2.3 MINER Act and OHSE

The 1977 Mine Act was amended and updated to mine legislation as "Mine Improvement and New Emergency Response" (MINER). Mining companies required accident preparedness and emergency plans during operations. The underground mining methods are long-wall and continuous mining in which the former is more productive. The mechanism and processing of long-wall mining are efficient in the coal-mining sector.³⁵³ The injuries and accidents continue to occur in the presence of OHSE standards though there is a decrease in fatalities after the Coal Act. The fatality rate is higher in underground mining due to risky and hazardous exposure. The small mines are more prone to risks than large mines as the later has better OHSE management, records and professionals.³⁵⁴ The workers OHSE required the exposure limits of methane, dust and air quality and quantity and effective engineering and planning under the law. The 1977 Act was a successor of the Coal Act, created MSHA for mandatory mineworkers training, rescue and four inspections on an annual basis. The 1977 Act was replaced with MINER amendment of 2006 to improve mines OHSE. The amendments enhanced the penalties and improve the performance of smaller and underground mines.³⁵⁵

³⁵⁰ Department for Work and Pensions, *A progress report on implementation of health and safety reforms*, 2013) 14

³⁵¹ Phil James and David Walters, *Regulating Health and Safety at Work: An Agenda for Change?* (The Institute of Employment Rights 2005) 88

³⁵² Löfstedt, *Reclaiming health and safety for all: An independent review of health and safety legislation*. Cm 8129 op. cit. n.300, p.85

³⁵³ Kinilakodi Harisha Analysis of Major Hazard Risk Impact on Underground Coal Mine Safety Performance [Report] : M.S. Thesis. - University Park : Penn State, 2009.

³⁵⁴ Kucuker Hudaverdi Occupational fatalities among coal mine workers in Zonguldak, Turkey, 1994–2003 [Journal] // Occupational Medicine. - [s.l.] : Oxford University Press, 2006. - Vol. 56. - pp. 144-146.

³⁵⁵ Ramani Raja V. and Mutmanský Jan M. Mine Health and Safety at the Turn of the Millenium [Journal] // Mining Engineering. - [s.l.] : Society for Mining Metallurgy and Exploration, 1999. - Vol. 51. - pp. 25-30.

3.2.4 Risk Mechanism and Workers Representation in 1974 Act

The 1974 Act section 2 covers the policy statement, OHS committees and representatives. The section empowers state secretary to make regulations for trade unions for workers representations in OHSE. The Robens report recommended conducting elections for workers representatives under the Act.³⁵⁶ Later on, the “Employment Protection Act, 1975” repealed and provided that consultation will be held with recognised OHSE committees and trade unions. The parliament discussion on the bill progressed “an environment of the relatively strong trade union movement, a highly regulated labour market, and relatively low unemployment levels.”³⁵⁷ There are two effective mechanisms of representative involvement and OHSE committees for consultation concerning workplace accidents and diseases but there is an issue of contradiction. The accident ratio is fewer and lower in corporations where a union of OHSE representative and workers consultations works respectively.³⁵⁸ The OHSE executive research indicates that OHSE performance can be improved after workers joint consultation arrangements. There was an issue of more diseases and accidents due to more union membership of OHSE committees. The workers reporting for high risks, diseases and injuries were unionized but not at the cost of conflict with OHSE officials.³⁵⁹ There is no surety for the existence of OHSE representative and committees at the workplace. Though, few organizations are consulting with workers and executives on OHSE issues but not up-to global standards.³⁶⁰ A survey specified that worker consultation is reduced in OHSE matters which are compulsory upon workers-employers in many states. The workers in a huge organisation have access to OHSE representatives.³⁶¹

The 1974 Act is regulatory as enabling legislation. The Secretary of State u/s are empowered to implement EU directive, approve quasi-judicial codes and make regulations. The non-fulfilment of the Act does not amount to an offence unless the defendant shows

³⁵⁶ Adam Clayton, 'Regulating Occupational Health and Safety: the need for a new paradigm.' (2003) 7 Safety Science Monitor 1

³⁵⁷ A written health and safety policy statement is required where five or more persons are employed at any one time (Employers' Health and Safety Policy Statements (Exceptions) Regulations 1975 (SI 1975/1584). See also *Osborne v. Bill Taylor of Huyton Ltd* [1982] IRLR 17

³⁵⁸ Barry Reilly, PierellaPaci and Peter Holl, 'Unions, Safety Committees and Workplace Injuries' (1995) 33 British Journal of Industrial Relations 275 283

³⁵⁹ David Walters and others, *HSE Research Report 363. The role and effectiveness of safety representatives in influencing workplace health and safety.* (HSE Books, 2005) 1

³⁶⁰ Health and Safety Commission, *Plans for the Worker Involvement Programme.* HSC/05/16 (2005) 1

³⁶¹ D. Walters and S. Gourley, *Statutory Employee Involvement in Health and Safety at the Workplace: A Report of the Implementation and Effectiveness of the Safety Representatives and Safety Committees Regulations 1977* (HSE Contract Research Report No 20/1990 (HMSO), 1990) 32

compliance.³⁶² The Act is regulatory while Lord Selwyn called it is “basically criminal statute with appropriate penalties for breaches.” This courts and enforcement agencies called it regulatory but it has criminal sanctions and replaced numerous laws of regulatory nature.³⁶³ The Act covered general duties, executive, OHS commission and enforcement at the workplace. It covered all work-related activities and relevant hazards and risks except domestic servants.³⁶⁴ Though, the grey areas would resolve by police. The Act u/ss 2 to 9 described the self-employed, employer- workers and general duties at the workplace. The concept of “risk and reasonably practicable” was not moderated at the emergence of the law regarding OHS regulation.³⁶⁵ The risk and its limitations were not properly defined and covered secondary vale concerning OHSE. It was defined, “the likelihood that a hazard will cause its adverse effects, together with a measure of the effect.” There are negative and positive results in workplace activities.³⁶⁶ There are various forms of risks like financial, innovation, OHSE and corporate hazards. OHSE risk is specific and an exception to general risks. The corporate activities bear loss while duty-holders and business are taking advantage from risk management.³⁶⁷ The OHSE focuses on risk and its evaluation with such reflection in legislation. Section 2 laid down the employers’ general duty to ensure the workers OHSE. The Act further guaranteed workplace safe practices like the welfare of workers, management of safe workplaces, storage, training, maintenance, and transportation of articles and handling of machinery.³⁶⁸

The new approaches were familiarized at workplace safety was diverse from a risk-based method and is flexible in the evaluation as a requirement by contemporary legislation.³⁶⁹ Such methods accommodate modern techniques in manufacturing and technology and based on results. The prescriptive approach was exemplified for legislation in “Nicholls v. Austin (Leyton)

³⁶² V. Howes, 'Duties and liabilities under the Health and Safety at Work Act 1974: a step forward?' (2009) 38 Industrial Law Journal 306 308

³⁶³ Sandra Dawson and others, *Safety at work: the limits of self-regulation* (Cambridge University Press 1988) 14. See also, Brenda Barrett and Richard Howells, *Occupational Health and Safety Law* (3rd edn, M&E Pitman Publishing 1997).

³⁶⁴ John Cooper and Simon Antrobus, “R v HTM: The Blame Game” 2008) <http://archive.newsweaver.com/crownoffice/newsweaver.co.uk/crownoffice/e_article00102851464e4.html?x=b11,0,w> accessed 24 October 2019

³⁶⁵ “When the Act was first introduced, as ‘office-bearers’ the police were not considered ‘employees’ and thus were not covered by Section 2 of the 1974 Act. That changed with the introduction of the *Police (Health and Safety) Act 1997* (c.42) which made the Chief Constable the employer of police officers.”

³⁶⁶ Broadhurst, *The Health and Safety at Work Act in Practice* op. cit. n.274, p.6

³⁶⁷ Alison Broadhurst, *The Health and Safety at Work Act in Practice* (Heyden 1978); Selwyn, *Law of Health and Safety at Work* op. cit. n.156; Drake and Wright, *Law of Health and Safety at Work: The New Approach* op. cit. n.156

³⁶⁸ Health and Safety Executive, 'ALARP "at a glance"' (HSE, <<http://www.hse.gov.uk/risk/theory/alarpglance.htm>> accessed 15 July 2019

³⁶⁹ Broadhurst, *The Health and Safety at Work Act in Practice* op. cit. n.274, p.18

Ltd.”³⁷⁰ The employers were less interested to take measures for improvement of workers OHSE. The proposed risk-based method expected from businesses for reasonable OHSE measures. The approach demands risk evaluation and mitigates or eliminate to an acceptable level. The employers had evaluated and analysed risky and hazardous activities to implement required control measures.³⁷¹

3.3 OHSE Offences/Crimes: Legal Development Of US and UK

3.3.1 OHSE Offences and Relevant Legal Development in UK

The corporation needs to be punished for hazardous workplace activities and accidents showed the failure of OHSE legislations. The government intends to extend the manslaughter laws to workplace deaths.³⁷² The corporate prosecution was ineffective and vague and was difficult to identify the real culprit in high management. The identification is very difficult in huge businesses for manslaughter prosecution. The 2007 Act was introduced to prosecute the major corporations and businesses for corporate manslaughter.³⁷³

The feature for intentional murder or body injury is mens-rea are called “malice aforethought.” The element of mens-rea for business murder could be recognized from workers death but difficult to prove against high officials.³⁷⁴ Though, numerous attempts have been done to prosecute the corporation for workers intentional deaths. The criminal sanctions have used against corporate deadly activities like manslaughter and homicide.³⁷⁵ The manslaughter is defined as “unlawful killing in absence of malice aforethought and an alternative to murder’s charge of a mandatory life sentence, and partial defences of recklessness, provocation and lessened responsibility have accepted.” There are voluntary and involuntary manslaughter designate three forms like constructive manslaughter, reckless and gross negligence.³⁷⁶ Mens-rea is lacking in constructive manslaughter as an unlawful act and defines victims killing

³⁷⁰*Nicholls v F Austin (Leyton) Ltd* [1946] AC 493, 2 All ER 92, 44 LGR 287, 115 LJKB 329, 90 Sol Jo 628, 175 LT 5, 62 TLR 320 (House of Lords)

³⁷¹ James, “Reforming British Health and Safety Law: a framework for discussion” op. cit. n.10, p.86

³⁷²Paul Almond, *Corporate Manslaughter and Regulatory Reform* (Crime Prevention and Security Management, Palgrave Macmillan 2013)

³⁷³Allens Arthur Robinson, ‘*Corporate Culture*’ as a Basis for the Criminal Liability of Corporations (Prepared by Allens Arthur Robinson for the United Nations Special Representative of the Secretary General on Human Rights and Business, 2008) 18

³⁷⁴Archibald Alison, *Principles of the Criminal Law of Scotland* (William Blackwood 1832) 1; Victor Tadros, *the Law of Murder: Overseas Comparative Studies. The Scots Law of Murder*, 2005) 85

³⁷⁵The Law Commission, *Legislating the Criminal Code: Involuntary Manslaughter* (HMSO 1996)12

³⁷⁶Williams, *Textbook of Criminal Law* op. cit. n.347, p.245; The Crown Prosecution Service, ‘Death by Dangerous Driving’ (CPS, 2012) http://www.cps.gov.uk/legal/s_to_u/sentencing_manual/death_by_dangerous_driving/ accessed 28 November 2019

circumstances. The death arising from work activities is not relevant to constructive manslaughter which is a violation of OHS legislation and unlawful.³⁷⁷

It is suggested to eradicate OHSE violation that leads to corporate manslaughter which is erratic and random with no explanation and justification. The Law Commission did not consider constructive manslaughter as corporate murder. Further, the 2007 Act eliminated the application of manslaughter of gross negligence from corporations.³⁷⁸ These corporate manslaughter and reckless offences are subject to prosecution at the workplace activities. The corporations are accountable for such homicide, manslaughter and other OHSE corporate crimes. It is difficult to identify in larger corporation for prosecution the real culprit of corporate killings. The need is for a specific amendment to recognise corporate manslaughter as a crime.³⁷⁹

3.3.2 Workers OHSE: Criminal and Tort Sanctions

There are details about every aspect of workplace prescriptions in the US. Every employer in the USA is bound under the "Occupational Safety and Health Act of 1970 (OHSA)" to observe OHSE standards and the UK focus on the general duties of employers.³⁸⁰ In the US, the "general duty clause" supplements detailed specification and performance standards and play a vital role in deciding those cases which are not covered by specific standards.³⁸¹

In the US the OHSE regulatory system follows a permissible "command and control" approach for effective regulation and better enforcement of OHSE standards. OHS Act has three types of standards given as permanent, temporary emergency and interim standards. Interim standards are comprised of federal standards and enforced as national consensus standards of the OHS Act. Permanent standards replace or supplement the interim standards while temporary emergency standards are issued immediately when risk for mineworkers.³⁸² OSHA offers supervision, flexibility and specification which is a combination of performance system. The aim is to protect workers effectively, achieve the objectives of the agency.³⁸³

³⁷⁷ "For further discussion of *HM Advocate v. Purcell* and wicked recklessness, see James Chalmers, 'The true meaning of "wicked recklessness": *HM Advocate v Purcell*' (2008) 12 *Edinburgh Law Review* 298; Peter W. Ferguson, 'Reckless murder' (2011) *Scots Law Times* 295; Claire McDiarmid, '"Something wicked this way comes": the mens rea of murder in Scots law' (2012) *Juridical Review* 283."

³⁷⁸ The Law Commission, *Law Commission Consultation Paper No 135, Involuntary Manslaughter (LCCP 135)* op. cit. n.4, p.17

³⁷⁹ The Corporate Manslaughter and Corporate Homicide Act 2007 (c.19) S.20. "The Law Commission, *Law Commission Consultation Paper No 135, Involuntary Manslaughter (LCCP 135)* op. cit. n.4, p.1."

³⁸⁰ Commission of the European Communities: *Adapting to change in work and society: A new Community strategy on health and safety at work 2002-2006* (Brussels, 2002), at <http://www.etuc.org/tutb/uk/pdf/com2001-118-en.pdf>

³⁸¹ §5(a)(2)(b), 29 U.S.C. §654(a)(2)(b) (1979)

³⁸² Kagan, R, Gunningham, N and Thornton, D 2011. "Fear, duty, and regulatory compliance: Lessons from three research projects", in C Parker and VL Nielsen (eds), *Explaining Compliance: Business Responses to Regulation*. Cheltenham, UK: Edward Elgar, pp. 37–58. doi.org/10.4337/9780857938732.00007."

³⁸³ Davey 1990 *Fall Job Safety and Health Quarterly*.

The regulatory authority of OSHA work under the OHS Act, 1970 ensure better OHSE conditions to every miner. The administration needs to achieve high ends to assure the medical facilities to employees who suffers from functional capacity and bad health. The decision-making regarding regulations under the OHS Act vest in the Secretary of Labour. The criminal penalty provisions of the OSH Act are feeble than previous OHSE legislation and prevailing has not been updated since its inception. Under the "Clean Air Act, the Resource Conservation and Recovery Act and the Clean Water Act" a person would be imprisoned for 15 years if found guilty of breaches or put worker under threat or imminent risk or injuries. These laws do not require death or serious injury to occur. The imprisonments for corporate frauds are more severe than OHSE crimes. These penalties depict that grave violation of OSH Act that cause death or serious physical injury are taken as minor crimes as compared to corporate or trading embezzlement.³⁸⁴

Section 6 of the Act provides details about the procedure and measures for issuing OHS standards and OSHA regulatory power. Section 6(b) defines health standards, as many workers lost their lives and sustained health issues due to toxic substances at a workstation in a result of which this Act was passed.³⁸⁵ The need is to circulate "standards dealing with toxic materials or harmful physical agents" so that "no employee will suffer material impairment of health or functional capacity". Generally, the concern of OHS standards is to shield workers from their neglect or their coworkers. The health standards cover medical grounds like contact to hazardous material to toxic substances and their effects while safety standards guard against injuries, bodily threats and machinery. The standards of OHS are specific and provide comprehensive details to protect workers at their workplace. For this purpose, the minimum width is prescribed for the space between side rails of ladders.³⁸⁶ The noxious substance requires labels or signs along-with relevant information of the possible risk. Additionally, information regarding risks, PPE³⁸⁷ and controls or other technological procedures, medical examinations, monitoring and measuring employee exposure is delivered.³⁸⁸

³⁸⁴ Rabinowitz RS and Shapiro SS (1997) "*Punishment Versus Cooperation in Regulatory Enforcement: A case study of OSHA*," Administrative Law Review 713.

³⁸⁵ Section 6(b) (7) and section 8(c) of the Act list a series of substantive provisions that are to be incorporated into the 6(b) standard where appropriate. H. Rep. No. 1291, 91st Cong, 2d Sess 15 (1970).

³⁸⁶ Bokas SA (ed) (1988) *Occupational Safety and Health Law* Washington D.C. The Bureau of National Affairs Inc. And.....29 C.F.R. § 1910. 25(c)(2)(i)(C).

³⁸⁷ "Standards 6(b) and vinyl chloride, 29 C.F.R. §1910. 1017(h) (1) (ii) and (2)".

³⁸⁸ Sections 6(b), 7, 8(c) of OHS Act.

3.3.4 Mines OHSE Offences: A Comparative Approach

The corporate crimes are mostly happened in mines occupation which is understated and seldom researched. Mines OHSE has been remained focused on the environment while death, injuries and OHS of mineworkers were ignored. The accidents and diseases were reported to MSHA revealed by the study of NIOSH.³⁸⁹ The explosion, electric shock, crushing and chemical burning caused injuries and deaths in mines. Mineworker's OHSE is a low priority for owners despite numerous mines legislations. The criminal penalties and liabilities are not updated in OHSE legislations. Certain environmental legislations provide strong prosecutions for violations and workplace endangerment of imminent danger causes injuries or death.³⁹⁰ The OHSE are treated as lesser crimes than anti-trust, insider trading, tax crimes and customs.³⁹¹

A huge number of miners have died in transportation, machinery and electric accidents during mining. These fatalities do not include retired miners prone to mine exposure, lung diseases and noxious substances. There is a need for continuous and improved attention for miners' OHSE. Its business or employer or management responsibility to provide a health and safe workplace to mineworkers. OHSE accidents and injuries can be prevented through enforceable legislations and maintained equipment. The "Miner Safety and Health Act" amend previous OHSE laws on the burden of proof and recommend "knowingly" instead of "willfully." An employer will be punished up-to ten years prison and fine for mineworker's death if knowingly violate the provision of the above Act. The regulatory and environmental crimes used the word "knowingly" to harmonize the workers' safety standards with analogous offences.³⁹²

The regulatory mechanism failed to curb the accidents and deaths to punish responsible and control of OHSE at a workplace in the UK. The 2007 Act is indistinct from regulatory nature and introduced criminal liability to avoid failure.³⁹³ There is no clear distinction between criminal and regulatory mechanism concerning OHSE. The 2007 Act is implemented by police

³⁸⁹ NIOSH [2007]. Research report on refuge alternatives for underground coal mines. Report prepared in response to Section 13 of the MINER Act of 2006.

³⁹⁰ "The Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act referred penalties up-to 15 years jail."

³⁹¹ Stretesky, P.B., & Lynch, M.J. (2011). Coal strip mining, mountaintop removal, and the distribution of environmental violations across the United States, 2002-2008. *Landscape Research*, 36 (2), p. 209-230.

³⁹² NIOSH. (2000). *Injuries, illnesses, and hazardous exposures in the mining industry, 1986-1995: A surveillance report*. Retrieved from <http://www.cdc.gov/niosh/mining/UserFiles/works/pdfs/iahe.pdf>

³⁹³ Gobert and Punch, *Rethinking Corporate Crime* op. cit. n.464, p.94; Wells, *Corporations and Criminal Responsibility* op. cit. n.11, p.8; Clarkson, Keating and Cunningham, *Clarkson and Keating Criminal Law. Text and Materials* op. cit. n.706, p.222; Ashworth, *Principles of Criminal Law* op. cit. n.697, p.161

while the 2008 Act is enforced by the OHSE executive.³⁹⁴ It could be determined that crime is enforced by police and regulatory crimes are under the 2008 Act.³⁹⁵ Though such distinction is not a strong one and police have cognizance for regulatory enforcement. The Act of 2007 is not regulatory and is related to public safety and OHSE and there are administrative features that legislation is implemented by regulator.³⁹⁶ The workplace injury is OHSE crime but subjects to the burden of proof is a debatable issue. The supervisor or employer is responsible for the prevention of workplace accidents. Lord Hope concluded

“When an industrial accident occurs the employer is guilty unless he can talk his way out of it. Where a person sustains an injury at work, the facts will speak for them. Prima facie, his employer, or the person by whose undertaking he was liable to be affected, has failed to ensure his OHSE to prevent an accident.”³⁹⁷

There are inchoate and endangerment crimes which are different from physical injury.³⁹⁸ The endangerment crime does not need elements of inchoate offences to cause possible criminal detriment.³⁹⁹ Few OHSE offences do not need the existence of vulnerabilities and are called administrative crimes of endangerment category.⁴⁰⁰

3.3.5 OHSE Penalties in UK and US

Corporate crimes penalties are not the same for natural and artificial persons. The effect of fines is different for individual and corporations as per their liability and such fines are paid by customers, clients or shareholders.⁴⁰¹ Corporate punishment and its nature are difficult to decide. The corporate fine is a serious issue with multi approaches as, “corporations punishments are insoluble and with deterrence and severe penalties flows through corporate shell.”⁴⁰² There are

³⁹⁴ J.R. Spencer, 'Criminal liability for accidental death: back to the Middle Ages?' (2009) 68 Cambridge Law Journal 263 263

³⁹⁵ Rowan-Robinson, Watchman and Barker, *Crime and Regulation. A Study of the Enforcement of Regulatory Codes*. op. cit. n.636, p.162

³⁹⁶ C. Parker and others (eds), *Regulating Law* (Oxford University Press 2004) 145.....Hildebrandt, 'Justice and Police: Regulatory Offenses and the Criminal Law' op. cit. n.756, p.50

³⁹⁷ *R. v. Chagot Ltd (trading as Contract Services) and others* op. cit. n.304

³⁹⁸ Clarkson, Keating and Cunningham, *Clarkson and Keating Criminal Law. Text and Materials* op. cit. n.706, p.540

³⁹⁹ Wells, *Corporations and Criminal Responsibility* op. cit. n.11, p.7 N. Lacey, C. Wells and O. Quick, *Reconstructing Criminal Law. Text and Materials* (Law in Context, 3rd edn, LexisNexis 2003) 637

⁴⁰⁰ Anne Alvesalo and others, 'Re-imagining crime prevention: controlling corporate crime?' (2006) 45 Crime Law and Social Change 57 63

⁴⁰¹ Louise Dunford and Ann Ridley, "No Soul to be Damned, No Body to be Kicked[1]: Responsibility, Blame and Corporate Punishment" (1996) 24 International Journal of the Sociology of Law 16

⁴⁰² The Sentencing Council, *Health and safety offences, corporate manslaughter and food safety and hygiene offences guidelines Consultation*. op. cit. n.641, p.11

effective punishments and penalties for corporate crimes and will be decided upon the nature of the crime.⁴⁰³

Fines are imposed on companies' crimes and no enhancement in fine under 2007, Act. Though, the fine introduced by the Act is to deter for OHSE violations.⁴⁰⁴ The "Sentencing Guidelines Council" proposed that corporate manslaughter and homicide are more heinous than OHS crimes due to breach at the management level. The council called the multi-million fines as inappropriate and published a report for penalizing corporate homicide, OHSE crimes and food safety.⁴⁰⁵ Further, the document suggested extending principles on individual offences and OHSE crimes. The fines have a financial impact on companies to convince management and shareholder to compliance standards for employees' protection. The culpability of company revenue is categorised in very high, high, medium and low for fines concerning OHSE crimes.⁴⁰⁶ The corporation fines are categorised for OHSE crimes based on liability and hazards. The Council suggested procedure for OHSE crimes of individuals and punishment based on the culpability of an individual.⁴⁰⁷ The 2007 Act familiarised the remedial orders and penalties publicity parallel to a corporate fine of their offences. Section 9 introduced remedial orders, to fill the lacunas in practice and policies and to remedy the breach of a guilty corporation to protect workers from death. The petition may file for remedial orders and if granted must ensure compliance with sufficient evidence of curative compliance. Such orders are like corporate rehabilitation and to avoid OHSE crimes in future. It is suggested to develop situations, "that rehabilitative probation should be virtually automatic and the company could show that it had taken adequate steps or preventive measures."⁴⁰⁸

MSHA inspectors are bound to inspect mines and issue orders in case of violation in the US. The penalty depends upon the type of violation and underground OHSE violation punishments are of more serious than surface mines. There need follow-up inspection and the fine get increased if the authority fails to fix the problem. The MSHA inspector will verify the

⁴⁰³J. Rowan-Robinson, P. Watchman and C. Barker, *Crime and Regulation. A Study of the Enforcement of Regulatory Codes*. (Tottel Publishing 1990) 153

⁴⁰⁴K. Schlegel, *Just Deserts for Corporate Criminals* (Northeastern University Press 1990) 20

⁴⁰⁵Wells, *Corporations and Criminal Responsibility* op. cit. n.11, p.32; Slapper, "Corporate Manslaughter: an Examination of the Determinants of Prosecutorial Policy" op. cit. n.9, p.2.

⁴⁰⁶Sentencing Guidelines Council *Corporate Manslaughter & Health and Safety Offences Causing Death. Definitive Guideline* (Sentencing Guidelines Council 2010) 7

⁴⁰⁷James Gobert, "Controlling Corporate Criminality: Penal Sanctions and Beyond" Web Journal of Current Legal Issues accessed 22nd March 2019

⁴⁰⁸Brent Fisse and John Braithwaite, *The Impact of Publicity on Corporate Offenders* (SUNY Series on Critical Issues in Criminal Justice, State University of New York 1983) 314

hazards correction and will pass an order for work permission in the relevant mines.⁴⁰⁹ Inspectors collected data, MSHA records and information given by the operator determine the below six factors. A higher civil penalty is proposed in special circumstances where there are more mortalities, recklessness, than the usual penalty. Underground mines being more dangerous are inspected regularly and propose greater penalties for non-compliance of OHSE laws in the mining sector.⁴¹⁰ The office of assessments of MSHA recommends the penalties for serious injury violations. The violations that are considered the cause of serious injury or accidents are evaluated through the given six factors formula.

“History of previous violations; Size of the operator's business; Any negligence by the operator; Gravity of the violation; The operator's good faith in trying to correct the violation promptly; and Effect of the penalty on the operator's ability to stay in business”.⁴¹¹

3.4 Concept of Business Homicide in UK

There are various deficiencies in the 1974 Act concerning workplace activities. The Act covers preventions rather than punishments and addresses causes rather than effects of breaches of laws. The approach of the Robens report suggested the need for punishments towards faults and violations. The queries were raised against companies operations causing death at the workplace. The compliance of the Act was noticed as underlined and substandard in fatalities and accidents. There is a need for an efficient response to prosecute large companies responsible for accidents. Robens stated that “there is a greater natural identity of interest between ‘the two sides’ about OHS problems than in most other issues” was ill-advised.”⁴¹² The 1974 Act was questionable to punish corporations causing workers deaths. He was much focused on workers OHSE protection rather than corporate sentencing to deal with workplace accidents of corporate killings. Business murders depend on management structure, size and nature of their work activities. There was no specific mechanism for sentencing the corporations against workers. The avoidance of OHSE for workers protection are corporate crimes and law need to address such issue.⁴¹³

⁴⁰⁹ MSHA History of previous violations per inspection day (VPID) repeat violations per inspection day (RPID) [Online] // Mine Data Retrieval System. - 2007. - 2010. - <http://www.MSHA.gov/drs/ASP/MineAction.asp>.

⁴¹⁰ Jamieson, S, Reeve, B, Schofield, T and McCallum, R 2010. ‘OHS prosecutions: Do they deter other companies from offending?’, *Journal of Occupational Health, Safety and Environment* 26(3): 213–31.

⁴¹¹ MSHA Mine Safety and Health Enforcement [Online] // MSHA. - 2006. - 2010. - <http://www.msha.gov/MSHAINFO/FactSheets/MSHAFCT4.HTM>.

⁴¹² Leonard Orland, 'Reflections on Corporate Crime: Law in Search Theory and Scholarship' (1980) 17 American Criminal Law Review 501 518

⁴¹³ Leonard Orland, 'Reflections on Corporate Crime: Law in Search Theory and Scholarship' (1980) 17 American Criminal Law Review 501 518

3.4.1 OHSE Legislation under 2007, 2008 and Other OHSE Laws

The discussion is focused on the association of OHSE violations, offences and application of 2007 Act. The 2007 Act is enforceable on death arises from corporate activities and management of such hazardous activities. Further, the OHSE cases brought under the 2007 Act are concerned with workplace hazards, harmful substances under relevant OHS legislation.⁴¹⁴ There are different reporting systems for workers death prosecution. The worker injury due to wrongly fitted grinder disc was reported but not prosecuted for corporate manslaughter. The executive of OHSE inquired that injury occurred due to inappropriate grinder by an untrained worker.⁴¹⁵

The Act of 2008 is more focused on the corporate sector but few cases are beyond its jurisdiction as compared to the 2007 Act. The 2008 Act recommend custodial punishments for OHSE crimes due to its regulatory nature but it is less elaborate than the 2007 Act.⁴¹⁶ It recommends custodial sentences for OHSE prosecution with the discretion of the court. Besides, it penalizes organizations and individual for OHSE crimes and raises the issue of the 2007 Act.⁴¹⁷ The company director was charged with OHSE crime of corporate manslaughter and negligence of worker fatal fall from a weak roof under the 1974 Act in “R v. Lion Steel.” The court to separate the charges of corporate manslaughter from gross negligence manslaughter and business was held liable for distinct charges.⁴¹⁸ The breach of sections 7 and 37 of 1974 Act imposed prison sentences by the OHSE executive. There are certain amendments in the punishment scheme of the 2008 Act and show the court inclination for custodial sentences for director liability.⁴¹⁹ The 2007 Act is to encourage businesses to ensure OHSE and having an advantage over OHS legislation. The 2008 Act is not regulatory and familiarized the criminal offences for OHSE violations and crimes.⁴²⁰

The 2008 Act was a private member bill with forwarding reasons as active punishments, lower judiciary burden and deterrence. The bill was supported by both houses to extend penalties

⁴¹⁴ BBC, 'Nottingham care home boss jailed for manslaughter' (BBC, 2016) <<http://www.bbc.co.uk/news/uk-england-nottinghamshire-35499865>> accessed 16 March 2018; CPS, 'Sentencing for first corporate manslaughter conviction relating to a care home' (CPS, 2016) <http://www.cps.gov.uk/news/latest_news/sentencing_for_first_corporate_manslaughter_conviction_relating_to_a_care_home/index.html> accessed 19 March 2019

⁴¹⁵ Lauren Appleby, 'Steel firm hit with £150K fine after fatality' (2015) Safety and Health Practitioner 111

⁴¹⁶ National Liaison Committee for the Work-related deaths protocol (England and Wales), *Work-related Deaths Protocol: Practical guide (England and Wales)* (Health and Safety Executive 2015) 3

⁴¹⁷ Health and Safety Executive, "Press Release: Pirelli Tyres sentenced after factory worker's death" (2015) <http://press.hse.gov.uk/2015/pirelli-tyres-sentenced-after-factory-workersdeath/> accessed 26 June, 2019

⁴¹⁸ *R v. Lion Steel Equipment Ltd* (2012) Unreported (Manchester Crown Court)

⁴¹⁹ Health and Safety Executive, "HSE Public Register of Convictions" <<http://www.hse.gov.uk/prosecutions/default.asp>> accessed 14 June 2015

⁴²⁰ In particular, see Antrobus, "The criminal liability of directors for health and safety breaches and manslaughter" op. cit. n.662

for OHSE crimes. The 2008 Act provided corporate punishments for OHSE crimes for company executives and directors which were not appreciated.⁴²¹ These sentences blur the distinction between regulation and criminal sanctions. The Act enhanced punishments for OHSE offences from 1 to 2 years with fine or both. Lord McKenzie the relevant minister state that, it “will ensure that sentences can be easily set to deter businesses and ensure OHS management responsibilities seriously and encourage employers for compliance.”⁴²² It was candid legislation without any controversy of except 1974 Act section 33 concerning OHSE crimes. Further section 37 was about directors and executive with corporate liability for an offence u/s 7 of 1974 Act.⁴²³ The corporate directors or their managers will be liable to be prosecuted for the business crimes if any negligence or connivance is found on their part.⁴²⁴

The terms “consent, connivance and consent” are more debated in OHSE legislation. Turning a blind eye to a crime is connivance or consent and are requirements for Mens rea with no negligence.⁴²⁵ These elements are interpreted in various ways for OHSE crimes. The “*Armour v. Skeen*” was the first case under the 1974 Act of worker death fell from a height. Mr Armour was prosecuted for not providing OHSE policy as an employer and director.⁴²⁶ He was fined for his negligence and non-compliance but no possibility of imprisonment. 2008 introduced an unlimited fine with 2 years’ imprisonment for directors. Numerous directors were prosecuted and convicted of gross negligence and corporate killings.⁴²⁷ The Board of Directors (BoD) can be sentenced for joint connivance, negligence and consent for OHSE crimes. The Act familiarised prison sentences and fines for non-compliance of OHSE standards. The role of the 2008 Act is vital like the 2007 Act due application of OHSE offences and extension of later.⁴²⁸

⁴²¹ House of Commons Library, *Research Paper 08/50. Health and Safety (Offences) Bill: Committee Stage Report* (2008) 8

⁴²² Department of Work and Pensions, *Press Release: Ministers welcome tougher penalties for health and safety law breakers* (2008)

⁴²³ B. Barrett, “The Health and Safety (Offences) Act 2008: the cost of behaving dangerously in the workplace” (2009) 38 *Ind Law J* 73 3

⁴²⁴ David Bergman, Dr Courtney Davis and Bethan Rigby, *International comparison of health and safety responsibilities of company directors. RR535* (Prepared by Centre for Corporate Accountability for the Health and Safety Executive, 2007) 5

⁴²⁵ “Williams defined negligence as a “failure to conform to the standard of care to which it is the defendant’s duty to conform. In citing five circumstances that must be present for neglect, the commission of an offence; the defendant should know facts of offence; the defendant duty to act according to facts; he neglected to take reasonable steps to prevent offence; the breach could be attributed to that neglect”

⁴²⁶ Barrett, “The Health and Safety (Offences) Act 2008: the cost of behaving dangerously in the workplace” op. cit. n.344, p.4

⁴²⁷ Lee Hughes, ‘Statistics about prosecution of directors. Freedom of Information request.’ (*whatdotheyknow.com*, 2011).

⁴²⁸ B. Barrett, “Liability for Safety Offences: Is the Law Still Fatally Flawed?” (2008) 37 *Ind Law J* 100; Wright, “Criminal liability of directors and senior managers for deaths at work” op. cit. n.3, p.4

3.4.2 OHSE and “Duty of Care”

The business is under duty of care to the victim and the breach will cause death. The breach attributed to “how its activities are managed or organized by its senior management”. There is overlapping in OHSE legislation regarding the duty of care u/ss 2, 3 and 4 of 1974 Act and law of negligence with the adoption of civil liability under criminal sanction.⁴²⁹ The duty of care meaning is extensive in the 2007 Act than Act of 1974, inclusive environment and products.⁴³⁰

The jury is to determine non-compliance and breach of duty from OHSE legislation caused fatalities. The jury is to navigate the debatable issues of interpretation to determine hazards and injuries. Further, it will gauge the breach through industry standards, CoP or other relevant documents of corporate failure.⁴³¹ The Act covers workplace activities or workers with a specific focus on OHSE while section 8 mentions business failure to fulfil OHSE legislation. The Act is supportive for jury concerning workplace accidents caused fatalities with apprehension that the 2007 Act is a product of the 1974 Act.⁴³² Further, the jury considered the accepted practices, attitude, systems and policies of corporate bodies along with the organizational culture. The death caused by activities of senior management in an undertaking is liable for corporate manslaughter is organizational culture.⁴³³ The business culture is accepted for OHSE and a task “appropriate behaviour bonds and motivates individuals and asserts solutions if ambiguity found in an attitude, policy, rule, and course of conduct or practice within the corporate body.” The piper alpha, Clapham Train Crash and Herald of free enterprise accidents are examples of the corporate culture.⁴³⁴

In, corporate culture, the management making decisions are called “senior management.” They are responsible for organizational activities and can be identified or nominated for OHSE crimes.⁴³⁵ There is a general opinion that huge corporation delegate duty regarding OHSE to

⁴²⁹Hopwood, Edum-Fotwe and Adams, “The Impact of the Corporate Manslaughter and Corporate Homicide Act 2007 on the Construction Industry in the UK” op. cit. n.500

⁴³⁰Ormerod and Taylor, “The Corporate Manslaughter and Corporate Homicide Act 2007” op. cit. n.3, p.601, Welham, *Corporate Manslaughter and Corporate Homicide: A Manager's Guide to Legal Compliance* op. cit. n.531, p.151

⁴³¹Allens Arthur Robinson, “Corporate Culture' as a Basis for the Criminal Liability of Corporations” op. cit. n.498, p.17

⁴³²Charles Hampden-Turner, *Corporate Culture. From Vicious to Virtuous Circles* (1990) 18

⁴³³Wells, “The Law Commission report on involuntary manslaughter: the corporate manslaughter proposals: pragmatism, paradox and peninsularity” op. cit. n.562, p.553

⁴³⁴Ministry of Justice, *Corporate Manslaughter and Corporate Homicide Act 2007. Explanatory Notes*. (HMSO 2007) 10

⁴³⁵Almond, 'Regulation Crisis: Evaluating the Potential Legitimizing Effects of “Corporate Manslaughter” Cases' op. cit. n.575

non-senior members.⁴³⁶ The management is responsible for offences if it causes workers death. Corporations are conditionally liable and not absolutely if the accidents occur due to workers negligence.⁴³⁷ Though, corporations are responsible for poor OHSE culture of the offence of corporate crimes while workers can refuse hazardous workplace. In “English vs Wilsons & Clyde Coal Co Ltd” that employer whether a firm, company or individual is duty-bound to take reasonable care of workers OHSE. OHSE duties cannot be delegated.⁴³⁸ The charges of manslaughter, forgery and murder are OHSE offences and can be pursued under the relevant law. Workers death due to lack of basic training or inappropriate PPE can prosecute the officials under OHSE law.⁴³⁹ There is no separate liability for corporate manslaughter and homicide crimes under the 2007 Act. The gross negligence charge can be brought for workers liability death.⁴⁴⁰ The 2007 Act introduced new corporate offences and eradicated gross negligence manslaughter. Prosecutions are possible for the 2007 Act and OHSE legislation.⁴⁴¹

3.4.3 OHSE Law Reformation and Legislative Controversy in UK

The death arising from workplace and employer responsibility is the sensitive issue for legislative control of OHSE. The mill-owner is liable for a charge of manslaughter if an operator is killed by a risky machine. The idea of corporate liability was erased from the legislative bill of manslaughter.⁴⁴² The corporate criminal liability receives extensive support from industry but there was a lack of specific procedure. The 1974 Act imposed huge fines but was regulatory. The issue of “identification policy” was successful in prosecution in small organizations than a huge organization. The major corporations were more confident to avoid prosecutions for corporate killings.⁴⁴³

The corporate killing is mostly occurred due to management failure than an individual. The need was for corporate prosecution of workers killing due to gross carelessness and recklessness. The 2007 and 2008 Acts were innovatory and daring legislation and resulted in

⁴³⁶Jonathan Clough, “Bridging the Theoretical Gap: The Search for a Realistic Model of Corporate Criminal Liability” (2007) 18 Criminal Law Reform 267 298

⁴³⁷Gobert, “The Corporate Manslaughter and Corporate Homicide Act 2007 - Thirteen years in the making but was it worth the wait?” op. cit. n.592, p.415

⁴³⁸Ministry of Justice, *Corporate Manslaughter and Corporate Homicide Act 2007. Explanatory Notes*. op. cit. n.602, p.3

⁴³⁹Crown Prosecution Service, “CPS statement: Charging decision on the fatal shooting of Jean Charles de Menezes” 2006) <http://www.cps.gov.uk/news/latest_news/146_06/> accessed 21 February 2019

⁴⁴⁰Independent Police Complaints Commission, *Stockwell One. Investigation into the shooting of Jean Charles de Menezes at Stockwell underground station on 22 July 2005*. , 2007)

⁴⁴¹Jeremy Horder, “The Criminal Liability of Organisations for Manslaughter and Other Serious Offences” in Simon Hetherington (ed), *Halsbury's Laws of England Centenary Essays 2007* (Halsbury's Laws of England Centenary Essays 2007, LexisNexis Butterworths 2007) 120

⁴⁴²Cahill and Cahill, “Scarlet Letters: Punishing the Corporate Citizen” op. cit. n.16, p.155

⁴⁴³The Law Commission, *Legislating the Criminal Code: Involuntary Manslaughter* op. cit. n.546

significant changes to corporate offences.⁴⁴⁴ There were exclusions of senior directors and managers from corporate homicide. Though, there were difficulties to establish a specific criminal liability for such corporate slaughters. There were legislative deficiencies concerning involuntary manslaughter and corporate killings. The legislators were of the view to replace the traditional offences of recklessness and gross carelessness. They proposed to establish a new offence to eradicate the voluntary corporate manslaughters and need to cover the unexpected circumstances that cause deaths.⁴⁴⁵ The law commission acknowledged these recommendations with additions and changes. The term “undertaking” was suggested and unease with the term “corporation” for such crimes. The UK government establishes crown prosecution services, OHSE implementation authorities, and police and OHS executives.⁴⁴⁶ The directors’ criminal liability was excluded but the management failure was sensibility predicted. The 2007 Act was not extended to the individual that the government was concerned to lessen the effectiveness due to individual exclusion. These individuals could be prosecuted for corporate killings and manslaughter under OHSE legislations.⁴⁴⁷

The senior management will be liable for corporate manslaughter crime and is to be prosecuted if violate “duty of care” is breached at the workplace.⁴⁴⁸ The directors were hiding behind a veil to avoid personal liability. The liability of directors and managers were established to deter these executives.⁴⁴⁹ The proposed crime and OHS law commend that there will be no proceeding and management failure if no offence as per OHS legislation.⁴⁵⁰ The management failure familiarised such crime to extend OHSE legislation to business homicide. The new offence of “corporate culpable homicide” was coined in the Bill as well as the creation of manager liability for workers death.⁴⁵¹ These new offences were interconnected to OHSE issues and connected with “Westminster Act” after consultation publication.⁴⁵² The 2007 Act was enacted and commenced with Paul Goggins Criminal Justice Minister statement “This important

⁴⁴⁴The Home Office, *Reforming the Law on Involuntary Manslaughter: The Government's Proposal* sop. cit. n.8, p.4

⁴⁴⁵C. Wells, “The Law Commission report on involuntary manslaughter: the corporate manslaughter proposals: pragmatism, paradox and peninsularity” (1996) *Criminal Law Review* 545

⁴⁴⁶Home Affairs and Work and Pensions Committees, *Draft Corporate Manslaughter Bill. HC540-I* (HMSO 2005)

⁴⁴⁷Matthew Tempest, “Blunkett confirms plan for corporate killing law” *The Guardian* (London 20th May 2003) <<http://www.theguardian.com/politics/2003/may/20/immigrationpolicy.ukcrime>> accessed 25 March 2019

⁴⁴⁸Ministry of Justice, *A guide to the Corporate Manslaughter and Corporate Homicide Act* op. cit. n.18

⁴⁴⁹Bob Thomson, ‘Above the Law’ (*Scottish Left Review*, <http://www.scottishleftreview.org/li/index.php?option=com_content&task=view&id=17&Itemid=29> accessed 2 June 2019

⁴⁵⁰Stephen Griffin, “Corporate Manslaughter: A Radical Reform?” (2007) 71 *Journal of Criminal Law* 151 157

⁴⁵¹James Chalmers, “Just an Expert Group That Can't Say No: Reforming Corporate Homicide Law” (2006) 10 *Edinburgh Law Review* 290 290

⁴⁵²The Home Office, *Draft Corporate Manslaughter Bill. The Government Reply to the First Joint Report from the Home Affairs and Work and Pensions Committees Session 2005-06 HC540- I. Cm 6755.* (HMSO 2006)

UK-wide legislation is a major step forward for protecting consumers and workers from grossly negligent corporations".⁴⁵³

The 2007 Act focus on individual liability with unlimited fines in OHSE legislations. Further, the Act grasps individual and business activities causing deaths due to negligence.⁴⁵⁴ The Act excludes individual liability and showed individual deterrence and established the criminal liability of corporations for their business homicide or manslaughter. The 2008 Act provides custodial punishments for business and individuals. The small business will be affected with prosecution while the exclusion of individual liability is imaginative to imprison senior official.⁴⁵⁵

The directors or senior officials will sometimes exclude from criminal charge while small business is charged for corporate crimes. The 2008 Act familiarised the mechanism for a corporate executive to comply with OHSE legislations.⁴⁵⁶ The Act introduced custodial punishment for OHSE violations causing death but major corporations seldom feared the Act. Further, the high officials or executives will be imprisoned for two years for the act of gross negligence.⁴⁵⁷ The OHSE accidents recorded by HSE highlighted the corporate behaviours causing injuries and ill-health.⁴⁵⁸ Such OHSE accidents put bad impacts on workers family and friends. Such mishaps are compulsory to report under relevant regulations to HSE. There is a need to review the OHSE by the corporations after efficient corporate crimes mechanism.⁴⁵⁹ Workplace diseases are more than accidents. Thousands of workers died due to respiratory diseases, chemical hazards and cancer estimated by HSE. The prosecutions implemented in various hazardous situations of diseases.⁴⁶⁰ It will be difficult for police and "Crown Prosecution

⁴⁵³Northern Ireland Office, 'Commencement of Corporate Manslaughter and Corporate Homicide Act 2007 - 6 April 2008' (Northern Ireland Office, 2008) <<http://www.nio.gov.uk/commencement-of-corporate-manslaughter-and-corporate-homicideact-2007-6-april-2008/media-detail.htm?newsID=15131>> accessed 5 March 2020

⁴⁵⁴Health and Safety Executive, *Statistics on fatal injuries in the workplace in Great Britain 2014. Full-year details and technical notes* (2014) 3

⁴⁵⁵Families against Corporate Killing, "What about the workers? Families of workers killed by employer negligence feel bitterly disappointed by Corporate Manslaughter Bill" (2007) <<http://www.hazardscampaign.org.uk/fack/news/whataboutworkers.htm>> accessed 29 March 2018

⁴⁵⁶Health and Safety Executive, "Workplace injury - all industries" (Health and Safety Executive, 2014) <<http://www.hse.gov.uk/statistics/causinj/index.htm>> accessed 28 April 2019

⁴⁵⁷ Simon Antrobus, "The criminal liability of directors for health and safety breaches and manslaughter" (2013) *Criminal Law Review* 309 311

⁴⁵⁸Health and Safety Executive, "Work-related ill health and occupational disease" (Health and Safety Executive, 2014) <<http://www.hse.gov.uk/statistics/causdis/index.htm>> accessed 12 November 2019

⁴⁵⁹Families against Corporate Killing, "What about the workers? Families of workers killed by employer negligence feel bitterly disappointed by Corporate Manslaughter Bill" (2007) <<http://www.hazardscampaign.org.uk/fack/news/whataboutworkers.htm>> accessed 29 October 2019

⁴⁶⁰Gobert, "The Corporate Manslaughter and Corporate Homicide Act 2007 - Thirteen years in the making but was it worth the wait?" op. cit. n.592, p.415

and Service” to start proceedings against corporations liable for hazard exposure and chronic substances causing workers death.⁴⁶¹

3.5 OHSE Regulatory Development in US and UK

Mines were the most lethal workplaces due to the risk involved. A miner is fenced by a dark, chilly and damp atmosphere with ceilings that can collapse anytime on their heads, water that could drown them in seconds and air that could combust or smother ending a human life in no time.⁴⁶² Methane explosion in Virginia mines took 361 human lives was the most dreadful mines OHSE incident in US history that left 250 widows and 1,000 orphans. In later three years the history witnessed a dozen more such accidents with loss of over 1,200 human lives after which a legislation passed and created “U.S. Bureau of Mines (the Bureau).”⁴⁶³ The duty of the Bureau was to inspect mining procedures “especially concerning miners, and recommend measures of conditions under which mining operations are carried on”. There are numerous loopholes in legislations that no inspection was allowed with owner permission and cannot present the finding as well as lack enforcement.⁴⁶⁴

The Illinois mine explosion occurred in 1947 where above a hundred mineworkers lost their lives. The mineworkers informed the owner about the dangerous conditions but he turned deaf ear to them. After these disasters, the “Federal Coal Mine Safety Act of 1952” was passed by Congress. All mines operations that employed less than fifteen workers were excluded while limited enforcement authority was entrusted to a bureau in underground mines. The bureau empowers to issue violation notices, assessment of civil penalties against operators and power to shun mines to inspect and to withdraw orders.⁴⁶⁵ The above legislation failed to stop mine accidents whose example is an explosion in Farmington, where 78 miners lost their lives due to OHSE violations. This accident changed and transformed the entire fabric of mines OHSE in the US. The next year, Congress conceded the “Federal Coal Mine Health and Safety Act of 1969 (Coal Act)”, that gave vast enforcement powers to the Bureau. Miners were allowed to request a federal inspection two times for surface-mines and four at every underground coal mine. Monetary penalties, business criminal liability and benefits to permanent and incapacitated by

⁴⁶¹ S Zeng, X Xie, C Tarn and L Shen, *An Empirical Examination of Benefits from Implementing Integrated Management Systems* (2011) *Total Quality Management and Business Excellence* 22 (2) 13

⁴⁶² Freese, B. (2003). *Coal: A human history*. Cambridge, MA: Perseus Publishing.

⁴⁶³ H.R. 1579--112th Congress: Robert C. Byrd Mine Safety Protection Act of 2011. (2011). In www.GovTrack.us. Retrieved April 10, 2013, from <http://www.govtrack.us/congress/bills/112/hr1579>

⁴⁶⁴ Broberg, O and Hermund, I 2007. ‘The OHS consultant as a facilitator of learning in workplace design processes: Four explorative case studies in current practice’, *International Journal of Industrial Ergonomics* 37(9): 810–16. doi.org/10.1016/j.ergon.2007.

⁴⁶⁵ Robinson, M., and Murphy, D. (2009). *Greed is good: Maximization and elite deviance in America*. Lanham, MD: Rowman & Littlefield Publishers

“black lung” were established under the 1969 Act. This was landmark legislation in US coal mining safety and security.⁴⁶⁶

Due to these legislations, the rate of accidents declined. But then-President Richard M. Nixon challenged the enforcement power and termed them as “extremely lenient, confusing, and inequitable. A new agency, the Mine Safety and Health Administration (MSHA), was created” in 1977 under the department of Labour and mines inspection and OHSE enforcement is transferred to former. These transitions failed too to achieve its objectives as the explosions of two gas and coal dust in Scotia mines say a lot about the failure of enforcement authorities. The reason for the explosions was inadequate ventilation and lack of maintenance of electric equipment and absence of pre-operation examination. The explosions occurred due to the accumulation of methane.⁴⁶⁷

Following the calamities, the “Federal Mine Safety and Health Act of 1977 (MSH Act),” consolidated the mines OHSE regulations. More rights were granted for the right to full compensation to miners for the entire period of injury, and protection from any type of retaliation upon whistleblowing. This helped in decreasing the mortality rate up to a great extent. In the same year, the “Mine Act” founded the autonomous “Federal Mine Safety and Health Review Commission” for the purpose to deliver an self-regulating review of MSHA’s implementation arrangements.⁴⁶⁸ Again in 2006 in West Virginia, another accident occurred in Sago mine due to methane explosion where another episode of loss of human lives was witnessed by the history.⁴⁶⁹

An investigation report revealed that Sago Mine has witnessed 200 violations concerning OHSE in last year. The senators criticized that a business with 276 OHSE violations is operating in mines. The Congress passed the “Mine Improvement and New Emergency Response Act of 2006” (“MINER Act”), that tremendously amplified penalties and fines for OHS violations.⁴⁷⁰ The MINER Act brought many positive changes in legislation accidents notifications, emergency response plans, sealing of abandoned areas and mines rescue regulations. The wireless and tracking systems were mandated by the Act for communication between underground and

⁴⁶⁶ Goodell, J. (2006). *Big coal: The dirty secret behind America's energy future*. New York, NY: Houghton Mifflin Company.

⁴⁶⁷ H.R. 1579--112th Congress: Robert C. Byrd Mine Safety Protection Act of 2011. (2011). In [www.GovTrack.us](http://www.govtrack.us). Retrieved April 10, 2013, from <http://www.govtrack.us/congress/bills/112/hr1579>

⁴⁶⁸ “History of Mine Safety and Health Legislation”. (n.d.). Retrieved from <http://www.msha.gov/MSHAINFO/MSHAINFO2.HTM>

⁴⁶⁹ “Mine Improvement and New Emergency Response Act of 2006.”

⁴⁷⁰ Goodell, J. (2006). *Big coal: The dirty secret behind America's energy future*. New York, NY: Houghton Mifflin Company.

surface personnel after accident to locate trapped workers.⁴⁷¹ The “National Institute for Occupational Safety and Health” (NIOSH) reports that mines are unsafe in presence of all legislations to make mines operation safer. Underground mines are more lethal and the death rate is five times higher than surface mines. The MSHA revealed that numerous miners lost their lives in various mining accidents e.g. in Virginia 70 miners lost their lives.⁴⁷²

In 1966, a mines fall which is developed in 50 years and caused a school building collapsed where 144 lost human lives were lost in the UK. A tribunal under the chairmanship of Lord Davies was established to develop recommendations to overcome such issues in future. These legal recommendations presented by the tribunal to extend legislation for general public safety from mines collapse. Further, the tribunal found “National Coal Board” accountable for mines accident but no criminal liability was established. The report focused on the safety and health of the general public along with workers. The legislation was further extended in “Mines and Quarries (Tips) Act, 1969” after Bent Cross Crane collapse. Thorough observations were proposed for tips and mine-owner role. The right of appeal for the owner was recommended with remedial works. The way for legislative reform was surfaced due to the high level of fatalities, no legal authority on industry and lack of protection for workers. The publication of the Robens report further changed the whole procedure of legal development concerning OHSE in mines.⁴⁷³

3.5.1 Regulatory or Criminal

The regulations are not real crimes and are quasi pursuing white-collar offenders to secure their business interest. Many jurists establish that it is hard to rationalize between regulatory crimes and real crimes like injuries and losses. There were “mala prohibita (quasi crimes)” and “mala in se (real crimes)” before industrial growth.⁴⁷⁴ It is a moral duty of an employer to protect workers OHSE through legislation and crime have to deduce from moral principle. The quasi crime carries minor penalties and the trial procedure is not appropriate and is like moral blame. Lord Dennis advocated that quasi crime and real offences are difficult to contest in court on the ground of morality.⁴⁷⁵ Further, mala prohibita are halfway amid pure technical offences and real crime as environmental and OHS crimes. The regulatory crimes are less atrocious than real

⁴⁷¹ NIOSH. (2004). *Worker Health Chartbook*. Retrieved from <http://www.cdc.gov/niosh/docs/2004-146/pdfs/2004-146.pdf>, accessed 18 March, 2020.

⁴⁷² McAteer, J.D., Beall, K., Beck, J.A., Jr., McGinley, P.C., Monforton, C., Roberts, D.C., Weise, S. (2011). *Upper Big Branch: The April 5, 2010, explosion: A Failure of basic coal mine safety practices*. Retrieved from <http://www.nttc.edu/ubb>

⁴⁷³ R. C. Simpson, “Safety and Health at Work: Report of the Robens Committee 1970-72” (1973) 36 *The Modern Law Review* 192; Woolf, “Robens Report--The Wrong Approach?” *op. cit.* n.161

⁴⁷⁴ The Law Commission, *Criminal Liability in Regulatory Contexts. A Consultation Paper* (2010) 35

⁴⁷⁵ Michael L. Travers, “Mistake of Law in Mala Prohibita Crimes” (1995) 62 *The University of Chicago Law Review* 1301 1322.

offences. It is difficult to establish “*mala prohibita* and *mala in se*” for those crimes impact public safety. Jeremy Bentham on quasi and real crime “that severe distinction between *mala in se*, and *mala prohibita*, which being so shrewd and sounding so pretty and being in Latin, has no sort of an occasion to have any meaning to it; accordingly it has none”.⁴⁷⁶

There is a logical difference and no litmus test based on prosecution and penalties and the circumstances could determine liability that it is criminal or regulatory. The uncertain condition gave birth to OHSE violations which are disastrous. There is a claim of Law Commission that no specific distinction can be drawn between regulatory or criminal law and procedure and is confusing.⁴⁷⁷ There are specific procedures for criminal offences like punitive, detrimental and magisterial system. The OHSE offences and its relevant legislation originate it as regulatory while it also attracts criminal law procedure.⁴⁷⁸

3.5.2 NIOSH and OSHA

The mines OHSE was transferred to Department of Energy (DOE) from “US Bureau of Mines” with subject to transferred to NIOSH of MSHA. Further, the safety, health and technology were transferred to DOE. The administration encouraged to consolidate OHSE and mines under the NIOSH and MSHA.⁴⁷⁹ Finally, it was transferred to NIOSH after the director strong argument and establishes a distinct identity to mine OHSE program. The agency aims to conduct mines OHSE research. The committee recommends maintaining integrity, mission and maintenance of research unit.⁴⁸⁰ The NIOSH staff developed the long-term vision for OHSE research, organizational structure and mines research office. Further, the agency is responsible for interaction amongst OHSE stakeholders from government, labour and industry. NIOSH established a labouratory for reduction and prevention of injuries; diseases of mineworkers rely on PPE and technologies.⁴⁸¹ NIOSH was empowered by the 1977 Mines Act to extend its research to the entire mining industry than coal-mining. The research was devoted to the OHS of non-coal mineworkers under “Public Health Services Act.” The bureau had researched mines OHSE in “Federal Metal and Non-Metallic Mines Safety Act, 1966.” The amendment in 1977

⁴⁷⁶ P.J. Fitzgerald, 'Real Crimes and Quasi Crimes' (1965) 10 Natural Law Forum 21 21..... Hildebrandt, 'Justice and Police: Regulatory Offenses and the Criminal Law' op. cit. n.756

⁴⁷⁷ Paul Almond, *Corporate Manslaughter and Regulatory Reform* (Palgrave Macmillan 2013) op. cit. n.503, p.122

⁴⁷⁸ Anon., 'The Distinction Between *Mala Prohibit* and *Mala In Se* in Criminal Law' (1990) 30 Columbia Law Review 74 86

⁴⁷⁹ National Research Council [2007]. Mining Safety and Health Research at NIOSH: The National Academies Press, Washington, DC.

⁴⁸⁰ NIOSH [2007]. Research report on refuge alternatives for underground coal mines. Report prepared in response to Section 13 of the MINER Act of 2006.

⁴⁸¹ John A. Breslin, Ph.D, “One Hundred Years of Federal Mining Safety and Health Research,” Department Of Health And Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Pittsburgh Research Laboratory Pittsburgh, PA February 2010

Act empowered NIOSH for research concerning mines OHSE through welfare and health department. The bureau researched miners' health and relevant technology.⁴⁸²

“Develop recommendations for mine health standards for the MSHA; Administer a medical surveillance program for coal miners, including medical checkup to detect diseases in coalminers; Conduct on-site investigations in mines similar to those authorized for general industry under the OSH Act; Test and certify PPE and hazard-measurement instruments.”⁴⁸³

The OSHA provides a mechanism against hazardous and toxic substance for protection of workers. The employer will select the method for result under the Act. The OSH Act is significant for miners OHSE and reduction of repeat, serious and willful hazards. The employer is not obligated to correct hazards during OSHA notice or contest period to identify the risky hazards.⁴⁸⁴ There is a need for enforceable OHSE provisions and workers permissible limits to exposure are to be achieved for a better workplace. The permissible limit and OHSE compliance need to be achieved without risk with prescribed limits under the general duty clause u/s 5 in OHS Act.⁴⁸⁵ The “general duty clause was used in the 1970 Act to fill gaps in standards provided under the Act. It is not an alternative but a mechanism provided for workers protection under circumstances of no standards.”⁴⁸⁶

The provisional emergency standards were provided in the bill. Rare reliance will be on specific standards and general duty requirement. The review commission and appeal court interpreted and identified violations and employer general duty from various OHSE standards provided. Section 11(c) of the Act protects workers from retaliation and discrimination who report OHSE hazards or violations. OSHA heavily relies upon workers reporting concerning risks and OHSE and safeguards them. The Act will ensure the workers' job security who actively participates in reporting hazards. Though, section 11 of showed the weak whistleblower provision. OHSA supported the workers claim but never qualified for litigation due to weakness in the federal law.⁴⁸⁷ The OSHA has to prove general duty violation in “National Realty v OSHRC” “(1) that the employer failed to render its workplace ‘free’ of a hazard which was (2) ‘recognised’ and (3) causing or likely to cause death or serious physical harm”. The employer is

⁴⁸² National Research Council and Institute of Medicine [2007]. Mine Safety and Health Research at NIOSH, National Academies Press.

⁴⁸³ National Research Council [2007]. Mining Safety and Health Research at NIOSH. Committee to Review the NIOSH Mining Safety and Health Research Program, Committee on Earth Resources, National Research Council. The National Academies Press, Washington, DC.

⁴⁸⁴ Bokor SA (ed) (1988) *Occupational Safety and Health Law* Washington D.C. The Bureau of National Affairs Inc.

⁴⁸⁵ §5(a)(1), 29 U.S.C. §654(a)(1) (1979) provides as follows: “(a) Each employer – (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.”

⁴⁸⁶ 489 F. 2d 1257, 1265, 1 OSHC 1422, 1426 (D.C. Cir 1973).

⁴⁸⁷ *Ronsco Constr. Co.*, 10 OSHC 1576, 1577 n.3 (Rev. Comm'n 1982).

responsible to demonstrate the feasibility and safe the workplace from risks and mishaps. The OSHA steps for an employer to comply with the general duty clauses to be recognized.⁴⁸⁸ The court further determined the workers and employer role for establishing liability, workplace hazards and OHSE. The court overruled the accusation on the ground of no evidence which could depict the steps OSHA supposed to be taken by a company.⁴⁸⁹

The employee is protected from retaliation under section 11 and OSHA respectively. This further include right to refuse to do imminently dangerous work and specific complaints to the employer concerning OHSE risks. The workers have further rights like right to employment after disability⁴⁹⁰, injury compensation and right to unify for working conditions⁴⁹¹ under relevant laws. The OHSE is a compulsory subject of collective bargaining between employers and unions through judicial decisions. The OHSA maintain the provision of employer bargaining concerning OHSE. NLRA guarantees the regulatory OHSE protection and union can obtain information concerning hazards under OSHA. The NLRA protects workers to raise concerns against an employer and the safety professional from unions have access to work.⁴⁹² The right to engage in mining activity included the refusal of dangerous work and strike etc. The labour arbitrators during the dispute of collective bargaining gauge the OHSE activities from compliance and hazardous circumstance and improper actions.⁴⁹³ The workers provide wages and medical benefits for injured workers under-compensation program from states. The compensation system provides efficient OHS incentives. The workers may bring legal proceedings against the employer for the excessive hazardous conditions causing grave injuries.⁴⁹⁴

3.5.3 Process Standards

Risk management process based effort has been introduced while various suggestions were served to congress for written OHSE program enforceable by employers. Hazards must be controlled and identified before diseases or injuries under the program. The OSHA demands OHSE program specifically in the mining sector and relevant employer. Risk evaluation by OSHA is needed to set hazardous substances at the limit in the mining sector. Though, the risk

⁴⁸⁸ 489 F. 2d 1257, 1265, 1 OSHC 1422, 1426 (D.C. Cir 1973).

⁴⁸⁹ 1 OSHC 1422(D.C. Cir 1973) 1428.

⁴⁹⁰ Americans with Disabilities Act and relevant Anti-Discrimination laws.

⁴⁹¹ National Labor Relations Act (NLRA)

⁴⁹² Sections 7 and 8(a)(1) of the NLRA.

⁴⁹³ "OSHA Education Center" is a service -mark of American Safety Council, Inc. accessed at 18-2-2019 <https://www.oshaeducationcenter.com/articles/msha/>

⁴⁹⁴ Gross JA (1998) "*The Broken Promises of the National Labor Relations Act and the Occupational Safety and Health Act: Conflicting Values and Conceptions of Rights and Justice*" Chicago-Kent Law Review 351.

concept plays a vital part in the regulatory system of OHSE.⁴⁹⁵ The OHS Act does not identify the exposure limit nor address risk evaluation. The OSHA regulation established the permissible exposure limit (PEL) for hazardous substances and risk evaluation at a different level. The Supreme Court permitted in “Industrial Union Development vs American Petroleum Institute” OSHA demonstrate about the risk evaluation and to shift the burden to an employer for safe substances. The court further directed about the material used at the workplace must not be “harmful physical agent or toxic” while risk must exist in principle.⁴⁹⁶ The court held in “AFL-CIO vs OSHA” that OSHA must analyze the risk on case to case basis and struck down the outside OHSE standards and OSHA PEL. The OHSE standards are numerous regarding OSHA training and dealing it hazard by hazard approach for rulemaking.⁴⁹⁷

The OHSE principles identify the mineworkers training during production and extracting of mines while only authorized trained workers are allowed for mining operations.⁴⁹⁸ The standards provided specific content related to communication and directions for employers. The “Hazardous waste operations and emergency standards” provide a mechanism for onsite and offsite training and refresher OHSE courses.⁴⁹⁹ The employer is responsible to establish a training program, material safety sheet, communication and container labelling. Workers and their representative must aware of a hazard communication system and training followed by certification with an efficient platform.⁵⁰⁰ There required training with an examination of trainees for asbestos reduction for project designer, inspectors, supervisors and workers. These standards do not provide methods and objectives for training but the pictorial method are preferred than written work. The OSHA provided training standards to employer and OHSE information to workers.⁵⁰¹

3.6 OHSE and Workers Role: UK Approach

The associated legislations are “The Safety Representatives and Safety Committees Regulations 1977 and the Health and Safety (Consultation with Employees) Regulations 1996”, there are numerous other legislations for worker involvement and need for connected OHSE

⁴⁹⁵ *Great S. Oil & Gas Co.*, 10 OSHC 1996 (Rev. Comm’n J. 1982) and *Parker Drilling Co.* 8 OSHC 1717 (Rev. Comm’n J. 1980) pertaining to the International Association of Drilling Contractors guidelines.

⁴⁹⁶ 448 U.S. 607 (1980).

⁴⁹⁷ 965 F.2d.962 (1992).

⁴⁹⁸ 29 C.F.R. §1910.266(c)(5)(v) states that “Chainsaw operators shall be instructed to start the saw at least 10 feet away from the fueling area”.

⁴⁹⁹ 29 C.F.R. §1910.120(e). An example being: “Bulk Delivery and Mixing Vehicles 1910.109(h)(3)(d)(iii).

⁵⁰⁰ In the materials handling standard 29 C.F.R. 1910.177(g)(1)(2)(7).

⁵⁰¹ 29 C.F.R. §1915 1001 (k)(9). 29 C.F.R. §1910 66.

legislations.⁵⁰² “The Management of Health and Safety at Work Regulations 1999 and Health and Safety (Consultation with Employees) Regulations 1996,” that employer will provide risk assessment and information to reduce the risks. The workers representative opinions shall be considered due to their practical knowledge and realist contribution.⁵⁰³ The workforce will consult the OHSE major hazardous industries after completion of specific requisites. The “Offshore Installations (Safety Representatives and Safety Committees) Regulations 1989” covers the election of election procedure and the 1977 regulations discussed their functions. The offshore rigs regulations are reactive after the “Piper Alpha Calamity.”⁵⁰⁴ The “Quarries Regulations 1999” bound operators for cooperation and proper management of worker protection while committee members are there review the risk assessment and recommend improvements. The “Control of Major Accident Hazard Regulations 1999” held need for emergency plans for workers in the hazardous industry. The worker involvement concerning OHSE is neglected while more attention is given to consultation.⁵⁰⁵

3.6.1 OHSE and Employees Participation

The HSE recommended and harmonized the 1966 and 1977 regulations for worker participation. The employer will consult with trade union and elected OHSE members. “The collective declaration of worker involvement” is futile for worker participation in non-union and unionized workplace and revises legal mechanism. The HSC amended the provision to set up worker involvement but UK restricts OHSE legislation for consultation and information.⁵⁰⁶ Though, some state established worker participation legal framework in their jurisdictions. The worker involvement beneficial and is recommended by HSE for further amendment and development in legislation.⁵⁰⁷

There are various inferences drawn that worker participation is significant for OHSE. Numerous perceptions have been developed by “Institution of Occupational Safety and Health” and define it “that employer-employees discuss and negotiate concerns, and resolve problems,

⁵⁰² Health and Safety Executive, *Causal Factors in Construction Accidents* (HSE Books, Research Report 156,2003)

⁵⁰³ Health and Safety Executive, *Business Re-engineering and Health and Safety Management: Literature Survey, Case Studies and Best Practice Model* (HSE Books, Conference Research Reports, 3 Volumes, 123, 124 and 125, 1996)

⁵⁰⁴ “The Piper Alpha disaster in 1988 witnessed the death of 167 offshore workers and severely damaged the business interests of Occidental Petroleum.”

⁵⁰⁵ Health and Safety Executive, *Management of Health and Safety at Work Regulations 1999: Approved Code of Practice* (HSE Books, L21, 2000)

⁵⁰⁶ “Impact Assessment (IA) is in essence a cost-benefit analysis conducted for all proposed changes in legislation. See Health and Safety Executive, 'Impact Assessments' <http://www.hse.gov.uk/ria/> accessed 15 September 2010 for more information.”

⁵⁰⁷ Health and Safety Executive, 'Worker Involvement: Results of the Consultation Exercise and a Proposed Approach to Current and Future Work' Worker Involvement Programme (26 Feb 2007) <http://www.hse.gov.uk/aboutus/meetings/hscarchive/2007/150307/cl2.pdf> accessed 12 August 2019

share information and view and develop consensus make a decision together.”⁵⁰⁸ The worker can take part in a policy or decision-making process concerning OHSE. Further, it includes many practices, techniques and methods in worker involvement. All workers should be involved to make the management system efficient for the strengthened organization.⁵⁰⁹ Employees should involve in OHSE without discrimination of their service structure or tenure or position. There is a process for worker involvement in OHSE development.⁵¹⁰ Worker participation needs basic OHSE information.⁵¹¹ The details should communicate to workers regarding OHSE performance, procedure and requirements.⁵¹² The other methods are participation and consultation for employees’ involvement in OHSE.⁵¹³ The former focuses on decision making while the later on the “Worker Involvement and Consultation” strategies with restricted effect on decision making.⁵¹⁴ The workers’ empowerment is the need of time for effective control or autonomy of decision-making concerning OHSE.⁵¹⁵ Further, the workers’ involvement regarding OHSE required self-management. An employee does not influence management directly and they agree on different options of decision-making.⁵¹⁶

3.6.2 Worker Involvement

The modern organizational structure needs to involve worker in OHSE issues for better performance. There are new psychological and economic hazards involve in the modern world industry. The worker involvement in OHSE is need of time for the development of legislation.⁵¹⁷

⁵⁰⁸ R Du Prey, *Assessing the Effectiveness of an Occupational Safety Program in an Automotive Manufacturing Plant Machine Shop in the Midwest* (PhD Thesis, Capella University, USA, 2002)

⁵⁰⁹ Institution of Occupational Safety and Health, “Worker Involvement IOSH Policies”

<http://www.iosh.co.uk/information_and_resources/developing_policy/worker_involveent> accessed 15 May 2018

⁵¹⁰ Budd, P Gollan and A Wilkinson, *New Approaches to Employee Voice and Participation in Organizations* (2010) Human Relations 63 (3) 304 and J Gruman, *Performance Management and Employee Engagement* (2011) Human Resource Management Review 21 (2) 128

⁵¹¹ WF Maloney, *Employee Involvement, Consultation and Information Sharing in Health and Safety in Construction* (Engineering Physical Science Research Council, Report No. GR/S25494/01, 2003)

⁵¹² A Wilkinson, T Dundon and I Grugulis, *Information but not Consultation: Exploring Employee Involvement in SMEs* (2007) The International Journal of Human Resource Management 18 (7) 1285

⁵¹³ European Industrial Relations Observatory, *Board-Level Representation in Europe* (Observer Supplement, Dublin, 1998)

⁵¹⁴ Lord Wedderburn, *Consultation and Collective Bargaining in Europe: Success or Ideology* (1997) Industrial Law Journal 26 (1) 20

⁵¹⁵ R Hechanova-Alampay and TA Beehr, *Empowerment, Span of Control, and Safety Performance in Work Teams After Workforce Reduction* (2001) Journal of Occupational Health Psychology 6 (4) 280

⁵¹⁶ TM Lippin, A Eckman, CR Calkin and TH McQuiston, *Empowerment-Based Health and Safety Training: Evidence of Workplace Change from Four Industrial Sectors* (2000) American Journal of Industrial Medicine 38 (6) 700 and N Wallerstein and M Weinger, *Health and Safety Education for Worker Empowerment* (1992) American Journal of Industrial Medicine 22 (5) 630

⁵¹⁷ P Hughes and E Ferrit, *Introduction to Health and Safety at Work* (Butterworth-Heinemann, Fourth Edition, 2009) 18 for more examples of internal and external sources of health and safety information

There was full-time employment in extracting companies at the time of the Robens Report.⁵¹⁸ The services structures are revised and the incursion of migrant workers changes the labour working arrangements. The employees should involve in OHSE management and for decision making without any discrimination.⁵¹⁹ The employment non-standard patterns created various issues concerning OHSE to cover all businesses. This further makes employers liable for worker participation and their management in employment relation.⁵²⁰ The new strategy of “Revitalizing” search new methods of workers participation in OHSE as per evolving trade unions and labour market.⁵²¹ The HSE opined that OHSE legislation is sufficient but there is an issue of interpretation.⁵²² It further recommends the amendments in the 1974 legislation for further improvement. Though, the development of legislation is the need of time.⁵²³ The Act lacks an appropriate mechanism for worker participation and it is need of the hour to re-define the management of worker involvement concerning OHSE. Though, there are gaps in legislation and need to update at the modern world requirements.⁵²⁴

3.7 Mines OHSE Hazards US Approach

3.7.1 US Recognised Hazards

The recognised hazards are mostly sued concerning OHSE. The review commission was futile clarify the picture of recognised hazards. The hazards were either considered as “obvious” or “generally recognised within the industry”. For instance in cases such as staying in premises of a loading area while a crane was in operation or the operation of a crane near a power line. In a case where no industrial or employer knowledge of risk could be established, but the risk was obvious, the recognition would be taken as “common sense”.⁵²⁵ The objective of OSHA is to identify risks and OHSE violations. An employer must possess constructive knowledge relevant risks and the industry. Congress is of the view that such constructive knowledge about the risks

⁵¹⁸ P Shearn, *Workforce Participation in the Management of Occupational Health and Safety* (Health and Safety Executive, Report No. ERG/04/01, 2004)

⁵¹⁹ P James and D Walters, *Regulating Health and Safety at Work* (Institute of Employment Rights, London, 1999)

⁵²⁰ Lord Wedderburn, *Consultation and Collective Bargaining in Europe: Success or Ideology* (1997) *Industrial Law Journal* 26 (1) 20

⁵²¹ Health and Safety Commission / Department for Environmental Transport and the Regions, *Revitalising Health and Safety: Strategy Statement* (OSCSG, 0390, 2000)

⁵²² Health and Safety Executive, *Thirty Years On and Looking Forward: The Development and Future of the Health and Safety System in Great Britain* (HSE Books, C25, 2004)

⁵²³ Health and Safety Executive, *Measuring the Effect of Health and Safety Advisors and Roving Safety Representatives in Agriculture* (HSE Books, Research Report 417, 2006)

⁵²⁴ K Frick and D Walters, *Worker Representation on Health and Safety in Small Enterprises: Lessons from a Swedish Approach* (1998) *International Labour Review* 137 (3) 370

⁵²⁵ *Usery v Marquette Cement Mfg. Co.*, 568 F. 2d 902, 5 OSHC 1793 (2d Cir. 1977), Also *Richmond Block, Inc.*, 1 OSHC 1505 where the cleaning of the inside of a cement mixer is a recognised hazard”.

can provide minimum notice and could be of great help in due process.⁵²⁶ There must be standards for detection, general recognition and common knowledge about the hazards in a particular industry. It can be detected through senses or accepted manner of test and must be in knowledge of the employer.⁵²⁷

In the “National Realty case”, for the first time a comprehensive analysis of the “recognised hazard” was directed. The employer actual knowledge is not a violation but hazards knowledge in the mining industry is attributed to cite employer.⁵²⁸ The “National Realty” question was put before the Review Commission to decide an employer’s actual knowledge or industrial knowledge of risk or hazards was sufficient enough for violation of general duty.⁵²⁹ The eight circuits rejected the narrow interpretation of Review Commission concerning recognised hazards. The congress concluded that actual knowledge of hazard by an employer was considered adequate to institute a violation. The Review Commission and succeeding decisions of the courts kept to this interpretation.⁵³⁰ Courts and the Review Commission upon OSHA efforts enhanced the perception of employers recognised risks knowledge of the industry. The recognition of risk in another industry to be used as a means of recognition in the employer’s industry. The commission and courts opposed the efforts about the obvious hazards within a profession. NIOSH documents, local and state laws and relevant publications constitute constructive knowledge. The OSHA guidelines require critical analysis of a cited employer’s knowledge of such sources as corroborating evidence.⁵³¹

3.7.2 Hazards and Responsibility

The British OHSE laws provide a general duty clause “as far as reasonably practicable” lacks in sec 5. The employer is bound to address “recognised hazards” that “are causing or likely to cause death or serious physical harm”. After the “National Realty” case the OSHA was asked to specify the measures for employers to reduce OHSE issues, enforced by court and review

⁵²⁶ Bokar SA (ed) (1998) *Occupational Safety and Health Law* Washington D.C. The Bureau of National Affairs Inc:

⁵²⁷ See OSHA Compliance Operations Manual, ch. VIII, §A.2.b(1)

⁵²⁸ This decision has been followed in subsequent cases. See for example, *Sec’y of Labor v. AJP Constr. Inc.*, 19 O.S.H. Cas. (BNA) 2204 (2003), available at 2003 WL 145418, at *2; accord *Am. Wrecking Corp. v. Sec’y of Labor*, 351 F.3d 1254, 1261 (D.C. Cir. 2003).

⁵²⁹ In *Vy Lactos Laboratories* 1 OSHC 1141 (Rev. Common 1973), rev’d and remanded sub nom. *Brennan v OSHRC and Vy Lactos Laboratories*, 494 F.2d 460, 1 OSHC 1623 (8th Cir. 1974),

⁵³⁰ *Magma Copper Co. v Marshall*, 608 F. ed 373, 7 OSHC 1893 (9th Cir. 1979) and *St. Joe Minerals Corp. v OSHRC*, 647 F. 2d 840, 9 OSHC 1646 (8th Cir. 1981).

⁵³¹ *Kelly Springfield Tire Co.*, 10 OSHC 1970, 1973 (Rev. Comm’n 1982), aff’d, 729 F. 2d 317, 11 OSHC 1889 (5th Cir. 1984).

commission.⁵³² Numerous litigants resisted the due process due to vagueness and ambiguity in the provisions. The employer general duties the OHS Act to curb hazards and give risk warnings. The court ruled in “Bethlehem Steel Corp” that the clause of general duty is vague and the standards of recognised hazards are fair notice to employers they are avoiding.⁵³³ The general duty is a vast clause and does not render the employer a guarantor and impose absolute liability of workers OHSE. The employer should provide PPE and a safe and healthy work location. It is not an absolute duty but to protect workers from preventable hazards.⁵³⁴

The provision stating “causing or are likely to cause death or serious physical harm” and grave violation as “there is substantial probability that death or serious physical injury could result”. That makes a violations of general duty clause as a heinous crime.⁵³⁵ The court of Appeal in “Pratt and Whitney Aircraft Div” gave its verdict that the violation of general duty at employment is a serious concern and is “likely to cause death or serious physical harm.”⁵³⁶ To explain the meaning of the “free” from hazards requirement, the court used the feasibility requirement in the National Realty case which has been accepted by the courts of appeal unchallenged by OSHA.⁵³⁷

3.7.3 OSHA and Mines OHSE Hazards

The two cases decided by the Review Commission and confirmed by the court of appeals, identified the hazards types. In “American Smelting & Refining Co” a section 5 citation was issued for exposing employees to airborne in excess concentrations of inorganic lead. The company argued that the clause of general duty are applicable on identified hazards can be detected by the human senses while testing instruments such as airborne lead concentrations do not come under the above restrictions. However, the Review Commission rejected the employer’s argument and gave its judgment that non-obvious hazards were intended by Congress to be covered under the above head. This judgment was affirmed by the court of appeals.⁵³⁸ Employers are required to install physical means of protection and to improve its OHSE training program to prevent accidents.⁵³⁹ In “Philips Petroleum Co” OSHA required a system introduced

⁵³² *Donovan v Royal Logging Co.*, 645 F. 2d 822, 9 OSHC 1755 (9th Cir.1981).

⁵³³ *Bethlehem Steel Corp. v OSHRC*, 607 F. 2d 871, 875, 7 OSHC 1802, 1805 (3d Cir. 1979).

⁵³⁴ *Whirlpool Corp v OSHRC*, 645 F. 2d 1096, 9 OSHC 1362 (D.C. Cir. 1981); *Brennan v Butler Lime & Cement Co.*, 520 F. 2d 1011, 3 OSHC 1461 (7th Cir. 1975) and *Dunlop v Rockwell Int’l*, 540 F.2d 1283, 4 OSHC, 1606 (6th Cir. 1976).

⁵³⁵ “Sections 5, 17 and 153 of OHS Act.

⁵³⁶ “Pratt & Whitney Aircraft Div. v Secretary of Labor”

⁵³⁷ *Baroid Div. Of NL Indus v OSHRC*, 660 F. 2d 439, 446-447, 10 OSHC 1001, 1005 (10th Cir. 1981).

⁵³⁸ *Dover Elevator Company, Inc.*, 8/31/1994 92-2443.

⁵³⁹ 489 F. 2d 1257, 1265, 1 OSHC 1422, 1426 (D.C. Cir 1973).

by employer was inaccurate, difficult to maintain and unreliable and upon evidence it was revealed that feasibility was not proven.⁵⁴⁰ In case of “Kelly Springfield Tyre Co” it was found that it was feasible for employers to install certain equipment for prevention of accidents. Explosion or fire can be prevented by installing and maintaining ventilation system.⁵⁴¹

Mining is of various types such as mining of metal, coal and non-metal which are further divided into underground and surface mining. Surface mining is more advantageous due to more choice of machinery than underground. The surface mining has better safety performance, lower extraction cost and less working conditions. This helps in higher production with a lower rate of accidental costs.⁵⁴² There are many factors which can influence the productivity of a mine such as the size of mine, a technology used, management system and skills of workers. The sizes of mines vary which indicates coal reserves. A depleting mine has lesser coal reserve which requires a small number of employees. A mine or a section of it can be closed due to depletion of the coal reserve, extreme violations, catastrophic events and increase in prices. Absence of best mining techniques results in higher costs that can lead to permanent mine closure.⁵⁴³

3.8 OHSE Alternative at Workplace in US and UK

3.8.1 Incentive Method

The UK state regulators for the enforcement of SMS encourage the OHS management to apply signs like logos and rewards in the campaign of “Work Well Together (WWT)”. It was country leading OHS campaign participating numerous corporations and supported by HSE, trade unions. This campaign was initiated by HSE to recognize the effective efforts for OHS improvements. WWT objective was to improve OHS in four key areas of collaboration, capability, communication and commitment in the relevant industry. Further, there are prizes and yearly awards in each of these four key areas.⁵⁴⁴ These awards are for workers, small enterprises

⁵⁴⁰ 11 OSHC 1776 (Rev. Comm’n 1984), aff’d without published opinion, No. 84-1425 (10th Cir. Sept. 10 1985).

⁵⁴¹ *Empire Detroit Steel Div., Detroit Steel Corp. v OSHRC*, 579 F.2d 378, 6 OSHC 1693 (6th Cir. 1978) and *Donovan v Royal Logging CO.*, 645 F. 2d 822, 9 OSHC 1755 (9th Cir. 1981).

⁵⁴² Kulshreshtha Mudit and Parikh Jyoti K. A study of productivity in the Indian coal sector [Journal] // Energy Policy. - [s.l.] : Butterworth-Heinemann, 2001. - Vol. 29. - pp. 701-713.

⁵⁴³ Grayson R. Larry, Kinilakodi Harsisha and Kecojevic Vladislav Pilot sample risk analysis for underground coal mine fires and explosions using MSHA citation data [Journal] // Safety Science. - University Park : Elsevier, 2009.

⁵⁴⁴ “The campaign was initiated as the statistics for the year 2001/02 revealed that 114 people died (106 workers and 8 members of the public) as a result of construction work. This fatality rate of six per every 100 000 workers made it the highest for 10 years. The campaign was initiated with the aim of reducing this horrific toll.” <http://www.hse.gov.uk/press/2002/c02031.htm>, accessed 12 March, 2020.

and corporations for their actual input to OHS. “Silver Helmet” is awarded to the individual, company or undertaking for presenting commitment to WWT.⁵⁴⁵

The administrative incentives would be called as the Maine 200 Scheme. Sites for inspections are targeted based on National injury data.⁵⁴⁶ OSHA director Joseph Dear called this incentive as a memorandum and said: “OSHA offers qualifying employers: limited scope of inspections; lower priority of inspections; higher priority for technical assistance; co-operative agreements.” The businesses which qualify have history injuries and diseases from hazards identified by OSHA. It further provides the egregious and deliberate violations; rates and number of workers compensation during accidents.⁵⁴⁷ The employers need to classify risks and noxious substances before relevant authority inspection under the program. The fines and inspection are significantly reduced by an authority under the program while accidents and disease rate are decreased.⁵⁴⁸

The 200 most dangerous workplaces in Maine were selected and authorities were informed about the nature of those mines. They were asked to work in partnership or implement SMS to improve OHSE otherwise they could face a penalty for non-compliance. Those Enterprises upon their acceptance to co-operate under the program are helped to develop the OHSE program. These management plans are reviewed by OSHA and then their implementation is verified. But there are conflicting views regarding the competency of this approach. However, the labour movements in the US have opposed such programs since 1993 in Maine. A report presented by a national union of some 35000 workers named “United Electrical, Radio and Machine Workers” of USA identified various issues. Certain sectors were treating their workers like animals. The managers were permitting the unhealthy and dangerous working conditions and assuring better reporting to OSHA.⁵⁴⁹

3.8.2 Voluntarism

HSE and subsequent studies revealed that corporations OHS performance could be improved significantly to adopt system approach. Some corporations have their system of OHS

⁵⁴⁵ “Health and Safety Commission,” <http://baldwin.butterworths.co.uk/search/sql/dataitem.asp?id=11042&tid=7>. accessed by 25-03-2019

⁵⁴⁶ “This programme was initiated in the state of Maine in 1993, and since then other states have implemented similar programmes, such as New Hampshire, South Dakota and Wisconsin.” <http://www.ranknfile-ue.org/h&s1196.html> accessed on 28 March, 2019.

⁵⁴⁷ Clinton B. (President) and Gore A. (Vice President) *The New OSHA: Reinventing Worker Safety and Health* (1995) 4.

⁵⁴⁸ “OSHA offers qualifying employers: limited scope of inspections; lower priority of inspections; higher priority for technical assistance; co-operative agreements.” <http://www.ranknfile-ue.org/h&s1196.html>. accessed on 6-4-2019

⁵⁴⁹ “Machine Workers of America” <http://www.ranknfile-ue.org/h&s1196.html> accessed on 8-4-2-19

recommend adopting such a mechanism. It was inadequate under the prerequisite of the 1974 Act, that employees receive written OHS policies from employers. That HSE point out the OHS policies confined to hazard control process, lack of training and inadequate information on hazards. It is part of a systematic approach that employer to keep their system under review concerning OHS documents.⁵⁵⁰

Voluntary introduction of OHSE improvements has not been successful in the US so far because more importance is given to short term profit which creates hurdles in implementation of OHSE standards. When a large group of CEOs in the US were asked about the reasons for their failure and directed to do a better job for OHS and environmental issues. Mostly, revealed that the pressure to achieve short term profit was the main reason for their failure.⁵⁵¹ There were inadequate OHSE management, hazard release and OSHA survey reporting of hazard producers. It was established by the group that OHSE culture change is not possible without encouragement or prodding in the mining industry. The co-operation from government regulator can help to prevent the mining hazards.⁵⁵²

The regulators grant the license to permit the blasting or other dangerous activity with certain conditions such as applying SMS. Materials with radioactive resources need to meet the US Nuclear Regulatory Commission (NRC) licensing conditions. The grant of specific license for the use of materials is given by the Commission if the applicant fulfils the given conditions.⁵⁵³ Proper training is required for conducting OHSE reviews on the job and at the classroom to operators. The need is of mandated and well-documented safety procedures with management personnel, OHSE radiation with emergency measures, relevant officers and their responsibilities. A further requirement is detecting leaking sources, radiation monitor, access control system, interlocks and radiation monitor diagram facility.⁵⁵⁴

⁵⁵⁰JAMES P (1992) *Reforming British Health and Safety Law: A framework for discussion* ILJ 87.

⁵⁵¹ Braithwaite, J 2011. 'The essence of responsive regulation', *University of British Columbia Law Review* 44(3): 475–520.

⁵⁵² Needleman C *OSHA at the Crossroads: Conflicting Frameworks for Regulating Occupational Health and Safety in the United States* Paper delivered at the Policies for Occupational Health and Safety Management Systems and Workplace Change Conference Amsterdam (September 2008).

⁵⁵³ Benjamin P *A Review of Labour Markets in South Africa: Labour Market Regulation: International and South African Perspectives* Employment & Economic Policy Research Programme, Human Sciences Research Council (October 2005).

⁵⁵⁴ Quinlan, M 2015. *Ten Pathways to Death and Disaster: Learning from Fatal Incidents in Mines and Other High Hazard Workplaces*. Sydney: The Federation Press.

3.8.3 Public Relations and Signs

The scale of “worst employers” and the “best employers” is the systematic approach of OSHA to encourage employers to maintain the best OSHE program. This is termed as the Voluntary Protection Program (VPP). Participants who address violations promptly are removed from programmed inspections and they are not issued any notices under the program.⁵⁵⁵ Generally, a “Star” is given as a reward for effective OHSE or a “Merit” is given in case of in need of any improvement. The theme of the VPP program is to award a star or a logo for excellent worksites and businesses regarding OHSE. The members of VPP enforce and develop a mechanism to efficiently recognize, control and assess occupational hazards to eradicate mineworkers’ diseases, injuries and accident from mines.⁵⁵⁶

The OHSA requires maintaining trust and co-operation between OSHA and every stakeholder involved in an effective OHSE program. The performance and management skills of participants are required to evaluate OHSE measures. Companies with better OHSE records are selected primarily that makes VPP much successful and contributive but trade unions do not support VPP and ask for repeated inspections.⁵⁵⁷ It is hard to visit every workplace while OSHA is underfunded. The OSHA head claimed that the existing OHSE laws are inadequate to deal with repetitive and severe violators. The Bush administration offer the voluntary compliance rather than fixing OSHA and avoided their inspection.⁵⁵⁸ Those companies who joined the VPP believe that due to skills and resources constraints SMEs would be disqualified. To avail VPP certification the contributing companies will need to spend time, resources and money. The discourse of “voluntary approach”, is questionable because companies will consider participating worth of such certification.⁵⁵⁹

3.8.4 Licensing Systems in OHSE Legislation

The findings of the Robens Committee regarding licensing of OHSE are an enforcement tool in the UK. The licensing is an effective tool for controlling OHSE issues and high-risk installations. The relevant authorities can impose penalties or draw the license under the licensing system. The criteria are defined and are related to situations while managers OHSE qualification and

⁵⁵⁵ Black, J 2010. ‘Risk-based regulation: Choices, practices and lessons learnt’, in Organisation for Economic Co-operation and Development (ed.), *Risk and Regulatory Policy: Improving the Governance of Risk*. Paris: OECD, pp. 185–224. doi.org/10.1787/9789264082939-11-en.

⁵⁵⁶ “Voluntary Protection Program (VPP)” <http://www.OSHA.gov>. accessed on 2-4-2019

⁵⁵⁷ “OSHA, employers, employees and employee representatives,” <http://www.osha.gov>. accessed on 2-4-2019

⁵⁵⁸ <http://www.ranknfile-ue.org/h&s1196.html>.

⁵⁵⁹ “With the OSHA VPP process well underway, DM (The Strategic Petroleum Reserves (SPR) contractor, Dyn McDermott) has developed and would like to share the following lessons learned about seeking VPP accreditation”: http://www.eh.doe.gov/vpp/articles/osh_a_at_spro.html, accessed 19 July, 2019

expertise.⁵⁶⁰ “Finally, much reliance on licensing encourages the primary responsibility for exercising control lies with the licensing authorities and not who create the risks.” The 1974 Act, section 15 lays down criteria for making regulation to identify the purpose of the “Subject-Matter of Health and Safety Regulations”.⁵⁶¹ The SMS and ‘safety case’ in the UK is introduced by “*Control of Industrial Major Accident Hazardous Regulations*.” Such regulations are applicable where noxious activities might endanger the workers and it was the reply of EC “Seveso Directive”.⁵⁶²

These regulations deal with the hazards of listed quantity substances and enforce strict obligations on companies. The company needs documentary evidence for less dangerous situations or major risk identification and appropriate measures for risk control. The corporation is not allowed to start the business unless to provide appropriate instruments to HSE.⁵⁶³ The regulation of off-shore oil OHS mandated the adoption of SMS after Piper Alpha disaster.⁵⁶⁴ Lord Cullen conducted the inquiry and recommended the facility operator for each installation to submit OHSE case under the regulations. Lord Cullen introduced and enforced “Off-shore Installations (Safety Case) Regulations 1992” in his recommendation. “Set-out the safety objectives of the operator and enforcement system, performance standards and monitoring system.”⁵⁶⁵

3.8.5 Supervision and Training of OHSE

The mines accidents occurred due to mineworker negligence or lack of awareness. OSHA requires employers to educate mineworkers and take measures as per OHSE programs to prevent mishaps.⁵⁶⁶ The employer should implement OHSE instructions to mineworkers to avoid accidents.⁵⁶⁷ OSHA instructions must prove that they would help reduce accidents and

⁵⁶⁰ An example of licensing regulations under the 1974 Act comprises the *Asbestos Licensing Regulations* SI 1983 No.1649 Regulation 3. “ Paragraph 4.

⁵⁶¹ Health and Safety Executive, “Major Hazards Industry Performance Indicators Scoping Study” (2006) <<http://www.hse.gov.uk/research/hslj3df72007/hsl0731.pdf>> accessed 19 August 2019

⁵⁶² Robens Committee (Committee on Safety and Health at Work), *Report of the Committee on Health and Safety at Work 1970-1972* (1972).

⁵⁶³ “Health and Safety Executive (HSE)”, <http://www.hse.gov.uk/aboutus/hsc/strategy2010.pdf>, accessed by 22-2-2019

⁵⁶⁴ Kaasen K (1991) *Post Piper Alpha: Some Reflections on Offshore Safety Regimes from a Norwegian Perspective* Journal of Energy and National Resource Law 281 at 286.

⁵⁶⁵ Department of Energy *the Public Inquiry into The Piper Alpha Disaster* (1990).

⁵⁶⁶ 10 OSHC 1970 (Rev. Comm’n 1982), aff’d 729 F. ed 317, 11 OSHC 1889 (5th Cir. 1984).

⁵⁶⁷ *Alabama Power CO.*, 13 OSHC 1240 (Rev Comm’n 1987), where an employee failed to remain a safe distance from a dump truck delivering coal.

diseases.⁵⁶⁸ The accidents occurred due to weak implementation of OHSE measures by the employers and OSHA need to prove the violations of OHSE standards.⁵⁶⁹

Conclusion

The OHSE is considered secondary labour rights at international agreements though, the abusive condition at mines risks the workers and violations of human rights. The important point is that workplace risks are to be recognised like working environment, preventable and recognised risks, and information and free from retaliation. The OHSE issues are severe in developing countries and less common in the US and UK due to economic strength and strong legal regime. The right to mines health and safety depends on other rights like discrimination, free speech, trade union, social security and job surety. The work further explores the role of NIOSH, OSHA, NLRB and MSHA regarding mines OHSE, research, training and other administrative issues in the mining sector. There was not a label of crime during any mishap through the business criminal liability is an issue of debate after mines accidents in the US while the UK developed the prosecution. The employer permitted workers to continue work in an unsafe condition and considered finance above workers' OHSE and PPE.⁵⁷⁰ There is no such conclusive evidence that proves the need for such extra efforts. Specification standards have lost their significance and are used only in situations of grave risks because of its cost-effective ability. The chapter focuses on worker participation in OHSE and system-based approach for the management of worker involvement. A combination of performance-based and systematic-based standards would be highly fruitful.⁵⁷¹

The work aims to recommend OHSE legal development in Pakistan after comparison with the UK and US. The comparative approach is capable and practical to bring positive changes and better lessons for Pakistan. These legislations improve OHSE but less effective to curb disasters causing deaths. The industry-specific or system-based framework is the need of time to control noxious substances and risks. The "resource-incentive" is required to be part of regulatory enforcement and legislation to develop a system-related method. There are many common law remedies applied on public bodies like existence or breach of duty of care. The fines are not sufficient in every situation and need sentencing for OHSE crimes. The 2007 Act and 2008 is

⁵⁶⁸ *General Dynamics Corp., Quincy Shipbuilding Div.*, 6 OSHC 1753 (Rev. Comm'n 1978) aff'd 599 F.2d 453, 7 OSHC 1373 (1st Cir. 1979), where employees were not being instructed not to prematurely remove trestles supporting heavy vertical steel plates whilst the welding of the steel plates to a horizontal bulkhead was taking place.

⁵⁶⁹ *Western Mass. Elect Co.*, OSHC 1940, 1945 (Rev. Comm'n 1981).

⁵⁷⁰ Reiman, J., & Leighton, P. (2013). *The rich get richer and the poor get prison*. Boston: Allyn and Bacon.

⁵⁷¹ See Cunningham and Johnstone (1999) *Regulating Workplace Safety: System and Sanctions* 374.

the extension of 1974 with specific improvements and familiarised the unlimited fines and custodial punishments. There is no immunity for a corporate manager or directors and their responsibility was established.

CHAPTER # 04

MINES OHES IN PAKISTAN: LEGAL AND INSTITUTIONAL FRAMEWORK

Introduction

Mines OHSE is an essential part of mineworkers' protection and must consider at every workplace. Healthy and safe working environment is the basic right of every mineworker at all levels. The mineworkers do not keep regard of OHSE issues at the workplace and this is an alarming situation. The OHSE hazards victimized thousands of mineworkers due to lack of hazard evaluation, environmental audit and management system and numerous other lacking. The lack of inappropriate legal and business frameworks worsened the mining sector. There is lacking appropriate mining legislation, regulatory mechanism, weak enforcement and effective mines administration etc. There is the century-old Mines Act, policies and department at a provincial level with weak implementation causing occupational diseases and accidents. Mostly regulations are in the form of notifications and never tabled for parliamentary debate or legislation due to political and bureaucratic pressure. Such a weak legal and institutional framework discourages the "foreign direct investment (FDI)" in the mining sector. Though, there is some investment attraction in marble and coal mining sector. There is much space for improvement of mines OHSE from a technological, management and legal perspective. There are various challenges in procuring of licenses from government authorities like complaints of foreign companies, compromise OHSE provisions and auction irregularities. The Mines Act governed the OHSE requirements of drilling, oil and gas well and mines exploration in Pakistan. There are various costs like economic, human and social costs connected with occupational diseases, injuries and accidents. The role of ILO is prominent to provide an effective mechanism for mineworkers OHSE.

4.1 OHSE and Constitutional Positions

The human rights constitutional petition U/A 184(3) was filed in the Supreme Court of Pakistan concerning OHSE in mining sector while numerous others are pending in higher judiciary. The petitions asserted the worst OHSE standards causing injuries, diseases and accidents in mines. It is evident from proceedings that provincial labour departments do not have convincing data and number and profile of labour in provinces. There are inadequate result-oriented plan and evidence-based policymaking. The province of Punjab presented the report as all others were

asked to prepare. The superior judiciary pressed the provinces to develop a capacity for monitoring, assessment and analysis system and compile proper statistics.⁵⁷²

Better and safe working environment create market access and trade opportunities for business development. The trade preferences scheme is applied by EU for developing states to reduce tariffs with more export revenue for entering their market. The purpose is to integrate the developing states into international markets with a focus to enforce efficient labour laws. Further, the commission will implement OHSE in “Generalized Scheme of Preferences (GSP) and Free Trade Agreements (FTAs).”⁵⁷³

The “2013 of Joint Action Plan” recommend the OHSE study at a provincial and national level to understand the inspection, monitoring and legal situation in the country. The study was a benchmark concerning OHSE at the workplace. The report of “Overseas Pakistanis and Human Resource Development (OPHRD)” introduced proactively and reveals the occupation injuries and diseases along-with OHSE legal framework. Further, the ILO report specifically focuses on labour inspection system and overseen the OHSE specifically. There need to improve social security benefits, bonded labour, collective bargaining, child labour elimination, FOA and employment conditions concerning OHSE. The appropriate inspection system is mandatory for the eradication of occupational accidents, injuries and diseases in mines.

“Supplement the orders of the Supreme Court, on development of necessary capacities by Provinces and documentation of OHSE situation in the country’s labour market. Showcase the state of labour market especially the situation of OHSE in the country and initiate necessary reforms in the area in line with EU Trade Policy and to maintain GSP + status. Prepare a partial OHSE Profile for the country and lay the foundation for upcoming detailed OSH profile, and fulfil the mandated function of this Ministry to advocate legal and institutional reforms.”⁵⁷⁴

4.1.1 OHSE and Constitution

The Constitution of Pakistan (the constitution) has the following provisions that cover the issue of OHSE in various sectors with an emphasis on mines explorations and productions.

⁵⁷² The Express Tribune, “Baldia factory fire: SHC snubs forensics chief over failure to identify bodies” October 19, 2014, at <http://tribune.com.pk/story/777634/baldiafactory-fire-shc-snubs-forensics-chief-over-failure-to-identify-bodies/>

⁵⁷³ Dr Manzoor Ahmed, former Pakistan Ambassador to the “TO (2002-2008), “senior fellow at the International Centre for Trade and Sustainable Development,” Geneva, and a member Institute of Policy Reforms (IPR) board of advisors.

⁵⁷⁴ Key Indicators of Labour Market (KILM), 8th Edition, 2014, ILO, Geneva, <http://kilm.ilo.org/2011/download/kilmcompleteEN.pdf>

“The state shall ensure the elimination of all forms of exploitation and the gradual fulfilment of the fundamental principle, from each according to his ability, to each according to his work.”⁵⁷⁵

“Slavery is non-existent and forbidden and no law shall permit or facilitate its introduction into Pakistan in any form. All forms of forced labour and traffic in human beings are prohibited. No child below the age of 14 years shall be engaged in any factory or mine or any other hazardous employment.”⁵⁷⁶

“Every citizen shall have the right to form associations or unions, subject to any reasonable restrictions imposed by law in the interest of sovereignty or integrity of Pakistan, public order or morality.”⁵⁷⁷

“The state shall make provision for securing just and humane conditions of work.”⁵⁷⁸

“The state shall secure the well-being of the people, irrespective of sex, caste, creed and race, by raising their standard of living, by preventing the concentration of wealth and means of production and distribution in the hands of a few to the detriment of general interest and by ensuring equitable adjustment of rights between employers and employees, and landlords and tenants; provide for all citizens, within the available resources of the country, facilities for work and adequate livelihood with reasonable rest and leisure; provide for all persons, employed in the service of Pakistan or otherwise, social security by compulsory social insurance or other means; provide basic necessities of life, such as food, clothing, housing, education and medical relief, for all such citizens, irrespective of sex, caste, creed or race, as are permanently or temporarily unable to earn their livelihood on account of infirmity, sickness or unemployment; reduce disparity in the income and earnings of individuals.”⁵⁷⁹

4.1.2 OHSE Situation at Post 18th Amendment

The subject of labour is devolved with the 18th constitutional amendment in 2010. It was heralded as notable constitutional development to decentralized and provincial autonomy for the positive changes and equitable development of common people. The workers started facing hurdles after the amendment within a few months. There was a lack of groundwork, pros and cons probing and role of provinces and federal to implement this development in true spirit. The differences and complexities surfaced as fiscal, legal and administrative issues.⁵⁸⁰ The “Industrial Relations Act, 2012” (IRA) federal legislation applicable to provincial workers and focus on employers and workers improvement and trade union formations in trans-provincial

⁵⁷⁵ Article 3 of “Constitution of Islamic Republic of Pakistan, 1973.”

⁵⁷⁶ Article 11 (1-3) of the Constitution.

⁵⁷⁷ Article 17(1), of the Constitution.

⁵⁷⁸ Article 37 (c) of the Constitution.

⁵⁷⁹ Article 38 A to E of the Constituion.

⁵⁸⁰ Post-18th Amendment Legislative Agenda: Status in Baluchistan, Chief Minister's Policy Reform Unit, Government of Baluchistan, August 2014.

establishments. There is separate provincial industrial relation legislation mostly derived from “Industrial Relations Ordinance, 1969.” The provinces are lagging for amendments or changes in laws related to industrial relations. The right to organize and collective bargaining is granted to the worker but unable to lay down procedures and rules in Sindh. There is 75 other laws need to adopted, repealed or amended apart from IRA. Deferment of provincial legislation or revision caused hurdles for a worker in Post-devolution scenario. Numerous cases are pending on the ground of jurisdiction and challenge the vires of federal legislation relevant to workers. Further, there need to develop a framework to harmonise the labour laws across provinces to determine the responsibilities and rights of stakeholders.⁵⁸¹

The existed laws should be continuing after devolution until the provincial government enacts their legislation on OHSE. Article 270-AA affords that existing laws should be in force till provincial government repealed, altered or amended. The provinces started legislation concerning labour issues consequent to 18th amendment. The federal government took various measures for enforcement and required legislation after dialogues will all stakeholders. The provincial government focused to reform inspection for effective OHSE enforcement.⁵⁸² A national action plan for the inspection process is in progress after the participation of concerned stakeholders. The inspection envisions various initiatives like integrated inspections, awareness, workplace registration, advocacy and risk assessment. The government aims to incorporate the spirit of self-reporting and self-inspection. Further, there is an aim of evolving effective and efficient regime with inadequate resource and capacity faced by the country. The Labour Department of Sindh shared OHSE provincial policy for tripartite consultation with stakeholder and requested for recommendations. The JAP was formulated with Sindh provincial government and other stakeholder after the incident of Baldia in Karachi.⁵⁸³

4.2 Legislative Framework

Human and Harmless working conditions at the workplace have been guaranteed by the constitution under Articles 37 and 38. The former secure humane and just condition at the

⁵⁸¹ Prof. Dr. K. G. Jadoon, “Occupational Health and Safety in Small Scale Mines” Balochistan University of Information Technology, Engineering and Management Sciences, Quetta.

⁵⁸² “The Supreme Court, relying on Shehla Zia, (PLD 1994 SC 693) and reiterating its openness to procedural constraints in public interest litigation cases, stated that “The right to have unpolluted water is the right of every person wherever he lives”.

⁵⁸³ Karin Astrid Siegmann, *The Agreement on Textiles and Clothing: Potential Effects on Gender Equality in Pakistan*, 2004, “Transforming Institutions of Power: Towards Gender Responsive Governance”, Roan, Islamabad, quoted in *Organizing for Labor Rights: Women Workers in Textile/Readymade Garments Sector in Pakistan and Bangladesh*, Zeenat Hisam, Pakistan Institute for Labor Education and Research (PILER) <<https://zeenathisam2004.files.wordpress.com/2013/07/organising-for-labour-rightswomen-workers.pdf>> Accessed on: June 12, 2018

workplace while women and children are not be positioned invocation which is inappropriate to their sex and age.⁵⁸⁴ OHSE issues have been the foremost factors of labour policy in Pakistan. The first “Labour Policy (1955)” suggested establishing an inspectorate to scrutinize OHS. The latest policy regarding labour in 2002 recommended a rationalized and consolidate labour regime under five categories and separate law on OHSE.⁵⁸⁵

The policy aimed at establishing “National Occupational Safety and Health Council” to set OHSE principles and audit them occasionally. The policy had recommendations to identify occupational hazards for mineworkers and others. OHSE was a focus of “Labour Protection Policy 2005” recommending the advancement of OHSE culture for businesses. Moreover, it suggested a written policy of OHSE for enterprise, council and institutes. The labour policies of provinces have a focus on OHSE issues after devolution. Punjab Labour Policy “stresses that risks for occupational accidents and diseases at the workplace have to be managed jointly by the employers and workers and requires the establishment of OHSE management systems”.⁵⁸⁶ The policy recommends legislation that deals entirely with OHSE implementation plan, capacity building, inspections, equipment, and recruitment of qualified personnel. The provinces interested to develop, periodically revise and maintain a specific OHSE system. The “SAA Centre for Improvement of Working Conditions and Environment” (SAA-CIWCE) is interested to formulate OHSE mechanism in Punjab through a policy.⁵⁸⁷

4.2.1 Mines OHSE Legislation: Mines Act, 1923

Mines Act, 1923 was enacted by British and was adopted after partition and for petroleum and mines OHSE. The Act further provides working hours, children and women employment, management and operation of mines and OHSE provisions.⁵⁸⁸ The inspectors’ powers are concerning mineworkers’ accidents report, investigation and notice to concerned departments. The regulation must establish under the Act needs to provide a broad regime regarding labour and safety and followed in mines. After the 18th amendment, the chief inspector and other inspector are to be appointed by the provincial governments for the enforcement of this Act. There is a need to review section 9 of the Act which is about “secrecy of information obtained”

⁵⁸⁴ Article 37 and 38 of Constitution.

⁵⁸⁵ Muhammad Arif and Sohaib Qadar, “Energy Law in Pakistan,” published by Kluwer Law International, 2016.

⁵⁸⁶ “Labor Protection Policy, 2005.”

⁵⁸⁷ “Occupational Safety and Health: Legal Framework and Statistical Analysis” Industrial Labor Standards Unit, Ministry of Overseas Pakistani and Human Resource Development, 2017.

⁵⁸⁸ General Secretary Salt Miners Labour Union (CBA) Khewra, *Jhelum v The Director, Industries and Mineral Development, Punjab, Lahore* (1994 SCMR 2061),

cause to serve the purpose of colonists. Further, the section empowers chief inspectors to keep confidential all mines records and can only disclose to state officials.⁵⁸⁹

However, the document is not properly reviewed since its inception and there are numerous loopholes. The present legislation in general needs thorough revision as it cannot comprehend the problems presented by the modern-day challenges. Occupations mostly deemed "Hazardous" under the Act are not relevant these days. The issue of toxic materials, explosives limit provided by regulations and hazardous substances remain un-addressed. There needs to prescribe a limit for hazardous activities and occupational exposure. Informal and small and medium mining entities should be brought into legislative process regarding chemical use. The mining legislation required the input from technical and professional agencies as the current provisions are dormant and ineffective for the contemporary OHSE issues.⁵⁹⁰

These inspectors have the power to review any mine to confirm the consistency of mining activity and compliance. The inspectors are bound to acquire data, conduct inquiry of accident loss of workers life and a notice of an accident. The inspector took diminutive actions against repeated mining accidents due to weak enforcement of law and OHSE standards.⁵⁹¹ There needs strong coordination between inspectors and stakeholders for the meaningful operation of the OHSE related legislation in the country. Though, the Chief Inspector has some judicial power under PPC to arrest the mine-owners or conduct an inquiry against the business officials.⁵⁹²

"The Mines Act, 1923, as amended according to Mines (Amendments) Ordinance, 1973, provides a framework for the regulation of operational OHSE of the mines and oilfields. As such, regulation under the Mines Act, 1923 and Oil and Gas (Safety in Drilling and Production) Regulations, 1974 is entrusted to the Federal Ministry of Labour. The Chief Inspector of Mines is the Chief Regulator under the Mines Act, 1923 and Oil and Gas (Safety in Drilling and Production) Regulations, 1974, on behalf of the Federal Ministry of Labour. Mining Board and Mines Inspector function according to the Mines Act, 1923."⁵⁹³

The "Consolidated Mines Rules, 1952" provides maintenance of various registers of mineworkers like overtime, casual, sick and annual leave, overtime, festival holidays working in

⁵⁸⁹ Critical legal analysis of Mines Act, 1923, Chapter

⁵⁹⁰ ILO, Tripartite Meeting on Social and Labour Issues in Small-scale Mines, Geneva, 1999: *Social and labour issues in small-scale mines*, 99 pp.

⁵⁹¹ "For example, despite 45 documented incidents resulting in more than 318 deaths in the last eight years, the Chief Inspector Mines of Baluchistan has not prosecuted even a single mine owner/manager for criminal negligence under the Mines Act. (What Is Behind The Deaths Of Coal Miners In Balochistan? Ali Javed | Usama Khawar Ghumman updated September 25, 2018)."

⁵⁹² Section, 6, 7, and 21 of Mines Act, 1923.

⁵⁹³ Muhammad Arif and Sohaib Qadar, "Energy Law in Pakistan," published by Kluwer Law International, 2016. "OHSE provisions of the Mines Act, 1923 and the Consolidated Mines Rules, 1952 require water drinking and sanitary facilities (Article 17, 18 of the Mines Act, 1923 and Consolidated Mines Rules, 1952)."

mines. The inspectors are empowered u/s 19 to suspend the operations of mines for OHSE violations while chapter VIII dealt with the process of non-compliance and penalties for health and safety crimes. The fine of two hundred rupees would be imposed for persistent violations after conviction.⁵⁹⁴ Further section 17 of PEPA Act provides the penalties for any environmental violations during mining operations. There are different situations in which these fines can be imposed during assessments procedures and hazardous substances.⁵⁹⁵

4.2.2 OHSE Compensation System under Labour Laws

The health subject was devolved to provinces after post-devolution in private and public sectors. Private health care considerably spread and developed across the country. Health is the responsibility of state U/A 38 (d),

“Provide necessities of life, such as food, clothing, housing, education and medical relief, for all such citizens, irrespective of sex, caste, creed or race, as are permanently or temporarily unable to earn their livelihood on account of infirmity, sickness or unemployment.”⁵⁹⁶

The healthcare facilities are discussed in various regulations and laws. Workers occupational diseases subject to compensation affect workers during mines extractions.⁵⁹⁷ There are various sexual harassment issues during mines extractions specifically in areas Shahrag and Dhakki and shall be considered as an occupational injury.⁵⁹⁸ The OHSE system was established with relevant laws and regulations with relevant authorities responsible for compliance. The “National Institute of Labour Administration and Training” (NILAT) established OHSE centre in Sindh and training centre in Punjab⁵⁹⁹ while OHSE centre is there to start in KPK.⁶⁰⁰

The disability benefits and various grants were provided under “Workmen Compensation Act, 1923” while death and injuries are covered under “Fatal Accident Act, 1855.” The workers can file a damages suit against responsible and negligent employers under “Employer Liability Act, 1938.” All these laws are century-old which include various redundant sections and does not cover the mineworkers OHSE in the contemporary scenario. The workers' social security covered the registered workers' medical care and cash benefits at the provincial level. The cash benefits include death grant, total and partial disablement pension, survivors' pension, iddat and

⁵⁹⁴ Chapter-VIII, section 19 and 39 of Mines Act, 1923.

⁵⁹⁵ Section 17, of PEPA, 1997. See, also, Industrial Collection and Calculation Charges Rules, 2006.

⁵⁹⁶ Article 38(d), of the Constitution.

⁵⁹⁷ “West Pakistan Workmen’s Compensation Rules, 1961, Workmen’s Compensation Act, 1923, and West Pakistan Industrial and Commercial Employment (Standing Orders) Ordinance, 1968. Moreover, under the Workmen’s Compensation Act, 1923 and Provincial Employees’ Social Security (Occupational Diseases) Regulations, 1967.”

⁵⁹⁸ Saleem Mian, Nisar A. *The Labour Code 2009*. Lahore, Pakistan: Mansoor Book House, 2009.

⁵⁹⁹ “Directorates of Workers’ Education, Saeed Ahmad Awan Centre for Improvement of Working Conditions & Environment (SAACIWCE).”

⁶⁰⁰ “Carried out by labor departments, mines and minerals departments, inspectorates of labor and mine, agriculture departments, Pakistan Public Works Department and the Environment Departments.”

maternity benefit. Further, EOBI Act covers old age grant, survivors' pension, disablement allowance and old-age pensions. The industrial or commercial undertaking more than 50 workers need to be insured against disability, injury, natural and accidental death under "Standing Orders Ordinance, 1968." Further, every worker at least shall be insured under "Provincial Social Security Ordinance, 1965 and Workmen Compensation Act, 1923."⁶⁰¹

4.2.3 Stakeholders Responsibilities

The Mines Act, 1923 accords the responsibilities upon occupiers /employers towards OHSE provisions during mining operations. The employer is responsible for PPE, sufficient lighting, ventilation, cleanliness, management and prevention of dust. The law instructs compulsory inoculation and vaccinations and "Hygiene Card" for mineworkers at the workplace. It further requires confinements and instruments for efficient OHSE measures. The Labour Department must devise OHSE agenda to be utilized during work assessments to encourage businesses. The inspectorate of mines instructs inspectors to strictly adhere to relevant notices.⁶⁰² It is mandatory for mines manager, owner and agents to cooperate with mineworkers concerning OHSE issues under the Mines Act. The contractor is responsible for OHSE regulations in mines if he is a supervisor. The Act does not overtly integrate the miners rights to refuse the unsafe working condition but there are no restriction on them but the contractors and owners compelled them. Though, the owner or employer is liable to vacate mineworkers in case of hazardous incidents. The Mines and Factories⁶⁰³ Acts provide that removing workers from danger situation of OHSE is the responsibility of employer/owner. The inspector can stop the mining operation during imminent danger while instruct employer to have an emergency plan to curb disastrous situations.⁶⁰⁴ The employer is responsible for the appropriate OHSE to miners as it is shared effort. Mineworkers can demand a safe working environment and protection of OHSE rights. The duty of consistency of OHSE at working environment lies with employers. The workers' rights and responsibilities are not properly discussed in any law or OHS drafts like UK and US models.⁶⁰⁵

⁶⁰¹ Ali, Hamid & Ali Zaka. *Pakistan Labour Manual – the Code of Labour Laws, Rules & Regulations for the Industrial, Commercial & Labour Establishment*. Karachi, Pakistan

⁶⁰² Mines Act, 1923

⁶⁰³ Section 28(8) and 45 of the KPK Factories Act

⁶⁰⁴ "Section 33-1 of Factories Act (Section 45 of KPK law) and section 16 and 19 of Mines Act."

⁶⁰⁵ "Occupational Safety and Health: Legal Framework and Statistical Analysis" Industrial Labor Standards Unit, Ministry of Overseas Pakistani and Human Resource Development, 2017.

4.2.4 Legislative Enforcement

The “Workmen’s Compensation Act, 1923” mandated the notification of a fatal accident. The owner or employers are obligated to inform inspectorate about mineworkers’ disease or accident u/s 20(A). The Act prohibits women in underground mines or any relevant work. The workers under other laws are lacking OHSE and vulnerable to health hazards, or prone to accidents.⁶⁰⁶ The contractor needs to be present during mining inspection concerning occupational accidents or diseases due to danger in workplace circumstances.⁶⁰⁷

4.2.5 National Labour and Mineral Policies

The government allowed tax, cash and other initiatives to manufacturers to formulate a pro-labour policy. The government under the new policy could bind an employer to register miners with EOBI or social security for the implementation of OHSE standards. Pakistan ratified various ILO conventions with few fundamental treaties along with GSP scheme. There are still widening gaps in Pakistan’s labour legal regime and need adequate measures to implement or ratify specific treaties. The employment maximization, production and promoting investiture are indicators for the redemption of the economy. The requirement needs to create awareness among mineworkers and employers responsibilities and must enjoy the reasonable economic benefit.⁶⁰⁸ The mineworkers between the ages of 14 to 18 shall not be engaged in mines hazardous activities without proper education. It will affect their morale and physical life. The informal economy is more hazardous and is a challenge for labour protection. The informal mining sector is unhealthy, recurrently harsh, risky, low productivity and low paid. The government is trying to ensure mineworkers OHSE through labour administration. The mineworkers in informal mines are entitled to all benefits where employment relations existed.⁶⁰⁹

The 1995 NMP was enforced in 2002 after the federal government provides funds and directive after the institutional arrangement. It was a policy with common grounds with the consent of all provinces with an effective institutional framework. Further, it developed the institutional framework and regulatory mechanism for improvement in mining sectors. “Mineral Investment Facilitation Board” (MIFB) chaired by Prime Minister while “Mineral Investment Facilitation Authority” (MIFA) chaired by Chief Minister at federal and provincial level respectively. Separate mines and minerals departments were established under the headship of

⁶⁰⁶ “Shops and Establishments Ordinance, 1969, section 22 of Act and Rule 5 have provisions on fencing of machinery.”

⁶⁰⁷ Workmen’s Compensation Act, 1923 and Section 20 (A) of Mines Act, 1923

⁶⁰⁸ Ali, Hamid & Ali Zaka. *Pakistan Labour Manual – the Code of Labour Laws, Rules & Regulations for the Industrial, Commercial & Labour Establishment*. Karachi, Pakistan

⁶⁰⁹ Saleem Mian, Nisar A. *The Labour Code 2009*. Lahore, Pakistan: Mansoor Book House, 2009.

DG to monitor, fee collections, issue royalties, leases and licenses at the provincial level. Further, the department was divided into three divisions, inspectorate of mines, licensing and exploration promotion. The policy harmonises the provincial and federal governments regulations and policy. The other provincial corporations were merged with MMD provincial departments.⁶¹⁰

4.3 ILO-OHSE Treaties and Pakistan

The ILS and ILO treaties are the backbone for the better working environment. These provisions cover financial and social interactions amongst stakeholder including many issues like labour inspection, OHSE and social security. The domestic labour and workplace protections laws conform to ILO standards and national objectives. “The ratified conventions enshrined in the ILO Declaration on Fundamental Principles and Rights at Work (1998), generally referred to as Charter of Workers’ Rights.” The basic human rights core standards to be practised at the workplace. OHSE provisions are addressed in various legislations though not any ILO convention has not ratified by Pakistan. Further, many ratified convention have direct or indirect linkage with Pakistan. The ILS aims to encourage workers education, social security, industrial relations, vocational training, and skills and promote good labour at the workplace. These ILS can be further enforced through institutional set-up, labour law and policy.⁶¹¹ The “Punjab Industrial Relations Act” (PIRA) was the first provincial law and was shared with stakeholders by the provincial ministry. The representation of workers concerning OHSE was discussed in the tripartite meetings but the limits were not obvious. The law conflicted with C-87 which discussed the right to a union. The ILO and trade union pressure finally amend the restrictive conditions of 50 workers limit in PIRA, 2010.⁶¹²

4.3.1 Mines OHSE and ILO Conventions

OHSE is lowest priority of corporations and mines-owners despite the hike in number of fatalities, diseases, accidents and injuries. Besides, there is lack of attention on safe and decent working environment. There is neither motivation nor specific preventive measures to eradicate diseases and mine accidents in the last years. ILO devised more than 40 COP and standards specifically with OHSE. Pakistan has not ratified three fundamental ILO conventions 155, 161, 176 and “Promotional Framework for Occupational Safety and Health Convention 2006 No.

⁶¹⁰ Ali Abid, S. *Manual of Electricity, Petroleum Sui Gas, Mines Act, Minerals Water Supply Laws*. Lahore, Pakistan: Civil & Criminal Law Publication, 2005.

⁶¹¹ Guide on “Employment Policy and International Labor Standards, International Labor Office, Geneva 22, Switzerland.

⁶¹² Awan, S. (2007). “The Development Trends of Occupational Health Services in Pakistan” Draft Report. Retrieved from <http://www.ilo.org>

187” shows the low interest of mineworkers OHSE protection. The ILO C-81 has been ratified and evolved an inspection system. The labour inspection is to be placed under the administration of central authority for enforcement to all workplaces relating to working conditions. The previous governmental policies disregard the ILO convention and severely impact labour inspection and mines are the most neglected during an inspection. Documentation concerning poor governance, inefficient functioning and weak labour inspections are not shared with stakeholders and the only source is media to report about mines accidents.⁶¹³

The “Human Rights Commission of Pakistan” (HRCP) highlights mining accidents and deaths of miners through media reports. Mining sector top the list of incidents including boiler explosions, electrocution, and quarry accidents with lack of maintenance and scrutiny. Such accidents occurred due to lack of OHSE measures and standards violation by establishments. Coal and minerals extraction with no OHSE provisions cause accidents. Further, coal-dust inhalation, methane gas explosions, fires, cave-ins, poisonous gas leakages and haulage accidents are recurrent in mines. Guaranteeing OHSE becomes a political decision which the administrations are not anxious to seek after. The other factors are failure of inspection and monitoring system with violation of labour, mines and environmental laws. The complicity of agencies between political elite, officials and industrialist resist the enforcement of OHSE law at the workplace. Though the Mines Act, 1923 requires that the mines-owner must notify accidents to the Labour Department, it is rarely done.⁶¹⁴

4.3.2 Mines an Unsafe Occupations

Most mineworkers were killed or injured in various mining accidents like caving, roof blasting, gases, environmental issues, etc. These accidents occurred in mines of formal and informal mines sector. The mines had no appropriate rural health centre or medical or safety facility in those areas. The former CJ Tassaduq Jilani intervenes through a suo-moto notice of mineworkers’ death and inappropriate OHSE protection in mining zones. Mining is beset with great dangers and most dangerous occupations in Pakistan. Methane explosion, haulage, leakage of poisonous gases, cave-ins, and coal dust inhalation accidents are common in mining areas. The inspectorate from mines and minerals are often manipulated the accidents and diseases data from all provinces during mining exploration. As to a mines labor union activist, accidents are recurrent in mines yet hardly ever reported. C-155 and C-176 have not been ratified by Pakistan. The “ILO Code on Safety and Health in Underground Coalmines, 2006” is code not followed by

⁶¹³ OSH Management System, (2011). A tool for continual improvement, World Day for Safety and Health at Work. Retrieved from, <http://www.ilo.org/safework/info/publications>, accessed 2 February, 2020.

⁶¹⁴ “Status of Labor Rights in Pakistan The Year 2014, Pakistan Institute of Labor Education & Research (PILER).”

Pakistan that provides specific guidance, general principles of mines extraction along-with documentation and record-keeping. No demands for ratification of international OHSE standards were made either from civil society or trade union or any other agency.⁶¹⁵

4.3.3 ILO and Third-Party Rights of Tribal

The subject of ILS is under Federal Government to report coordination of labour legislation and watch from a labour perspective. The coordination regarding relevant legislation needs the federal government to take on logical work upholding legitimate and official changes that are important to go along-with ILS. Tribal peoples are native people at the western part of Pakistan where mostly mining operations occurred. Pakistani nationals ought not to have issues getting a competitive response from auction leases by the provincial governments. However, no specific NMP or mechanism provides for native tribal people, including FATA and PATA. Pakistan signed C-107 on “Indigenous and Tribal Populations” but not a signatory of C-169 of ILO.⁶¹⁶

4.4 Mines OHSE Institutional Framework

4.4.1 Institutional Framework

Minerals are provincial subjects and royalties and mining rights distribution is the mandate of the provincial government. Discovery and geological survey are federal government functions while licensing, regulatory regime and mining OHSE are provincial subjects. Natural gas, nuclear and mineral oil are exclusive with the federal government. The NMP 1995 provide the establishment of MIFB for the negotiation of international contracts with donors’ agencies minerals developments. The Prime minister with chief ministers and relevant ministers and with chairman board of planning and investment are members. The board advises for tariffs, competition, proposal and investors, infrastructure and skilled manpower to mineral authorities for development in the mining sector.⁶¹⁷

4.4.2 OHSE in Mines under Policies

The mining is part of labor policy of the country and is limited through legislation. The 2002 policy suggested Workers Welfare Fund (WWF) and EOBI for social security schemes for mineworkers. The 2010 policy provides benefit form minimum wage payment, improved OHSE at the workplace, access to social security and contractual protection to mineworkers available to

⁶¹⁵ ILO, Tripartite Meeting on Social and Labour Issues in Small-scale Mines, Geneva, 1999: *Social and labour issues in small-scale mines*, 99 pp.

⁶¹⁶ Guide on “Employment Policy and International Labor Standards, International Labor Office, Geneva 22, Switzerland.

⁶¹⁷ Muhammad Arif and Sohaib Qadar, “Energy Law in Pakistan,” published by Kluwer Law International, 2016.

other workers.⁶¹⁸ NMP, 2013 recommends establishing Inspectorates of Mines to ensure OHSE standards in Pakistan's mining sector. Mines Inspectorate focuses on the following heading concerning OHSE.

“Enhancing OHSE measures in mining operations and effective implementation of a Mines OHSE Management Plan; providing training in the area of OHSE laws, use of explosives, electricity; and Research and development in the OHSE of the mining workforce, such as in finding substitutes for the use of timber in mining operations.”⁶¹⁹

4.4.3 Pakistan Mineral Development Corporation (PMDC) and Director General Minerals (DGM)

Promoting mineral development in Pakistan is covered under “West Pakistan Mineral Development Corporation Act, 1958.” The Act covers the key objectives concerning mining acquisition rights, exploration and production, down-streaming, and purchasing, leasing of mining business of any company. PMDC has initial share capital with perpetual succession and body corporate of the government. It is managed by the government through a board of directors appointed by the former. Qualification and disqualification of directors and management are handled through this Act. PMDC and LCDC, DG (Minerals) keep up close coordination between the provinces and the federal government for GSP undertakings and responsibility. Importation, monitoring, supervision and exploration are the concern of DG minerals while further administers training, operational issues, proposals, regulatory laws and competitions and foreign ministers. There are least experts with DG minerals to channel policy issues to encourage provincial governments to initiate outside installation to put resources into new mining tasks. The mechanism was suggested to regulate check and balance among provinces through secretaries and CMs nominees. There are explorations, licensing, mining inspection divisions under the authority.⁶²⁰

4.4.4 Exploration and Reconnaissance Mining Licenses

A reconnaissance license (RL) can be granted by licensing authority for any mineral or mineral deposit to which the license relates. An RL could be either non-exclusive or exclusive for specific land area limitations for twelve months period u/r 17. The grant or refusal of a licence may be exploration or reconnaissance in the area. The application procedure is subject to

⁶¹⁸ “Workers Welfare Fund Ordinance, 1971, Status of Provincialization of Labor Laws after Devolution (2010) Worker Welfare Funds Act.”

⁶¹⁹ Employees Old-age Benefit Institutions (EOBI) Act, 2014

⁶²⁰ Muhammad Arif and Sohaib Qadar, “Energy Law in Pakistan,” published by Kluwer Law International, 2016.

restriction for RL.⁶²¹ The exploration license (EL) can be granted which carries exclusive rights to explore the area in respect of any mineral or mineral deposits. Where during the E.L a mining lease or mineral deposit retention license is granted, the EL shall cease to affect. The licensee under EL has specific obligations of OHSE, PPE, hazards warnings, and discovery notification during exploration after specific procedure of grant of license.⁶²² The Licensing Authority has the right to define and make OHSE zones and structures for mineral sites relates. The lessee must take environmental mitigation measures and prevent adverse impact during mining operations.⁶²³ The “Oil and Gas (Safety in Drilling and Production) Regulations, 1974” address a wide range of operational OHSE standards. These guidelines propose operational OHSE standards for PPE. A person appointed for compliance to provide weekly and daily details about mines oil and gas and OHSE. A checklist is provided for apparatus, machinery examination, and installation attached to Oil and gas. The OHSE and welfare officer are required at the exploration and production site.⁶²⁴

4.4.5 Coal-Mining

The coal mining in Sind and Baluchistan are administered through the Department of MMD created in 2001 in light of the NMP, 1995. It further established if lower offices as inspectorate and directorate. Its deals with agreement negotiation, operation, development, licensing and lease along-with other functions like joint ventures, power plants, extractions and project undertakings. The province of Sindh and Baluchistan has large quantities or deposits granite, coal and minerals. The department has established policies for judicious and transparent lease awards in the area as previously granted haphazardly. This will create employment opportunities and will produce granite for local utilization and export. The department is interested to initiate power projects through coal mining in Sindh due to its huge reserve after exploitation and assessment.⁶²⁵

4.4.6 Registration Of Coal Mines in Pakistan

The coal deposits of Pakistan are appraised at more than 185 billion tones. Four million tons of coal is extracted annually, having recurrent consumers in cement industry, brick kilns, and

⁶²¹ “*Niaz Ali v. Secretary, Government of Punjab, Industries and Mineral Development Department, Lahore* [1998 SCMR 506] (Mining Lease).”

⁶²² “Occupational Safety and Health: Legal Framework and Statistical Analysis” Industrial Labor Standards Unit, Ministry of Overseas Pakistani and Human Resource Development, 2017.

⁶²³ Qadar, Sohaib and Athar Rafique Dogar. *Petroleum Ownership and Petroleum Industry Contracts*. Islamabad, Pakistan: Advanced Legal Studies Institute, 2006.

⁶²⁴ Qadar, Sohaib. *Pakistan Upstream Petroleum Laws & Related Legislation A Guide For Multinational Companies – Status of Pakistan’s Regulatory Reforms and Privatization Program*. New York: Barrows Company.

⁶²⁵ “Environmental Policy, Regulatory and Institutional Framework in Pakistan by S. Ahmad, National Environmental Action Plan – Support Program (NEAP-SP), Ministry of Environment, Islamabad.”

domestic users. With five million tons imported from South Africa, Malaysia, and Australia for power generation. The country is rich in coal deposits with thousands of coalmines but only a few are registered. There are more than 2600 registered mines mostly owned by “Pakistan Mineral Development Corporation (PMDC) under the Ministry of Petroleum and Natural Resources (MPNR.” Mines are mostly leased out by private contractor which is the main criticism on the relevant authorities for fixing the liability. There no proper survey or any appropriate central registry or information in Baluchistan coalmines as hazardous concerning OHSE. These coal mines have been leased out to political dominant individuals who operate it through contractor, sub-contractor and supervisor for extraction and fragmented the liability. The “Pakistan Institute of Labour Education and Research” (PILER) claimed that minefields are leased as politically bribed by Baluchistan chieftains in several cases.⁶²⁶

4.4.7 Structure of Mineral Industry

NMP, 2005 offers an institutional and regulatory framework for insurance of worthy and competitive mineral fiscal regime. The reason behind the policy was to extend mining sector advancement and pull-in outside venture. The exploration, development and planning of the mineral industry are conducted by a mineral wing. The ministry is responsible for distribution, transmission and exploration of petroleum. The production and marketing of steel, copper, iron ore and chromite are controlled by state-owned companies while private companies deal in non-fuel minerals.⁶²⁷ Development of coal and mineral falls in the jurisdiction of provinces and the number of provincial agencies is working for the development and efficient utilization in the industry. “Directorate of Industries and Mineral Development” (DIMD) deals with minerals and coal at the provincial level. Coal is mostly used for power generation and through the facilitation of PPIB on behalf of the federal government. The public sector state-owned companies continue for a significant amount of mineral production.⁶²⁸

4.5 Protection of Mining Environment

4.5.1 Mines OHS and Environmental Regulation

PEPA is regulating the environmental law and policy at federal and provincial support from “United Nations Development Program (UNDP) and the World Bank.”⁶²⁹ The environmental contemplations are obligatory because clear, consistent and realistic environmental policies are

⁶²⁶ Muhammad Arif and Sohaib Qadar, “Energy Law in Pakistan,” published by Kluwer Law International, 2016.

⁶²⁷ Ibid, p-429

⁶²⁸ “Pakistan’s Thar Coal Power Generation Potential, July 2008 by Private Power and Infrastructure Board; Private Power and Infrastructure Board, Ministry of Water and Power, Government of Pakistan.”

⁶²⁹ “Environment become provincial subject after 18th amendment.”

needed in mining extractions. Environmental lessons aim at providing consistent data for up-gradation of policies and regulations. This includes sector or cross-sector environmental management plans, evaluation, monitoring of contaminating incidents, EIA, natural resources management, infrastructure development planning. Environmental control and management have different issues in regards to condition and concentrate generally on coal-mining. PEPA main concerns on mining are fluorite, asbestos, mercury emission and quarry near mines sites. The management and planning of mining are subject to assessments procedures of environmental laws.⁶³⁰

OHS is governed u/ss 17–22 of the Mines Act 1923 in the relevant sector. There are numerous other bills presented by KP province which needs approval for up-to-date legislations. The KP mineral 2014 policy discussed agendas for OHSE in mines. The rules provide to keep track of OHSE violations by officials, owners and mining lessees on a mining site. The fines for such violations can be levied by licensing authority during a routine inspection.⁶³¹ No mineral title can be conceded except if the application is joined by an EIA as far as the PEPA, 1997. The said application must distinguish the degree of any incompatible impact on the environment which the arrangement for improvement. The mining activity can create hazards on the environment, a relic in the area and to control or eliminate the effect. The lessees and licensees are under the Rules for taking care of reserved and protected forests during mining operations.⁶³²

4.5.2 Assessment Procedures

“Sector Environmental Assessments” (SEAs) are effective regional and sectoral planning instruments establishing basic knowledge based on an inclusive view of the environmental issues in the mining sector and setting priorities against risks to human health, and so forth. Sectoral Social Assessment (SSA) may be expedient in determining a better understanding of the social and the cultural perspective of mining activities in a given area.⁶³³ EIA are legal instruments for introducing environmental planning and control in PEPA and EIA rules of 2003 provide filing procedure of assessments of projects likely to cause adverse environmental effects of mining production or operations.⁶³⁴

⁶³⁰ Roet RJ and Choi JS (2004) Environmental Assessment of Mining Projects. Environment Department, *World Bank Note Number 22*: 36-39.

⁶³¹ “Environmental Policy, Regulatory and Institutional Framework in Pakistan by S. Ahmad, National Environmental Action Plan – Support Program (NEAP-SP), Ministry of Environment, Islamabad.”

⁶³² Qadar, Sohaib. *Pakistan Upstream Petroleum Laws & Related Legislation: A Guide for Multinational Companies*. New York: Barrows Company, 2000.

⁶³³ Siddiqui, Fahim Ahmad. *The Scope of Environmental Laws in Pakistan*. Karachi, Pakistan: Asia Law House, 2000.

⁶³⁴ “PEPA review of IEE and EIA Regulations 2000. Section 33 of Pakistan Environmental Protection Act 1997.”

There are “Environmental Audits” (EA) as a legal tool or authorities control or corporate management tool for ongoing mining operations. The audit set priorities, calculate compensation costs and assign responsibilities. The “Environmental Management Programme” (EMP) is familiarized in mining companies to make audits of their mining operation. Further, the aim of the management to report regularly and follow the regulatory standards within the timetable.⁶³⁵ There needs a practical set-up for management, monitoring and enforcement for the development of the mineral sector. The environmental compliance for mine closure and EIA shall ensure by the environmental unit. The unit is responsible for EA, enforcement, and mitigating the adverse impacts of a mining operation and to ensure OHSE.⁶³⁶

4.5.3 PEPA and Mines Extractions

“Pakistan Environmental Protection Act” (PEPA) issued “Sectoral Guidelines for Environmental Reports—mine, Oil and Gas Exploration and Production, 1997.” The said guidelines identified and explained issues involving exploration, production of mines and minerals requiring diverse assessment procedures. The guideline identified to guide the preparation and assessment of exploration, production proposals. “In 1996, Director General Petroleum Concession (DGPC) issued ‘DGPC Guidelines for Operational Safety, Health & Environmental Management (Petroleum Exploration & Production Sector), 1996.’ The guidelines include OHS, environmental issues during extraction, production or drilling in the mining sector with “good minefield practices.”⁶³⁷

4.6 OHSE Protection and Consultation

4.6.1 Mines Preventive and Protective Measures

The Provincial Directorates of Workers Education arrange training on OHSE issues. The NILAT and CIWCE conduct training for workers, trade unions and employers in Sindh and Punjab respectively. The Punjab Labour Department held tripartite consultations with OHSE council and CIWCE to take measures concerning OHSE hazards at the workplace. The mines inspectorate conducts training for mineworkers and managers and supervisors are instructed and aware of OHSE hazards during mining inspection. There are workshops conducted for mine rescue, recovery, first aid, OHSE and blasting techniques etc. Mines inspectors validate the OHSE

⁶³⁵ Munir, Muhammad. *The Polluter Pays Principle in International Environmental Policy and Law: Economic and Legal Analysis*. Islamabad, Pakistan: Islamabad Institute of Legal Studies, 2004.

⁶³⁶ Siddiqui, Fahim Ahmad. *The Scope of Environmental Laws in Pakistan*. Karachi, Pakistan: Asia Law House, 2000.

⁶³⁷ Qadar, Sohaib & Athar Rafique Dogar. *Pakistan's Environmental Laws and Their Compliance*. Lahore, Pakistan: Lahore Law Times Publications, 2003.

compliance of mine-owner. Various regulations establish standards for the construction and design of a surface and underground mines.⁶³⁸ There are concession rules for a license holder to take appropriate steps for protection of environment and mineworkers' OHS during exploration and production.⁶³⁹ The rules provide that employer/lessee is responsible to remove defects within a period to provide a safer working condition. The authority can stop mineral extraction in case of OHSE failure until shortcomings are overcome. Besides the authority can forfeit the lessee money if he is unable to remove the defect within notice time from stoppage of mines work.⁶⁴⁰

The employer is responsible to provide PPE to the mineworkers.⁶⁴¹ Workers, and other stakeholder need to be withdrawn from unsafe and risky workplace where roads are insecure. The access is required to be blocked except saving of life and further need fencing of all entrances.⁶⁴² There are various other regulations which focus on the use of PPE and rescue operations.⁶⁴³ The coal regulation in Sindh provides use of equipment and machinery, maintenance and design.⁶⁴⁴ KPK government is interested to conduct a detailed survey concerning OHSE in the mining sites for the first time.⁶⁴⁵

4.6.2 Dilemma of Effectiveness

The effectiveness based on regulations and domestic laws, labour market and well-drafted and inclusive for OHSE at work. The desired outcomes cannot be achieved through broad legal foundations but required effective enforcement by appropriate resources. The pre-condition for legal foundations are resources and higher provisions. The comprehensive legal bases are required to stop the abuses against the mineworkers. There is a need for efficient and adequate implementation with appropriate regulations and legislation is needed for mineworkers OHSE. The foundation of justice and social order is effective legislation. There required an appropriate and adequate system of inspection for enforcement of OHSE standards. Though, there are numerous laws and enforcing institutions for OHSE which regulate leave, working schedule having a direct bearing on accident and injuries. Collective bargaining, employers' organization and trade unions providing a mechanism for working conditions negotiations between parties.

⁶³⁸ "Mines Act 1923, Coal Mines Regulation 1926, Metalliferous Mines Regulation 1926 and Consolidated Mine Rules 1952."

⁶³⁹ Rule 227 of Mining Concession Rules.

⁶⁴⁰ "Coal Mines Regulation 1926, Metalliferous Mines Regulation 1926 and Consolidated Mine Rules 1952."

⁶⁴¹ The Coal Mine Regulations, 1926 under section 136-A

⁶⁴² Section 45 of the Metalliferous Mines Regulations, 1926

⁶⁴³ "Sindh Coal and Metalliferous Mines Regulation-1986 (Chapter VIII) also has provision on use of PPE. Consolidated Mines Rules 1952 and Punjab Coal Mines Rescue Rules 1988."

⁶⁴⁴ Sindh Coal and Metalliferous Mines Regulation-1986 (Part-IV)

⁶⁴⁵ Section 136-A, Coal Mine Regulations 1926 and Section 45 of Metalliferous Mines Regulations, 1926.

The ILO C-81 provides a system of labour inspection concerning mineworkers' protection and working conditions through concerned mines inspectors. The strong labour administration encourages foreign direct investment for a stable economy. Labour administration required to respect OHSE standards and rules and legal compliance. The labour inspector ensures standard compliance and imposes fines on mining companies while assist, educate enterprise to meet obligations.⁶⁴⁶

The Provincial Labour directorates are responsible for legal enforcement concerning OHSE issues under the Mines Act, PEPA and "Hazardous Substances Rules, 2003" ensure compliance for safe working conditions at mines areas.⁶⁴⁷ The Department of Labour and Mines established the inspection machinery. The Labour inspection was given to provinces under labour laws before devolution for inspection of mines. The provincial governments are accountable for implementation of regulation and laws in mining sector while it is enforced in the petroleum sector by the federal government under MPNR.⁶⁴⁸ The penalties are meagre and have no deterrence for violations of OHSE standards. Though, provinces are interested to enhance penalties after devolution. There are shortages of inspectors to many workplaces to inspection. A study reveals that for 25,000 employed workers, there is one labour inspector which does not correspond with the commercial and industrial unit.⁶⁴⁹ The dual disadvantage is the number and capacities of inspectors are limited and there need for capacity building and training of inspectors.⁶⁵⁰ The C-81 prescribed the labor inspection and involvement of private sector for the effective and reformed labour inspection system. The inspection services are limited to formal mining and need to extend the informal mining sector. There need to publish a combine annual report on an inspection with the data provided by provinces. The provincial inspectorate needs to enforce legal standards wages, OHSE, child labour and social security related to working conditions.⁶⁵¹

Mines labour inspection is different from other inspections from electric, boiler and tehsil inspectors etc. The workers and employers are ignored in labor inspection and their investigation or evaluation of hazardous and toxic mines. Inspector must serve notice to visit work

⁶⁴⁶ "Labor Inspection Convention, 1947 (No. 81) 128 Priority Convention; up-to-date instrument, Protocol of 1995 to the Labor Inspection Convention, 1947 (P. 81) 10 Related to a priority Convention; up-todate, instrument."

⁶⁴⁷ Section 11, 12, 13 of PEPA and Hazardous Substance Rules, 2003

⁶⁴⁸ The Provincial Directorates of Labor Welfare implement Mines Act, 1923, PEPA-1997 and Hazardous Substances Rules, 2003.

⁶⁴⁹ Decent Work Country Profile for Pakistan: 2014.

⁶⁵⁰ "Punjab and Sindh have at least institutions for training purposes, i.e., Saeed Awan Centre for Improvement of Working Condition & Environment and National Institute of Labour Administration and Training as well as an OSH Centre respectively."

⁶⁵¹ "In line with provisions of Convention 81) (benefits guaranteed under laws as well as types of contracts."

environment, while C-81 stipulates “enter freely and without previous notice any workplace liable to inspection.” There required amendment in the procedure of inspection as C-81. There need consultation on policy and practices through information sharing and involvement of social partners. C-81 and its recommendations required the proper procedure to promote “a collaboration between officials of labour inspectorate and employers and workers or their organizations.”⁶⁵² The policies recommended downsizing the enforcement mechanism instead of invigorating the inspection structure. The labour inspection was banned by the government in mining accidents but provincial governments revive it as they were quite independent before devolution. The inspection ban was a clear violation of C-81 with relevant recommendations and labour rights. There is a need for policies of “competitiveness raising and investment-friendly” and should not scrap the law enforcement institutions. OPHRD a federal ministry worked on the rebuilding and renewal of work examination framework in the country. The following initiatives are considered as reforms:

“Firstly, registration and risk assessment (requiring compulsory registration and focusing on “at-risk” enterprises through various risk assessment techniques). Secondly, integrated inspection (‘one enterprise one inspector’ with one general inspector undertaking inspection in all work areas). Thirdly, Self-inspection and self-reporting (on completion of registration and risk assessment, self-inspection and self-reporting can be piloted in “low-risk” enterprises). Fourthly, Systems inspection (instead of focusing on minor details, the proposed approach focuses on the systems the enterprise has in place to prevent accidents, protect workers, and improve working conditions). Fifthly, labour extension (providing advisory services to assist informal sector enterprises to improve their working conditions and the working environment-emphasis are on information and advice. Of particular importance is the issue of OHSE for these workers). Sixthly, private sector involvement (engaging the private sector through granting of licenses to duly accredited companies and individuals for performing specific inspection tasks, working under the authority of the Labour Inspectorate. Finally, the involvement of employer and labour representatives in district level tripartite committees.”⁶⁵³

The bonded labour is another issue in the mining areas and there is specific legislation;

“No provisions concerning the institution of labour inspection however office of District Magistrate or DCO was authorized to ensure that provisions of this Act are implemented. Vigilance Committees, established under the Act, were also required to keep an eye on the working of law (Section 9 & 15). The KPK

⁶⁵² Saleem Mian, Nisar A. *The Labour Code 2009*. Lahore, Pakistan: Mansoor Book House, 2009.

⁶⁵³ “Occupational Safety and Health: Legal Framework and Statistical Analysis” Industrial Labor Standards Unit, Ministry of Overseas Pakistani and Human Resource Development (OPHRD), 2017.

Bonded Labour System (Abolition) Act, 2015, however, creates the institution of labour inspector under the Act (Sections 11-17)".⁶⁵⁴

4.6.3 Consultation and Cooperation

The provincial and federal tripartite committee consultations have been held on draft OHS law. Punjab establishes and notified OHS council for advice on legal and policy matter to the government concerning mineworkers OHSE issues. Tripartite Mining Board was established to discuss mineworkers OHSE issues with employer and workers representation. The draft regulation under "Mines Act" referred to the mines board for expert appraisal.⁶⁵⁵ The works council in the industrial relations provides discussion and participation on OHSE issues between miners and administration at the enterprise level. The council is established when there are more than fifty mineworkers for securing better relations among workers and employer at the enterprise level. An understanding level between workers and employer is required through bilateral negotiation to settle a dispute. It will promote OHSE, job satisfaction and employment security. The measures related to pleasant working conditions are required like workers children education and vocational training. Further, there need better management for labour is required.⁶⁵⁶

The issues of OHSE can be resolved through collective bargaining agreement and its settlement of issues under the relevant legislation of industries. The OHSE have been included in collective bargaining negotiations that parties are at liberty to raise demands. Such OHSE issues are ignored due to a lack of awareness. The OHSE issues were not taking up in bargaining agreements and interest are mostly in monetary provisions.

"The collective bargaining agent is entitled to: undertake collective bargaining with the employer or employers on matters connected with employment, non-employment, the terms of employment or the conditions of work other than matters which relate to the enforcement of any right guaranteed or secured to it or any workmen by or under any law, other than the Act, or any award or settlement."⁶⁵⁷

⁶⁵⁴ "The Bonded Labor System (Abolition) Act, 1992, The Khyber Pakhtunkhwa Bonded Labor System (Abolition) Act, 2015 however creates the institution of labor inspector under the Act (Sections 11-17)."

⁶⁵⁵ 10 & 31 of the Mines Act, 1923.

⁶⁵⁶ "S-26 of Industrial Relations Act, 2012; §40 of the Baluchistan Industrial Relations Act, 2010; §36 of Khyber Pakhtunkhwa Industrial Relations Act, 2010; §29 of Punjab Industrial Relations Act, 2010; §29 of Sindh Industrial Relations Act, 2013."

⁶⁵⁷ "Study of 70 Collective Agreements in Pakistan (still in development stage and being done by ILS Unit.)"

Conclusion

The mining sector in Pakistan has to streamline the regulatory framework by restructuring and adapting the provincial government to overcome the OHSE issues. There is a need to revamp the mines extraction and explorations and enforcement of OHSE standards. The mining sector requires performing responsibilities to attract foreign investment and ensure workers OHSE at the workplace. The present legal framework in the mining sector does not protect a huge percentage of mineworkers. There are numerous work-related accidents and disease in mines. There is a dire need of legal compliance with suitable inspection and reporting system and registration of miners with social security institution like UK and USA. There are numerous miseries of mineworkers like violations of their basic labour rights, social security, PPE and OHSE. The human rights activists support the inclusion of the environment in the mining sector. The proponents were disappointing that energy resources will impact their rights of natural resources like water, health and safety. Few countries were sworn to strip carbon contents and associate it with human rights particularly the labour involved in mining.

CHAPTER # 05

OHES CHALLENGES IN PAKISTAN'S MINING SECTOR

“When the workers themselves take charge of the coal mines through their unions, they will, first of all, make coal mining as safe an occupation as hoeing in the garden. It can be done, and there is no reason why it should not be done.” (Chicago Miners, 1920)

Introduction

Pakistan ranked as the top sixth state in terms of minerals resources while ranked fourth concerning OHSE diseases and accidents. The mine's workforce suffers most due to conventional mining techniques and lack of modern technology resulted in catastrophic accidents. The victims' mineworkers or their dependents are scarcely compensated concerning OHSE issues. The OHSE legal enforcement is better in developed states as compare to developing like Pakistan. It is evident from the records that many fatalities in developing states are three-time higher than developed states. A huge number of miners lost their lives in mining accidents due to lack of technology, unlawful mining and various other issues as per ILO report. The OHSE laws must be seriously enforced to avoid accidents as these are seldom actualized due to globalization and competition in the mining industry. The policy of public sector industrial unit's privatization must be abolished and tripartite labour conference is required in all provinces to protect the miners' rights.⁶⁵⁸

The miners' wages or other benefits are generously awarded or compensate in developed states like the USA and UK. These states use modern technologies, skilled labour for operations reduces the risks of mining accidents and guarantees miners OHSE. A safe workplace is the basic right of every worker as the working conditions are not friendly at a global level. The reports of ILO reveals that an estimated, 125 million labourers become casualties of work-related accidents and diseases out of whom around 220,000 workers die and around 10 million are incapacitated. The OHSE standards and their enforcement are compromised in developing states as workers are living and working in a crumbling environment to deal with issues like war and destitution. The administration lacks to fix modern technologies and to introduce residue and gas control devices or adhere to OHSE standards to reduce the threat of mine accidents and ailments.

⁶⁵⁸ “Cancelling Ownership Of Mines That Ignore Safety Standards Proposed”, “The Newspaper's Staff Reporter May 24, 2018, *The writer is a researcher in the development sector. Published in Dawn, June 4th, 2017*

5.1 Safety and Health Disquits

The mineworkers acquired various health issues like stress, asthma, allergies and numerous other occupational diseases. The miner suffers from cancer due to radioactive materials and hazardous chemicals. The presence of hazardous substances like mineral oil, asphalt, bitumen and mishandling of machinery pose risk to human health in mines.⁶⁵⁹ The new technologies have to increase land degradation, health and environmental issues in the mining sector. Pakistan has ranked the fourth-worst state of miners as per the “the Global Index Rights, 2016.” The “Labour Watch” report shows that more than 800 mineworkers’ lose their lives every year and numbers of disability cases are even more. The Supreme Court ordered to enforce OHSE standards with the increase in lung diseases and silica.⁶⁶⁰ People working in stone masonry, rock drilling, mining and sandblasting across the globe are the affectees of this lethal silicosis lung disease. Developed states like the UK, US and EU have controlled such diseases while workers in developing states are victims due to weak enforcement of OHSE standards. 601 asbestos workers lost their lives due to lung cancer from 1995-2003 in KP. There are 125 million people affected while 90,000 lose their lives as per WHO due to weak OHSE enforcement.⁶⁶¹ The issue of respiratory diseases and pneumoconiosis, fibrosis, coughing, inhalation and inflammation were found in four hundred miners’ medical examination in Cherat.⁶⁶² The benefits and may need to be given to miners after accidents after inquiry or investigation of relevant authorities.⁶⁶³ Such data need to be compared with developed state practices like USA and UK. There is no record of the miners’ harm and disabilities in hospitals. The database sorted out that poor miners are inclined to go to government hospitals for free medical treatment and there are no specific medical units for mines victims. The injury risk and ratio is higher as compared to production as inappropriate OHSE mechanism and PPE.⁶⁶⁴

⁶⁵⁹ Muhammad Ishtiaq, “Health Hazards Among Coal Miners: An Environmental Epidemiological Study in Cherat Coalmines Nowshera Khyber Pakhtunkhwa,” Department of Environmental Sciences, University of Peshawar.

⁶⁶⁰ Workers, Activists Demand Ban on Use of Asbestos, The Newspaper’s Staff Reporter, January 09, 2018, *Published in Dawn, January 9th, 2018*

⁶⁶¹ Combating Silicosis, By Zeenat Hisam | 10/16/2016 12:00:00 AM, The writer is a researcher in the development sector.

⁶⁶² Department of Community Medicine, Pak International Medical College in Peshawar, during 2013 examined 400 miners in Cherat in Nowshera.

⁶⁶³ “Mines proprietors, Commissioner of Labors Welfare Compensation Board, Mines and Mineral Department, President of Labor Union, NGOs and other government authorities.”

⁶⁶⁴ Mamuya, S. H., Bråtveit, M., Mashalla, Y., and Moen, B. E. (2007). High prevalence of respiratory symptoms among workers in the development section of a manually operated coal mine in a developing country: A cross sectional study. *BMC Public Health*, 7(1), 17.

5.1.1 Occupational Health Impacts of Mining

The major concerns of OHSE in mines are presence toxic gases, poor ventilation, unfavourable temperature and uneven roofs which badly affects miners' health. There are three types of dust particles produced in mines; inhalable, thoracic and respirable. Inhalable dust particles enter mouth and nose while thoracic dust particles enter into the lungs as they are tiny and respirable dust particles enter into the gas exchange region in the lungs causing respiratory diseases.⁶⁶⁵ In Pakistan, many precious lives of miners are lost because of using old techniques and lack of implementation of OHSE standards. Many miners lose their lives or get injured due to mines roof collapse shows administration lacking for which government has to compensate the families. Such mines collapse is the main cause of environmental degradation. A report of WHO says that dust is solid particles which range in size from 1 micron to around 100 microns.⁶⁶⁶

5.1.2 Miners Life Quality

Miners in Pakistan are illiterate poor class people who work 12-18 hrs. daily to earn bread for their families. The predictive factors are marital status, recreational activities, work danger welfare and workplace satisfaction. They are between 15-45 years and are divided into different categories like helpers, transporters, loaders and drillers while non-dust workers include technicians and maintenance workers. These people work day and night just to earn small wages for their families. They are unaware of their rights and risks involved and continue to work and in case if they sustain any injury or dies they take it as their fate.⁶⁶⁷

5.1.3 Mines Waste and Water Contamination

Water is a valuable resource in the Thar Desert which is contaminated with toxins and waste materials from mining which is a crime against Tharparker people. The hydrostatic pressure required to be removing for safe mining. Water is contaminated in that area due to mining and caused technical conflict which may lead to closing down of power project.⁶⁶⁸ Waste products and coal slurry contaminate nearby sources of drinking water. There are higher concentrations of suspended and dissolved solid particles in Pakistan mines fields as compared to WHO recommendations. Presence of these particles makes drinking water unfit for drinking, causing it

⁶⁶⁵ James S and Lagerkvitz A (2005) Health and safety liabilities charges in Australia. *Australian journal of health sciences*. Vol. 3(9): 59-67.

⁶⁶⁶(Burrows, J, 1992), 2. (WHO Geneva 1999 WHO/SDE/OEH/99.14, dust report-executive summary)

⁶⁶⁷ Santo Tomas, L. H. (2011), "Emphysema and chronic obstructive pulmonary disease in coal miners" *Current opinion in pulmonary medicine*, 17(2), 123-125.

⁶⁶⁸Thar Coal Gasification Project, From the Newspaper, August 23, 2011, Zahoor Abbasi San Diego, California.

acidic and disease-causing such as cholera, ulcer, muscular pain, fatigue, nausea, diarrhoea and chest pain.⁶⁶⁹

5.1.4 Health and Medicare Evasion of Owner

Labours are entitled to receive an allowance for medical expenditure in addition to their wages in case if they get any occupational disease provided by inspectors. In Balochistan, mines are dangerous and can collapse anytime which require a speedy evacuation of miners but because of lack of proper roads, this process takes a lot of time. Additionally, miners are not provided with proper tools to gauge gas pressure and other toxic substances present in mines. Miners sustain injuries such as dislocations and fractures during extraction. Though, free medical facilities are offered in government hospitals and dispensaries of poor quality with no insurance or social security. No proper mechanism is there to eradicate all these issues and to educate all stakeholders regarding mines OHSE to make it risks free.⁶⁷⁰

5.1.5 Mines Noise Impact

The mining sector is the biggest source of noise pollution because of using heavy equipment and procedures like drilling, transportation, sizing and segregation units and handling of open-cut mining. Because of the above factors and lack of using mufflers or earplugs miners face impaired hearing, deafness and permanent hearing loss. The reason for such noise pollution is the use of old equipment that produce loud noises which result in difficulty in talking, sleeplessness, unpleasant feeling, muscular pain and itching.⁶⁷¹

5.1.6 Fatigue

Fatigue is caused because of working overtime which proves drastic for mineworkers. Fatigue results in many mental, physical and psychological problems and badly affect the decision making of mineworkers who can risks the lives of other workers also if a wrong decision is taken during an emergency. Overtime should be discouraged and steps should be taken to avoid fatigue causing errors with training and awareness.⁶⁷²

⁶⁶⁹ Onder, M., and Onder, S. (2009). Evaluation of occupational exposures to respirable dust in underground coal mines. *Industrial health*, 47(1), 43-49.

⁶⁷⁰ Coalminers: The Ground Realities, Zeenat Hisam, July 28, 2014, "*The writer is associated with the Pakistan Institute of Labour Education and Research.*" Published in Dawn, July 28th, 2014.

⁶⁷¹ Muhammad Ishtiaq, "Health Hazards Among Coal Miners: An Environmental Epidemiological Study in Cherat Coalmines Nowshera Khyber Pakhtunkhwa," Department of Environmental Sciences, University of Peshawar.

⁶⁷² "For more information, see ILO: *Technical and ethical guidelines for workers health surveillance*, Occupational Safety and Health Series, No. 72 (Geneva, 1999)."

“Fatigue is a state of impaired physical and mental performance and lowered alertness arising as a result of inadequate restorative sleep. Other mediators of fatigue are a time of day and length of time awake.”⁶⁷³

5.1.7 Exposure to Noxious Gases and PPE

There is a single airway for miners’ ventilation and accumulation of methane gas and mudslide endanger mineworkers’ life. Methane gas is a highly inflammable and poisonous gas which leaks during coal mining often leading to explosions. Though modern technologies have helped to reduce the risks in mines but still prone to danger. There are various types of gases and carbon contents in mines which reacts with air and cause fire explosion and suffocation which causes miners death. According to medical reports at the time of induction and up to 24 years of age, miners experience symptoms of dizziness, headaches, drowsiness, nausea, unconsciousness, vomiting, tissue damage and shortness of breath. Additionally, some major health issues such as damage to heart, respiratory tract, liver, muscles and kidneys have been detected in mineworkers. Studies show that after recovery from CO exposure, within 2 to 4 weeks of exposure patients acquire neurological issues such as autism, apathy, amnesia, headache, irritability, personality changes, urinary incontinence, confusion, visual changes and memory loss.⁶⁷⁴ These accidents and worst working conditions affect the the central nervous system of miners and they suffer from imbalanced emotional state and hallucination. Furthermore,, inhalation of dust particles by workers results in health issues such as infection in airways, throat, irritation in eyes, throat and nose, lungs infection and impairment, chest pain, coughing, wheezing and shortness of breath. Neither the government nor the mine owners have done anything to reduce such accidents and casualties. Such accidents occurred due to lack of PPE and OHSE enforcement ignites risk to a great level.⁶⁷⁵ The use of IT for miners and globalisation, use of improved safety procedures in the mining sector and sophisticated tools has increased OHSE. The cases of causalities in this sector are not recorded but this needs to be done to reduce the death toll of mineworkers. In 2016 Economic Survey the government declared that “this is due to the application of outdated management techniques, inadequate capital and antique technical know-how” The loss of

⁶⁷³ Muhammad Ishtiaq, “Health Hazards Among Coal Miners: An Environmental Epidemiological Study in Cherat Coalmines Nowshera Khyber Pakhtunkhwa,” Department of Environmental Sciences, University of Peshawar.

⁶⁷⁴ Kurmis, A., and Apps, S. (2007). Occupationally-acquired noise-induced hearing loss: a senseless workplace hazard. *International journal of occupational medicine and environmental health*, 20(2), 127-136

⁶⁷⁵ “No Miner Is Brought Out from A Mine After His Death There” Shazia Hasan, November 12, 2017, *Published in Dawn, November 12th, 2017*.

casualties of the mineworkers has not been documented and registered yet and it needs to be contemplated.⁶⁷⁶

5.1.8 Dust Exposure

Many health issues such as lung impairment, respiratory diseases, tuberculosis, skin and heart diseases, nose, eye and throat diseases are caused as a result of an accumulation of different gases, inhalation of dust particles and poor ventilation in mines. Unsatisfactory performance of governmental authorities, Mines and Mineral Department and EPA have led to the accumulation of dust particles in mines. The need of the hour is to spread awareness in workers and mines owners to reduce the ratio of accidents.⁶⁷⁷

5.2 Environmental Degradation During Mining

Mining destroys ecosystems, extinction of distinguished species and contamination of natural resources due to lack of inefficient mining legal regime. The mines lack suitable ventilation system and oxygen up to breathable level. The NIOSH and MSHA⁶⁷⁸ prescribed permissible exposure limit (PEL) for mining hazards. Pakistan has exceeded the PEL of wastes depicts mining sector failure as per MHSA. The dumping caused water contamination resulted in the degradation of forests, wildlife and water species. Coal-mining pose danger to those people who live near mining vicinity as mining extraction produces toxic gases and fumes results in respiratory issues. (as discussed in Chapter 4, heading 4.5) The mines acidic water conveys suspended particles and saturate or contaminate the underground water supply. This situation drains water from the shallow aquifer and lower water level or contaminate within aquifer below mining operation.⁶⁷⁹ The acidic water, coalmine slurry and waste product dumping in nearby agricultural land make them unfit for farming. Further, the acidic water seeps into nearby springs, lakes or reservoirs make them unfit for drinking. Drilling, coal handling plants and blasting cause noise pollution and affect the mineworkers' workplace environment. The release of suspended dust particles and toxic

⁶⁷⁶ Lashgari, A., and Kecojevic, V. (2015). Comparative analysis of dust emission of digging and loading equipment in surface coal mining. *International Journal of Mining, Reclamation and Environment*, (ahead-of-print), 1-16

⁶⁷⁷ Cowie, R. L., Murray, J., and Becklake, M. R. (2010). Pneumoconioses and other mineral dust-related diseases. *Murray and Nadel's Textbook of Respiratory Medicine*. 5th ed. Philadelphia, Pa: Saunders Elsevier, 1554-1586

⁶⁷⁸ Anderson J and McLaren K (2006) How environment changes due to coal mining. *American journal of occupational safety and health* Vol. 5(9): 12-23.

⁶⁷⁹ Antao VC and Petsonk EL (2005) Rapidly progressive coal workers' pneumoconiosis in the United States: Geographic clustering and other factors. *Occup. Environ. Med.* 62(10): 670-74.

gases rise in global temperature, OHSE hazards for miners causing various diseases like bronchitis and asthma.⁶⁸⁰

The mining extraction is less in Pakistan while environmental degradation is higher in the mining sector. The conventional mining techniques and ventilation lacking resulted in suffocation and causing miners death. Numerous remedial measures are adopted for a decrease of methane concentration, carbon fixation decrease, oxygen intrusion gadgets and diminish the gases convergence. The miners' death ratio is higher in Pakistan as compared to China and the USA as both have extensive coal mining. Such high death ratio of mineworkers needs immediate legal consideration. The use of explosives and old drilling techniques emits noxious carbon contents. The suppression methods are required to reduce risks of carbon monoxide accumulation due to lack of ventilation inside mines.⁶⁸¹

The wildlife, vegetation and forests were cleared for mining purposes. This shows the lack of enforcement of environmental law principles and irresponsible behaviour to leave agricultural land barren and desolate. Due to mining, illegal hunting increased while wildlife decreased. Numerous species depend upon forest for their breeding, camouflage and food and deforestation caused the extinction of these species.⁶⁸²

5.2.1 Environmental Incentives in Mines

Legislation cannot compel polluters to reduce the emission of toxic gases but offering incentives to polluters in the mining sector. Government is striving to provide such incentives such as carbon trading and pollution charge and mandated legal compliance and control of toxic substances. There are pollution charges used as incentives for control of emissions in the mining sector. The NEQS violations would be liable to pay pollution charges. These charges are then used for environmental protection projects under PEPA.⁶⁸³ The carbon emission trading is an incentive for environmental pollution control for social and economic behaviour of all stakeholders. Pakistan is taking part in carbon trading after the ratification of the Kyoto Protocol. Those states who are signatories of this protocol can take part in this carbon trading which is called clean development mechanism.⁶⁸⁴ The PPP is applicable in Pakistan for the compensation of environmental losses

⁶⁸⁰ Ditya H and Jang M (2004) How Environment is Degraded Due to Coal Mining. *Journal of occupational and environmental sciences* Vol. 2(1): 19-23.

⁶⁸¹ Edward J and Colin MI (2008) Environmental disasters of coal. *International environmental journal*. Vol. 18: 23-56.

⁶⁸² Muhammad Ishtiaq, "Health Hazards Among Coal Miners: An Environmental Epidemiological Study in Cherat Coalmines Nowshera Khyber Pakhtunkhwa," Department of Environmental Sciences, University of Peshawar.

⁶⁸³ Sections 10 & 11 of PEPA, Industrial (Calculation and Collection) Rules, 2001

⁶⁸⁴ The Kyoto Protocol originated at the third COP to the "United Nations Convention on Climate Change" held in Kyoto, Japan in December 1997.

and damages by the liable party. There need to dig out solutions for emission causing environmental losses to reduce risk. The government is working to adopt incentives based regulation to facilitate industrial development for a friendly environment and cost-effectiveness.⁶⁸⁵ All mining companies need to document their environmental commitments and issue public environmental report. Their growth towards addressing environmental impacts including GHG emissions can be very beneficial towards environmental pollution from the mining sector.⁶⁸⁶

5.2.2 Environment Relations with Other Subjects

The environmental regulation in mines have various issues and relate to gaps in politics, human rights, business ethics, environmental morality, law and economics. There need several challenges and exist a complex mix with behavioural and social position. The harmful effect of business can be punished through the law but mostly happened after the accidents or injuries lacking efficient regulatory mechanism. Ethics and morality correct lawfully responsible notions and a function of educating and upbringing.⁶⁸⁷ The regulation will be critical against the environmental morality and greed will win if world mining behaviour concerning OHSE is to guide. Environmental and business morality and are a sub-category of morality leads towards mining adverse effects on the environment. The environmental morality is associated with mines OHSE and majority of people supporting this concept. Mining is a source of global trading and economic prosperity in developing but they seldom care for OHSE laws. Economic regulations have been disastrous for OHS and environment. The OHSE betterment needs free markets and developing states given preference to the economy over OHS and environment. The role of political elites in the mining sector is of significant nature which badly affects OHSE laws and concerns. Corporations involved in OHSE crimes have been discussed earlier.⁶⁸⁸

5.3 Labor Rights Concerns in Mines OHSE

The Mines Act, 1923 encompasses health and safety measures for all stakeholder but has not updated or amended as per complex OHSE issues and labour rights. The authorities'

⁶⁸⁵ "(Research Foundation for Science Technology and Natural Resources Policy v. Union of India and Another, WP 657/1995 (5 Jan. 2005) India 2– M.C. Mehta v. Union of India, WP 3727/1985 (19 Dec. 1996) (Tanneries case: Calcutta)."

⁶⁸⁶ Muhammad Ishtiaq, "Health Hazards Among Coal Miners: An Environmental Epidemiological Study in Cherat Coalmines Nowshera Khyber Pakhtunkhwa," Department of Environmental Sciences, University of Peshawar.

⁶⁸⁷ Kalin JH and Wolter RB (2005) Science of the Total Environment. Self-Management Plans in the Primary Care of Patients with COPD. Vol. 3(4): 35-40.

⁶⁸⁸ Syed Ahmed Hassan, "Health, Safety and Environmental Practices in the Construction Sector of Pakistan," S.A., 2012, at Department of Earth Sciences, Villavagen 16, SE - 752 36 Uppsala Sweden, No. 85, 47 pp, 30 ECTS/h

inefficiency, weak OHSE enforcements, the political involvement of mine-owners are major hurdles for new legislations. All stakeholders' trade unions, public and private spheres and above all government should take proactive steps to make this area safe. New laws should be introduced to cope with the present-day needs to replace outdated laws like mines and factories relate legislations. Further, the mines OHSE standards or legislations are not according to international standards. These laws have weak enforcement mechanisms due to their outdated standards.⁶⁸⁹

After the 18th amendment, the federal government has the authority to legislate for labour rights required political will and broader legislative framework. Under the 18th amendment, legislative powers for mining is devolved to provinces for which provinces needs a strong political will.⁶⁹⁰ ILO backing Sind Government inspection capacity could be a model for other provinces. Mineworkers in the informal sector are not protected in the proposed bills and need to discourage the delay in OHSE enforcement. There is a dire need for new mines OHSE legislation and determine the employers, owners and mineworkers obligations. Old legislations have failed to cope with the present needs of the mining industry and international standards. The policy document of industrial development barely cover the labor within NMP, 2013 claims to improve mines OHSE. The objective (No. XI) in The Freudian slip, States: "Ensuring safe mining operations and safety and security of investors."⁶⁹¹

5.3.1 Pakistan and ILO Conventions

Ratification of OHS Convention is presently low but for C-155 it may increase with time. C-155 and 176, in particular, are vital tools which are updated instruments containing a framework for national OHSE in mining industry. Many states use the CoP for legislation purposes and guidance. There is a gap for addressing existing issues at workplaces and needs to be covered for maintaining OHSE standards.⁶⁹² ILO guidelines and CoP needs focus and efficient action for an effective OHSE system. The ILO service concerning mines OHSE include capacity building, information dissemination, technical cooperation and transmission of values and expertise.⁶⁹³

⁶⁸⁹ "The Consolidated Mining Rules 1952, Oil & Gas (Safety in Drilling and Production) Rules 1974, Factories Act of 1934, the Factories Rules 1975, Dock Laborers Act 1934, Punjab and Sindh Factories Rules 1978, Coal Mines Regulations 1926 (NWFP), the Hazardous Occupational Rules 1978, the Explosives Act 1884, the Boilers Act 1923 and Boilers & Pressure Vessels Act 2002."

⁶⁹⁰ Combating Silicosis, By Zeenat Hisam | 10/16/2016 12:00:00 AM, The writer is a researcher in the development sector.

⁶⁹¹ Occupational Safety, Rukhsana Shah, October 15, 2018, *The writer is a former federal secretary. Published in Dawn, October 15th, 2018.*

⁶⁹² *Occupational health practice* is a broad concept, and includes *occupational health services*, which are defined in Article 1(a) of the Occupational Health Services Convention, 1985 (No. 161).

⁶⁹³ A. Fedotov, Marianne Saux and Jorma Rantanen (eds.): *Occupational health services in Encyclopedia of occupational health and safety*, op. cit., Vol. I, pp. 16.1-62.

There need of OHSE capacity building from ILO centre for improvements of OHSE in the mining sector.⁶⁹⁴

ILO's C-176 and the 2006 "ILO Code on Safety and Health in Underground Coal Mines" are not ratified by Pakistan which provides guidelines and general principles regarding mine operations and keeping record and documentation of accidents. ILS is standards provided by ILO and adopted C-176 to improve working in mines OHSE. Article 4 of C176 provides self-rescue respiratory devices, first aid with medical facilities and maintenance of regulations. Pakistan can bring changes in its regulatory system and existing laws do not cover miners OHSE following the model of conventions for miners OHSE.⁶⁹⁵

5.3.2 Bonded and Child Labour Problem

According to a report of ILO, there are an estimated 3.6 million child labourers in Pakistan. The reason for such a huge number of child labourers is unemployment, poverty and inadequate enforcement of laws. Child labour and abuse are common in Pakistan especially in the mines of Shahrug Balochistan.⁶⁹⁶ The number of child labourers is great and cases of child abuse have also been reported in these mines. The absence of OHSE measures and politics results in human rights violations. Most of the labourers working in a mine in Baluchistan and Khyber Pakhtunkhwa mines most of the labourers come from Afghanistan and Shangla because of unemployment. Often mine-owners give them loans which are then paid by the labourers from their salary and until payment of complete loan they cannot quit their job (dawn).⁶⁹⁷ Mines in Balochistan are the most dangerous mines which are 2,500 in number with over 20,000 strong labour. These workers for a small wages work in risky conditions without required OHSE measures and often suffer from respiratory illness, bonded debt because of negligent owners who do not invest in training and infrastructure, contractors who force workers to work overtime, lack of strong unionization

⁶⁹⁴ "This chapter is based mainly on the Occupational Safety and Health Recommendation, 1981 (No. 164), the Occupational Health Services Convention (No. 161), and Recommendation (No. 171), 1985, the Safety and Health in Construction Convention (No. 167), and Recommendation (No. 175), 1988, the Safety and Health in Mines Recommendation, 1995 (No. 183), and PIACT (op. cit.)."

⁶⁹⁵ Occupational Safety, Rukhsana Shah, October 15, 2018, The writer is former federal secretary, Published in Dawn, October 15th, 2018.

⁶⁹⁶ Promoting the Elimination of Bonded Labor in Pakistan (PEBLIP), ILO, accessed on 15th November, 2019, https://www.ilo.org/islamabad/whatwedo/projects/WCMS_125694/lang--en/index.htm

⁶⁹⁷ Vicimization Of Mine Workers Continues, Say Speakers, September 28, 2004, Islamabad, Sept 27: Dangerous working environment and occupational health hazards pose threat to the lives of mine workers who are still facing victimization.

and OHSE measures enforcement. Owners who violate laws often escape prosecution even if documented evidence is there under the Mines Act, 1923.⁶⁹⁸

5.3.3 Problem of Labour Rights and Miners Abuses: Risk and Rights

Mining is one of the risky jobs and the picture is very bleak concerning mines OHSE issues because of the incapability of relevant authority. The human rights activists and researchers highlighted the accidents in the mining sector and other industries shows violations of labour and OHSE laws, safety standards.⁶⁹⁹ The rising cases of silicosis were brought before Lahore High Court in Gujranwala mines excavation while suo-moto action was taken by Supreme Court in 2014. Things changed in this area after the Court directed relevant authorities and officials in provinces to analyse the situation and identify causes, remedial courses and revised legislation to reduce OHSE related violations.⁷⁰⁰

5.3.4 Kidnapping

Certain mineworkers are an easy target for kidnapping for ransom and some political reasons in Balochistan. Many mineworkers are killed by violent attacks. In January 2015, unknown robbers kidnapped five mineworkers from a coal mine in Sor Range near Quetta which was operated by PMDC.⁷⁰¹ Under Pakistan's National Action Plan 23 workers were detained from Lakhra coal mines in a campaign against illegal immigrants. Both the owners of mines and government are failing to provide adequate protection and rights to the mineworkers and inspect cases of accidents in the mining industry.⁷⁰²

5.3.5 Employment Contract and Liability Fragmentation

Employment procedure is a tricky one with no written employment contract determination of liability. Loans are given without formal terms and owners decide the rate of interest. A labour union leader from Shangla revealed that because of unemployment usually youth between age 15 and 28 are employed as the old aged cannot take such a risky job. These workers from far-flung areas come to earn bread for their families as there are no job opportunities provided to them in their home regions. Mine-owners and management section recruits labour through sub-contractor

⁶⁹⁸ Govt Asked to Improve Governance Instead of Selling Industrial Units, The Newspaper's Staff Reporter, December 05, 2015, *Published in Dawn, December 5th, 2015*

⁶⁹⁹ "National Commission on Human Rights Chairman retired Justice Ali Chohan recommended cancelling leases to mine owners for not ensuring health and safety standards are met in a hazardous environment."

⁷⁰⁰ Combating Silicosis, By Zeenat Hisam | 10/16/2016 12:00:00 AM, The writer is a researcher in the development sector.

⁷⁰¹ "Report: Six Oil Company Workers Kidnapped in Pakistan, accessed on 17th November, 2019, <https://www.voanews.com/east-asia/report-six-oil-company-workers-kidnapped-pakistan>

⁷⁰² "The Rights of Pakistani Coal Miners, Anam Zeb, May 1, 2016, The writer is a freelance columnist and a climate change activist working in the development sector."

to escape legal proceedings, labour welfare and OHSE laws. This type of attitude by owners is a disputed one and liability is fragmented in various hands. The labourers are unable to drop any neither directive from management nor complaint about poor OHSE conditions. The laws accord labourers the power to negotiate with owners about protective measures of working condition. Labourers from Khyber Pakhtunkhwa and Baluchistan suffer most because of lack of representation, no political connection and working far away from their homes. The silent deaths of many labourers just become a mere story because of irresponsible unions and management section. Political parties except Awami Workers' Party do not pay any heed to labour issues.⁷⁰³

5.3.6 Lack of Regulatory Framework

Pakistan has no specific mechanism to ensure mines OHSE and no precise policy on the subject as a study revealed. The existing mining legislation is not up to international standards and has numerous shortcomings like inconsistency, operation fragmentation, intricate formulations and processes and outmoded definitions of diseases. The lack of a regulatory regime and contemporary laws do not cover the informal mining sector mineworkers in Pakistan. Further, there are no proper mechanisms for mines OHSE training and lack of collaboration amongst stakeholders. The mining sector contributed considerably to the economy but most unregulated. The country has huge mining reserve specifically coalmine and that are deadliest mines concerning OHSE. The main reasons are the lack of PPE and OHSE regulatory framework caused mineworkers diseases, environmental concerns and accidents.⁷⁰⁴ The DGMM is empowered under “Mineral Rules, 2002” to cancel the licence the one who do not ensure OHSE obligations and mineworkers protection. The chief inspectors mostly blame the miners for their sense of hurry and negligence in recent accidents.⁷⁰⁵

5.3.7 Deficiency of Penal Proceedings and Reporting

There are no proper mines inspections from chief inspectors at the provincial level. There is compliance lacking regarding enforcement of OHSE standards during mining inspection under relevant legislations. The prosecution ratio is very low for not taking OHSE measures under mining laws. The government, departments and its officials failed to fulfil its responsibility to prevent occupational diseases and accidents. They are not adopting preventive or precautionary

⁷⁰³ Govt asked to improve governance instead of selling Industrial Units, The Newspapers Staff Reporter, December 05, 2015, Published in Dawn, December 5th, 2015.

⁷⁰⁴ “SC Urged to order Inquiry into Deaths Of 318 Coal Miners in Eight Years,” Nasir Iqbal, Updated September 09, 2018, Published in Dawn, September 9th, 2018

⁷⁰⁵ The laborers, however, tell a different story in a documentary titled “Black Mountain: a day in a life of coal miners in Pakistan.”

mechanisms to protect mineworkers and are liable for non-performance of statutory duties and criminal negligence. There need to assign liability of managers, agents and owners for non-compliance of OHSE standards either through non-performance or intentionally. There were 318 mineworkers' fatalities in Baluchistan in 45 documented occurrences and not even a single manager or owner is charged or prosecuted for criminal negligence culpability by chief mines inspector. This is one of the worst examples of bad reporting, inquiry or investigation based on findings. Though, the "Pakistan Central Mines Labour Federation (PCMLF)" conveyed dissatisfaction on government probe concerning OHSE accidents and asked for judicial inquiry. The past investigation reports had never shared with the public and more are expected from the demanded inquiry.⁷⁰⁶

5.4 Institutional Concerns of OHSE in Mining

5.4.1 Disquiet of Mines Labour Inspection

The performance of inspection and monitoring is deplorable and are not properly funded and understaffed. These inspectors easily escape their responsibilities and provincial governments do not pay to heed any check and balances to reform the mines inspections. Governments and political parties should work to implement OHSE laws and discourage political interference.⁷⁰⁷ Mine inspectors are understaffed and numbers of mines are in large number and are not properly trained or skilled. Years are taken to inspect mine to confirm OHSE compliance. Sometimes the inspection team announced their visit and the owners do temporary changes like cleaning, hiding faulty machines, closure of dangerous shafts to correct any violation. According to the general secretary of the Pakistan Mine Workers' Federation (PMWF); in Hyderabad, mines are more secure as compared to other provinces. Due to lack of OHSE standards, gas explosion and coal blasting around 200 labourers die every year. Workers are bullied and do not reveal the facts and their minowoner' are responsible for their OHSE which seldom invest for their security.⁷⁰⁸ According to "ILO's Decent Work Country Programme Report"; in 2014 there were only 547 labour inspectors for 23,983 industries and 327,706 other establishments in Pakistan. One inspector is watching after 643 industrial and commercial units in Pakistan. Furthermore, there are

⁷⁰⁶ Poor Safety For Miners, From the Newspaper March 30, 2011, The writer is an advocate.

⁷⁰⁷ "What Is Behind The Deaths Of Coal Miners In Balochistan?," Ali Javed | Usama Khawar Ghumman Updated September 25, 2018,

⁷⁰⁸ Yahya. Muh. Qadri and Mahmut Parlaktuna, "Health and Safety Conditions in Four Major Industrial Sectors of Pakistan from 2010 To 2015" International Journal of Petroleum and Petrochemical Engineering (IJPPE) Volume 3, Issue 4, 2017, PP 102-110.

shortages of competent technicians, vehicles and testing instruments and numerous posts of inspectors are lying vacant.⁷⁰⁹

5.4.2 OHSE and Mitigation Methods

Industrialization across the globe specifically in developing regions has increased the demand for coal and need OHSE legal enforcement to prevent human loss.⁷¹⁰ The mitigation measures to adopt modern technologies and inventions to replace timber pillars with hydraulic mobile roof for safe mining. These changes may take years but they are the needs of the present time especially in Pakistan. The lack of PPE is still an issue in Pakistan's mining sector. Proper ventilation reduces the accumulated gases inside the mines to reduce suffocations, dust inhalations and explosions. Additionally, huge ventilation fans supply fresh air into the mines and prevent the accumulation of toxic gases. There need equipment monitoring like, gas measuring appliance and thermometer for testing, electronic equipment for gas, Coalfields safety lamps and gas explosion suppression devices which are automatic with a built-in sensor for explosion suppressions devices and provision of the oxygen-filled cylinder at the choke point inside the mine to meet the emergency is needed to avoid accidents.⁷¹¹

5.4.3 Weak Unionism in Mining

The trade unions in the mining sector favour mine owners and are fragile who are not able to stand for their OHSE rights for mineworkers. General Secretary of "Muttahida Labour Federation Pakistan", Kamoos Gul Khattak, chalked out the mining variations in provinces. Mines in Baluchistan are old enough from the colonial period and their construction is differently designed. Trade unions should be strengthened so that they could stand for their rights.⁷¹²

5.4.4 Miners Registration

The death toll of miners is missing and mines-owners tend to escape registration of miners to avoid legal obligations and compensation. These favour owners to avoid mine closure after an accident. Government and relevant stakeholders should work with ILO for betterment of mines

⁷⁰⁹ "The chapter is based mainly on the Occupational Cancer Recommendation, 1974 (No. 147), the Occupational Safety and Health Convention, 1981 (No. 155), the Occupational Health Services Convention (No. 161), and Recommendation (No. 171), 1985, the Asbestos Convention, 1986 (No. 162), and the Chemicals Recommendation, 1990 (No. 177)."

⁷¹⁰ Baker, D. B., and Nieuwenhuijsen, M. J. (Eds.). (2008). *Environmental epidemiology: Study methods and application*. Oxford University Press.

⁷¹¹ Sallahuddin Panhwar et, all "Health and Safety Assessment in Lakhra Coal Mines and Its Mitigation Measures," Iranian Journal of Health, Safety & Environment, Vol.4, No.3 pp.775-780.

⁷¹² Ibid

workplace condition. The exact number of mines in Pakistan should be recorded and all the relevant data must be collected and accidents must be properly reported.⁷¹³

5.4.5 Absence of Social Security

In the US and other developed states, there is a proper social security system for workers while Pakistan lacks such a system. There is no proper system of registration for mineworkers in Pakistan for social security and mineworkers' welfare. There is forced labour and worst terms and conditions in the mining sector and even deaths of miners is a routine matter for establishment.⁷¹⁴

5.4.6 Inapt Records and Data

There is no reliable data and documentation on OHSE and there is a delay in the census for more reliable data. Provincial employee's social security institutions and the Labour Force Survey have failed to collect OHSE and fatalities data regarding mineworkers. The production excess and bonus is received by management, not by workers. Owners seldom provide PPE to their workers.⁷¹⁵ According to a miner; "If I want to use gloves I have to buy them myself, as they rip very easily, I have to buy gloves almost every." It is unfortunate that an industry which uses two-third of the workforce does nothing to keep the records of OHSE accidents and need measures to avoid mishaps.⁷¹⁶

5.4.7 OHSE Inadequate Mechanism

Mining industry lacks effective implementation and enforcement of OHSE laws, especially in Balochistan Mines and Minerals Department. Environmental agencies and government are responsible to have a check and balance on the mining industry but their failure in shape of fatalities and accidents of miners. The government should be proactive in this regard and should ensure health promotional activities and surveillance in the mining industry. Unfortunately, health and safety departments and welfare are separate government departments which make it tiresome for the labourers in getting compensation or any other relief. Furthermore visited certified

⁷¹³ "No Miner Is Brought Out From A Mine After His Death There" Shazia Hasan, November 12, 2017, *Published in Dawn, November 12th, 2017*

⁷¹⁴ "Punjab Employees Social Security Institution (PESSI). PESSI directorates and PESSI hospitals [Internet]" [cited 2014 Dec 06]. Available from: <http://www.pessi.gop.pk/Hospitals.html>, accessed on 9 March, 2020.

⁷¹⁵ Coal Miners: The Ground Realities, Zeenat Hisam, July 28, 2014, *The writer is associated with the Pakistan Institute of Labour Education and Research. Published in Dawn, July 28th, 2014.*

⁷¹⁶ "International Labor Organization (ILO) International Labour Office; Geneva (Switzerland): 2011. ILO introductory report: global trends and challenges on occupational safety and health. XIX World Congress on Safety and Health at Work, Istanbul, Turkey, 11–15 September 2011."

surgeons by provincial governments have no records regarding OHSE of mineworkers.⁷¹⁷ Mining industry in Pakistan is an uneven and leased to influential people by provincial governments because of political influence. These private owners seldom invest in mines infrastructure, protection of miners' safety OHSE and development. This attitude by mine-owners and provincial governments has made mining sector disastrous concerning mineworkers welfare.⁷¹⁸

5.4.8 Compensation during Mines OHSE

The mineworkers' compensation and wages are far less than developed states. The compensation is far greater than wages excluding other benefits and facilities. The purpose of such huge compensation is to make stakeholder vigilant concerning OHSE of mineworkers. The harsh reality that mineworkers are poor and illiterate and easy to opt risky mining condition for their livelihood. Their families are not rewarded or poorly compensated for the loss of life during mining. The ILO focuses on to properly compensate the deceased family. The occupational accidents or death occurred due to lack of OHSE standards and enforcement and traditional mining methods. The mine-owners are strong peoples with politicians and barely spend on miners OHSE and can change laws in their favour. The wages are not increased due to devaluation and no extra payment to mineworkers is given in case of partial or complete disability. The government must ensure safer mining techniques and OHSE equipment to reduce accidents. There need to be an appropriate monitoring system and ensure OHSE compliance in the mining sector.⁷¹⁹

The mines-owner seldom cares for the workers' welfare with no idea of remuneration for the death of an excavator. The legal heirs of the deceased mineworker are entitled to four lac rupees under relevant laws and subject to workers registration.⁷²⁰ There is no monetary limit for the death of mineworkers due to negligence of operator or owner under the "Fatal Accidents Act, 1855." Those workers who sustain injuries or dies during work should be compensated especially if they were the sole bread earners of the family. Pensions or other benefit needs to be given in case of an injury that results in permanent loss of an organ.⁷²¹ The compensation can help to mitigate the anguish of victim family though it can't reverse the damage. Wages and working

⁷¹⁷ International Labor Organization . 2015 Mar 24. Baluchistan province reaches consensus on labor legislation and labor policy [Internet]http://www.ilo.org/islamabad/info/public/pr/WCMS_357136/lang-en/index.htm [cited 2015 May 20]

⁷¹⁸ Poor Safety For Miners, From the Newspaper March 30, 2011, The writer is an advocate.

⁷¹⁹ Mines Act, 1923

⁷²⁰ Workmen's Compensation Act, 1923

⁷²¹ Madsen, G. E., James, D. S., Dawson, S. E., and Hunt, W. C. (1998). Injuries, arthritis, and hearing impairment: A case study of chronic health problems among western coal miners. *Society and Natural Resources*, 11(8), 775-794. (Madsen et al., 1998)

hours of the poor mineworkers need to be scheduled to reduce the injury proportion while age's miners suffer the most. The miner lives can be saved after restricting the working hours as working in a risky environment without any medical care deteriorate the worker health. Additionally, working in similar posts and conditions becomes distressing after some time. Miners are destitute individuals from remote areas including child labour.⁷²² According to human right report in 2015, the majority of workers are getting the lowest pay. Such accidents occurred due to lack of care and inadequate training and PPE. These accidents are unpredictable and hamper the routine work.⁷²³

5.4.9 Mining Compensation and Comparison

The victims' family is compensated to an amount of two lac rupees and a claim of three lac is placed before the labour department. Unfortunately, half of the amount is paid as a bribe for the approval of a claim. The claimant gives up claim due to tiresome procedure and corrupt administration. The insurance or job remedy is not available to the victim family if compared with developed states. The situation in Pakistan is worse than mine owners do not provide the basic health facilities to miners and the later bear own expenses for basic treatment.⁷²⁴ There is no specific welfare fund or NGO for the mineworkers' welfare like Brazil. The policy-holder is given 75 per cent of wages in case of death, accident or injury. Miners are brought to limelight when he is in the last stages of the disease while examined after five years in India. The occupational diseases like tuberculosis, asthma, bronchitis, pneumoconiosis, lung cancer and chest problems are not covered and hospitals avoid possibly treating them. The relevant mines OHSE laws and standards do not comply probably. Small colonies are established and cheaper commodities are provided near the mines workplace in India. Numerous colleges and schools are established for miners and their dependents. Many specific purposes-built hospitals, dispensaries, doctors and ambulances are provided with a specific maintained record. There are only some dispensaries that can provide basic health supplies with zero fatalities record.⁷²⁵

⁷²² LO-IPEC. The Effect of Work on Children's Health: Report of Research on Ten Occupational Sectors in Pakistan. Geneva; 2013. http://www.ilo.org/ipecc/Informationresources/WCMS_IPEC_PUB_22375/lang-en/index.htm

⁷²³ Groves, W. A., Kecojevic, V. J., and Komljenovic, D. (2007). Analysis of fatalities and injuries involving mining equipment. *Journal of Safety Research*, 38(4), 461-470.

⁷²⁴ Zhou, M and ILO. Pakistan's hidden workers: Wages and conditions of home-based workers and the informal economy. ILO. 2017. http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-islamabad/documents/publication/wcms_554877.pdf.

⁷²⁵ Rushton, L. (2007). Occupational causes of chronic obstructive pulmonary disease. *Reviews on environmental health*, 22(3), 195-212

5.5 Mines OHSE

5.5.1 Lack of Training, Education and PPE

In golden ages, miners would take caged birds canary inside the pit of mine and if the bird died it would be taken as a sign of the presence of toxic gases in mines. OHSE guidelines are given in English which could not be comprehended by uneducated miners. According to ILS Unit at the Ministry of OPHRD, 24 per cent of miners sustain injuries because of lack of training and education and using defective equipment, slippery surfaces, no PPE and poorly machinery.⁷²⁶ Numerous reports revealed that despite giving warnings about methane concentration the owners turn deaf ears and mines were not shut down. Chief Inspectorate of mines after inspecting 784 mines revealed that miners were not given necessary protective materials nor given appropriate working environment. One of the villagers revealed that 100 miners of one village lost their lives during the mines workplace. Mineworkers and rescue teams need basic OHSE training. Sindh government established a rescue centre and a hospital for miners but they are not functioning now. Miners tend to go to major cities for their treatment.⁷²⁷

5.5.2 Prevention and Reduction of Work-Related Accidents

The expenditure on OHSE is an investment that “pays off”. The enterprise must spend on prevention. Miners need to be aware of their rights, wages and compensation in case of any injury or loss of life. If owners and government invest in preventing occupational accidents and diseases it will surely pay them back but the relevant departments have failed to take practical measures. In reality, PPE is not provided to miners and they buy their own. Mineworkers claim that they have some instruments for the prevention of occupational accidents, hazards are without PPE.⁷²⁸ In the views of some employers, they do not consider themselves entirely responsible for PPE and OHSE of their workers. Occasionally meetings are held post accidents to discuss OHSE and dig out the actual causes. The application of OHSE policy shows non-seriousness of the relevant authorities towards the issues. Owners blame bad luck and unforeseeable factors for accidents indicate a lack of safety mechanisms.⁷²⁹

⁷²⁶Occupational Safety, Rukhsana Shah, October 15, 2018, “*The writer is a former federal secretary. Published in Dawn, October 15th, 2018.*”

⁷²⁷Soot and Plunder, By Zofeen T. Ebrahim | 6/3/2018 12:00:00 AM

⁷²⁸ Gyekye, A.S. (2003). Causal Attribution of Ghanaian Industrial Workers for Accident Occurrence: Miners and Non-Miners Perspective. *Journal of Safety Research*, 34,533-538.

⁷²⁹ Geller, ES 2004, “Behavior-based safety: a solution to injury prevention: behavior based safety empowers employees and addresses the dynamics of injury prevention”, *Risk and Insurance*, vol. 15, no. 12, p. 66.

5.5.3 Non- Existence of Workplace Management

This is a dark side of management shows the responsibility of mine-owners towards their workers. It is heartbreaking that owners do not take their mineworkers to a hospital for medical treatment after accidents and are considered as fate. Mostly mineworkers seek self-medication in case of an accident. Only first aid is usually given to them such as injections, bandages and plasters from a nearby pharmacy which shows that even first aid boxes are not kept by mine owners. Awareness is the only way for working force to claim and stand by their OHSE rights.⁷³⁰

5.5.4 Extensive Duty Hours

According to the reports due to impracticable production quotas and overtimes, miner undergoes stress issues, cardiovascular diseases, psychological issues, accidents and exposure to hazards.⁷³¹ According to the All Pakistan Labour Federation, accidents could be prevented if duty hours of workers are adjusted according to health standards. Mines unions are ineffective and miners are forced to overtime to increase production at the cost of OHSE. Risk of future downsizing, larger workloads and unemployment are the factors for accepting long hours.⁷³²

5.5.5 Dearth of OHSE Advocacy Groups

Stakeholders must cooperate with the government, its agents and mining industry for successful OHSE programmes. Besides legislation, there is a gap in enforcement mechanisms which makes law inoperative and need to implement in the best possible way. National policy has failed to make a strong OHSE management system and lacking stakeholders' responsibilities and resulted in escaping laws.⁷³³ OHSE can be attained through advocacy, education and training. Miners should be educated about workplace accidents and injuries due to owners negligence and non-serious attitude towards mineworkers OHS. Additionally, investment in OHSE done by owners, stakeholders and government is not sufficient enough. Furthermore, mineworkers are lacking awareness about their basic rights and they are easily manipulated by owners to increase

⁷³⁰ Bluff, L. 2003, "Systematic Management of Occupational Health and Safety" National Research Centre for Occupational Health and Safety Regulation, Working Paper 20, <<http://www.ohs.anu.edu.au.virtual.anu.edu.au>> (accessed 23 Nov 2018).

⁷³¹ Baur, X. (2011). Obstructive airway disorders representing occupational diseases. *Pneumologie (Stuttgart, Germany)*, 65(11), 654-661.

⁷³² Occupational Hazards, October 31, 2005, "A research conducted by professor of organizational psychology in Canada has concluded that managers working over 50 hours a week are not performing at their best."

⁷³³ Kesim, E (2015) Correlation Analysis of Blue-Collar Employees' Organizational Level in Coal Mining" Open Journal of Business and Management (01)83

production at the cost of their life.⁷³⁴ Owners and government should work together for OHSE of miners for an economic boost.

5.5.6 Existence of Mines OHSE Hurdles

There are many hurdles in improving mining sector in developing states are lack of technical and scientific expertise, training, language issue, financial capacity and medical data. ILO with other IGOs is working on providing online useful technical documents, data, help and translation of important legislative documents concerning OHSE. There is a dire need of a strong communication system amongst stakeholders at the national and international level concerning OHSE.⁷³⁵ Though, ILO is working on collecting data of OHSE accidents and miners' issues but not enough efforts at the national level. There need to improve the surveillance and alert system, environmental and OHS for a better future.⁷³⁶

5.5.7 Lease and Ownership

The Pakistani mining industry has three types of ownerships; governments owned, privately owned and illegally owned and are insufficient information about miners in illegal mines. PMDC a subsidiary of the MPNR, own mines but are operated by private contractors under leasing and licensing. PMDC escape from legal obligations, miners' death or injuries compensation and employment issues from mines lease are against various laws. Mines Contractors seldom care for their mineworkers OHSE during a lease. A measure such as proper ventilation, emergency exits; strengthen the basic infrastructure of mines and health and safety issues are the dire need of present time but authorities turn deaf ear to these necessary measures to be taken. The officials of mines department revealed that subletting mines is illegal but it is difficult to prove.⁷³⁷

5.5.8 Existence of OHSE Concerns at National and Global Level

The workplace OHSE concerns are terrifying for economy, environment and mineworkers at a national and global level. OHSE measures and requisites should be amongst all stakeholders, social partner and need to engage through an alliance, consultations and networking for a better OHSE management. The measure for strong management system is strong monitoring and inspection, finance, training and awareness advice in the best possible way. There need regulatory authorities with strict actions to discourage OHSE violations to reduce risks and

⁷³⁴ Kumrr, D (2010) "Emerging Tools and Techniques for mine safety and Disaster management in Natural and Anthropogenic Disaster" Springer, Netherland, 332-365.

⁷³⁵ ILO: Report of the Committee on Occupational Accidents and Diseases, *Provisional Record* No. 24, International Labor Conference, 90th Session, Geneva, 2002.

⁷³⁶ ILO: Report of the Committee on Occupational Accidents and Diseases, *Provisional Record* No. 24, International Labour Conference, 90th Session, Geneva, 2002. See <http://www.ioe-emp.org>, <http://www.icftu.org> and s

⁷³⁷ Mines Act, 1923, and the Baluchistan Mining Rules, 2002. Workmen Compensation Act, 1923

accidents. For efficient OHSE culture social and biological risks like stress, violence, drugs, alcohol and harassment should be eradicated. Workers participation should be encouraged to discover new ways of OHSE in informal mines.⁷³⁸

Conclusion

In contemporary times there is more emphasis on addressing issues related to social justice, improving labour rights and human rights. The government is taking various measures for mineworkers OHSE through institutional framework, legislation, capacity building and infrastructure development. Labourers are constrained from disseminating information about occupational diseases and accidents. There are no proper OHSE protections and PPE and lack of data at the national level regarding accidents, diseases and injuries. Both formal and informal mining/quarrying is covered under OHSE. The mining industry is not only responsible for mineworkers' health issues but of the general public too, in the form of environmental pollution. Pakistan needs to merge, update and revise laws, adopt procedure and strategies related to mining especially miners OHSE on a priority basis. ILO adopted a "Convention on a Promotional Framework for Occupational Safety and Health in June 2006", aiming to place OHSE on the national agenda to minimize the ratio of accidents and health-related issues but Pakistan is one of those few states who have not ratified this Convention No.155 and 176 which shows insensitive behaviour of the employers, society and government.

⁷³⁸ *Plan of Action for Active Multilateralism*. Ministry of Foreign Affairs, DANIDA, 2000, Copenhagen, Denmark, at <http://www.um.dk/publikationer/fremmedsprog/English/Plan/ActiveMultilateralism/Seehttp://www.gtreach.com/globstats/> accessed 10 June, 2019

CHAPTER # 06

MINES OHSE: AN ENCOURAGING RESOLUTION

Introduction

The social order helps the victims of workplace occupation diseases and injuries and it is desirable that “need sincere efforts to prevent situations having the potential to cause injury.” The criminal law standards must be used against corporate criminals caused damage. Action cannot be taken except if there is a real unfortunate casualty and thus the criminal risk is receptive as opposed to proactive. The business needs to anticipate for industrial maladies and mishaps and need enforcement of criminal sanctions for traditional offences like punishable manslaughter. The corporate criminals must be punished for crafting many problems concerning OHSE accidents and diseases in various sectors, like factories, coal mines etc.⁷³⁹ Various business activities moved to the non-administrative area, and multinational-corporations are created as a result of acquisitions, mergers, and takeovers. The process of corporate entities assuming control of commerce and industry peaked in the second half of the last century. It is difficult to trace criminals in major corporations as the authorized person can easily shift the accountability to somebody else. It is pertinent to introduce standards augmenting common law crimes such as culpable homicide and that the enterprises are subjected to criminal proceedings.⁷⁴⁰ The test is to guarantee that OHSE repudiations are fused into criminal law and need to enforce OHSE under criminal sanctions. This section will analyze measures accessible to OHSE organizations where requirement strategies compliance has failed. There are constraints of OHSE resources and need criminal sanctions and enforce fiscal penalties for compliance. A brief outline of the various procedures adopted in the UK and the US imposing criminal liability on corporations and workers’ compensations will be given.⁷⁴¹

The chapter focuses on various regulatory agencies and procedures for the inspection in the UK and USA to improve the OHS mechanism. The inspections related queries will be

⁷³⁹ Rest K and Ashford N (1997) “*Occupational Health and Safety in British Columbia: An Administrative Inventory of Prevention Activities of the Workers’ Compensation Board*,” Cambridge Massachusetts Ashford Associates.

⁷⁴⁰ Ursin E and Nolan Ve (1995) “*Understanding Enterprise Liability – Rethinking Tort Reform for the Twenty-first Century*,” Philadelphia Temple University Press.

⁷⁴¹ Walters D (ed) “*The Identification and Assessment of Occupational Health and Safety Strategies in Europe Volume 1 The National Situations*,” European Foundation for the Improvement of Living and Working Conditions Dublin (1996).

addressed, and that is, “should inspections be made more intensive, or should more firms be inspected with shorter inspections.” The scope of alternative for the inspection of hazardous premises by the authorities is subject to investigation while the role of regulation and administrative measures will be discussed. The working mechanism, procedures and the accounting departments for enforcing and administering OHSE in USA and UK and lessons will be derived for Pakistan.⁷⁴²

6.1 Mines OHSE: Deficiency in Legal Framework in Pakistan

6.1.1 Legislative Development and Implementation

The labour subject is devolved to provinces after the 18th constitutional amendment for equitable development. There are confusions and issues of ultra-vires between federal and provincial legislation and upper judiciary in the post-devolution scenario. For effective implementations, there need to differentiate the role of federal and provincial mining and environmental institutions. The amendment is not implemented in true spirit and there are complications at the legal, administrative and fiscal level. The Provincial legislations are lagging inappropriate legislation due to inappropriate implementation of the 18th amendment.⁷⁴³ The post-devolution scenario created an issue of vires during litigation and need an appropriate framework to determine the OHSE issues.

Article 38 protects the subject of health devolved to provinces. The compensation and wages are not fulfilling the mining victims’ claims in the present scenario.⁷⁴⁴ There are no specific up-to-date facilities, benefit and wages system. The procedure for a claim is very tiresome and mostly amount is given as bribe or sometimes the claimant gives up the claim. The victim miners’ families are not properly compensated and mine-owners influence the procedural and legislative process. The partial or complete disability is not compensated while numerous provision is redundant. There required pensions like other benefits for permanent loss or disability. The working hours schedule is required to mitigate the injuries or other health-related issues. The mine-owners avoid registration to escape from legal obligation and other remedies available to mineworkers. They closed mines after accidents. Moreover, six days a week and 8 hours a day including rest schedules must be enforced. There need a proper annual leave system

⁷⁴² Van Kerken E (1997) *The Right of an Employee to Stop Work in Dangerous Circumstances at the Workplace: An International Perspective on South African law* ILJ 1198.

⁷⁴³ Prof. Dr. K. G. Jadoon, “Occupational Health and Safety in Small Scale Mines” University of Balochistan of Information Technology, Engineering and Management Sciences, Quetta.

⁷⁴⁴ “Workmen Compensation Act, 1923, EOBI Act, “Fatal Accident Act, 1855, Employer Liability Act, 1938, Standing Orders Ordinance, 1968, Provincial Social Security Ordinance, 1965.”

and registration of mineworkers. Furthermore, public holidays announced by the government along with sick leave, casual leave, etc must be allowed. The existing compensation is insufficient and needs a revision of the amount for the victims' families. The employer's liability should be improved through legal recommendations while disbursement, claims, medical and injury compensation, and calculation are to be revised. There need to register and record an exact number of mines to collect data accidents properly recorded.⁷⁴⁵

OHSE pledging is a political decision lacking efficient monitoring or inspection while industrialist, political elites and officials often resist mines OHSE laws regarding child labour and mineworkers. The owners deliberately hide the accidents from the labour department and avoid notification of any calamity. The role of inspectors are prominent but they manipulate accident and disease data of miners. The contractor is not properly caring for miners. The authorities turn deaf ears to strengthen infrastructure, and other necessary measures. There require a through inquiry for the eradication of the mentioned irregularities.⁷⁴⁶

There is no specific check and balance and failure can be seen in mining fatalities and accidents. The government must be proactive and promote surveillance in mining. The department of mines haphazardly awards lease and license. The provincial government award leases to private investors because of political influence. Moreover, they try to award transparently and judiciously but there is always political dominance from chieftains and corporate bribe. The reconnaissance and exploration license mandated for specific obligations of mines OHSE, PPE, warning, checklist and other measures. Such a mechanism needs to improve to avoid future accidents. Developed states adopted "categories of danger and warning signs" in their OHSE laws while there is a gap in Pakistan's legal system to inculcate such signs. The warning needs to be in the local language for a better understanding of miners.⁷⁴⁷

Employment contract and liability fragmentation along with diminutive registration of coalmines. There are verbal agreement without formal terms and owners rate of interest. Mostly, the private contractors get the mining lease or license that is major criticism on relevant authority for determination of liability. No proper central registry or survey mechanism is there. The mines are operated through a supervisor, sub-contractor and contractor for the disintegration of liability.

⁷⁴⁵ "Coal Miners: The Ground Realities," Zeenat Hisam, July 28, 2014, *The writer is associated with the Pakistan Institute of Labour Education and Research. zeenathisam2004@gmail.com. Published in Dawn, July 28th, 2014.*

⁷⁴⁶ "Status of Labor Rights in Pakistan The Year 2014, Pakistan Institute of Labor Education & Research (PILER)."

⁷⁴⁷ "Occupational Safety and Health: Legal Framework and Statistical Analysis" Industrial Labor Standards Unit, Ministry of Overseas Pakistani and Human Resource Development (OPHRD), 2017.

Further, management and mine-owners recruit miners through sub-contractor to escape from legal proceedings, OHSE standards and labour welfare.⁷⁴⁸ There are no such complaint mechanism nor any negotiation for such mineworkers. There needs an effective role of PMDC, MPNR and other relevant authorities for the determination of liability. There need appropriate cross-sectoral assessment procedure and management plans for overcoming the mines environmental issues. The mining projects and planning are subject to environmental laws as the activities create hazards. The lessee and licensees are under obligations for taking care of forestation, natural resources and wildlife. There needs effective enforcement of SEA, SSA, Environmental Audits and Environmental management plan in the mining sector for better standards. The effective role of the environmental unit is mandatory for compliance in mining projects to ensure OHSE.⁷⁴⁹

The mining issues are very complex with related gaps of human rights, politics, economics, law and environmental morality. The harmful effects of mining business can be punished through law after diseases and accidents. Morality and ethics are responsible concepts for miners' education and upbringing. Economics regulations are disastrous for OHSE and are compromised over the financial situation in developing states like Pakistan. The environmental and business morality can be used to overcome the issue of mines OHS and environment and supported by the majority. There are always issue of PPE, training and education in mining issues along with poor machinery, slippery surface. PPE is not provided by owners and miners buy at their own. The owners blame unforeseeable factors and bad luck for mining accidents instead of safety mechanism. There is a need for proper education and training on OHSE, especially for workers activists and trade union leaders. Moreover, mineworkers need basic training, PPE, advocacy and basic education to attain OHSE.⁷⁵⁰

The prosecution is system is very weak under the existing mines OHSE legislation. The ratio is very low in OHSE related accidents and crimes and officials, departments and government are failed to stop accidents. The mines accidents are not properly reported about any culpability or criminal negligence. Moreover, no manager, owners, agents are prosecuted nor any inquiry, an investigation was conducted as expected from inspectors. There need to assign corporate

⁷⁴⁸ Workers Welfare Fund Ordinance, 1971, Status of Provincialization of Labor Laws after Devolution (2010) Worker Welfare Funds Act

⁷⁴⁹ Mwalyosi, Rand Hughes, R "The performance of EIA in Tanzania: An Assessment", (1998), IRA Research Paper No. 41/IIED Environmental planning Issues No. 14.

⁷⁵⁰ Syed Ahmed Hassan, "Health, Safety and Environmental Practices in the Construction Sector of Pakistan," S.A., 2012, at Department of Earth Sciences, Villavagen 16, SE - 752 36 Uppsala Sweden, No. 85, 47 pp, 30 ECTS/h

criminal liability of the owners, managers, contractor for non-compliance of OHSE standards cause fatalities. Besides, they need to adopt a precautionary or preventive mechanism for protection of mineworkers from criminal negligence.⁷⁵¹ The benefits only covered the registered miners and 1965 Ordinance of social security mandated the registration of every worker. Pakistan lacking a system of social security or the welfare of workers. The “labour force survey or provincial employee’s social security” have failed to collect data or record. There need a proper mechanism and legislative development of referred legislations and necessitated up-gradation as per current scenario.⁷⁵²

6.1.2 Institutional Enforcement

There needs a specific enforcement mechanism for the inhuman working condition of children and women at policy and legislation.⁷⁵³ The labour policy of 1955, 2002 suggested a separate OHSE regime. There needs to be a proper mechanism for the female workforce in the mining industry. The females must not be forced to work in underground mines and do night shifts. Pregnant females should not be engaged in any mining activity or any lady at the time feeding her child. There must be a framework for paid leave during OHSE issues. There need a specific agency or authority for OHSE auditing and assessment like EPA.⁷⁵⁴ The 2005 labour policy needs to be revised concerning mines OHSE to establish a mechanism and suitable management system, institute etc.⁷⁵⁵ The capacity-building is lacking in OHSE and required focus in the mining industry at the provincial level concerning implementation and up-gradation of relevant policies.

There is a huge gap in Pakistan labour standards and ILO ratified conventions schemes of GSP and need a few more treaties to ratify like C-176.⁷⁵⁶ There is low motivation to eradicate mines accident and diseases. There need to ratify ILO conventions no. 155, 161 and 176 and “ILO Code on Safety and Health in Underground Coalmines, 2006” specific to OHSE as mining accidents are recurrent. The ILS promotes standards at the workplace concerning mines OHSE

⁷⁵¹ Coal Miners: The Ground Realities, Zeenat Hisam, July 28, 2014, *The writer is associated with the Pakistan Institute of Labour Education and Research.* zeenathisam2004@gmail.com. Published in Dawn, July 28th, 2014.

⁷⁵² “Punjab Employees Social Security Institution (PESSI). PESSI directorates and PESSI hospitals, cited 2014 Dec 06, Available from: <http://www.pesti.gop.pk/Hospitals.html>, accessed 9 March, 2020.

⁷⁵³ Muhammad Arif and Sohaib Qadar, “Energy Law in Pakistan,” published by Kluwer Law International, 2016.

⁷⁵⁴ Section 17, of PEPA, 1997. See, also, Industrial Collection and Calculation Charges Rules, 2006.

⁷⁵⁵ “Occupational Safety and Health: Legal Framework and Statistical Analysis” Industrial Labor Standards Unit, Ministry of Overseas Pakistani and Human Resource Development, 2017.

⁷⁵⁶ Ali, Hamid & Ali Zaka. *Pakistan Labour Manual – the Code of Labour Laws, Rules & Regulations for the Industrial, Commercial & Labour Establishment.* Karachi, Pakistan

and can be implemented through policy, law, institutional and regulatory framework.⁷⁵⁷ The government need to bind the employer for creation of EOBI funds and Social security under ILO regimes. Informal and tribal region mining is dangerous for mineworkers and tribal while labour administration is not paying attention to their benefits. No appropriate mechanism is provided for tribal folk in this scenario nor any ratification of C-107 and C-169. They need all existed benefits and schemes during mining operations.⁷⁵⁸ The policies of 2002, 2010 and 2013 focus on EOBI, and workers welfare fund along with research and development for a better substitute. There needs an implementation of the mentioned policies as 2010 provides the contractual protection, social security, better inspectorate of mines OHSE. Such issues required research and development mechanism with OHSE plans, training etc.⁷⁵⁹

There is an issue of fundamental labour rights of miners. Unemployment, poverty are the main reasons for Child and bonded labour in the mining sector while politics, lack of OHSE measures and redundant legal enforcement cause labour rights violations.⁷⁶⁰ Labour risks and violation of their human rights are highlighted at various platforms concerning mining diseases and accidents. Such cases were contested at the higher judiciary and they directed the relevant institutions for all possible measures. The hazardous working conditions, weak unionization, bonded debt and advance loans compel them to work and the owner escapes from prosecution due to weak laws. Most of the time the workers are kidnapped and killed in Baluchistan, 2015. There need specific attention form judiciary, human rights activist, law enforcement agencies and researchers to highlight such issues and provide solutions. Moreover, the under-age worker need not be allowed in any mining operation area either above or below ground. There need standards and proper educations for 14 to 18 years mineworkers. Their physical and moral life is in danger as numerous sexual harassment issues were noted in Dhakki and Shahrag in Baluchistan. There needs strong mines unionization for the protection for mineworkers OHSE rights.⁷⁶¹

⁷⁵⁷Guide on "Employment Policy and International Labor Standards, International Labor Office, Geneva 22, Switzerland.

⁷⁵⁸ "Punjab Employees Social Security Institution (PESSI). PESSI directorates and PESSI hospitals, cited 2014 Dec 06, Available from: <http://www.pessi.gop.pk/Hospitals.html>, accessed 9 March, 2020.

⁷⁵⁹ "Employees Old-age Benefit Institutions (EOBI) Act, 2014."

⁷⁶⁰ "Vicimization Of Mine Workers Continues, Say Speakers, September 28, 2004, Islamabad, Sept 27: Dangerous working environment and occupational health hazards pose threat to the lives of mine workers who are still facing victimization."

⁷⁶¹ Promoting the Elimination of Bonded Labor in Pakistan (PEBLIP), ILO, accessed on 15th November, 2019, https://www.ilo.org/islamabad/whatwedo/projects/WCMS_125694/lang--en/index.htm

There are no specific medical unit, hospitals or medical equipment for miner disabilities, diseases or any health issues. No proper database or record is maintained of the injured and victim mineworkers while risk or injury level is higher in dangerous mines. No such proper tools or instruments to gauge toxic substances or gases are available to miners. Miners are entitled to receive medical benefits in case of occupation disease. There need purpose build hospitals for miners and medical insurance along with proper health record-keeping like India and Brazil. Moreover, specific doctors, dispensaries, ambulances, residence colonies and cheaper commodities are provided to mineworkers in India. Then miners seek self-medication and even first-aid kits are not available in most of the accidents. No specific mechanism is there to eradicate all these issues including medical insurance or other medical benefits concerning miners. There must be basic facilities like medical appliances, shelters, canteens, conservancy, and my office. There need measures to maintain a record that it is unfortunate to keep the records of OHSE diseases and accidents.⁷⁶²

There is always an issue of effectiveness and enforcement in the mining sector. The result can be achieved through enforcement and proper resources not only from a legal basis. The enforcement and legal basis aim to stop miners' abuses required effective regulation and institutional framework based on modern legislation. The enforcement is possible through adequate inspection system under the C-81 ratified by Pakistan. The labour and mines-petroleum department are running the inspection machinery in provinces and federal respectively. The meagre penalties, lack of deterrence, shortage of skilled inspectors, inefficient capacity are significant gaps. The inspection is limited to formal mining and needs to the extent to informal mines. The existing regulatory and legal framework do not cover the informal mines and their workers. The inspectors are not properly trained and understaffed. The disadvantage is inspector training and capacity and needs to work on such gaps. There must be proper and effective reporting system at federal and provinces level with correct data provided by the institution. The C-81 recommendation needs to implement with a specific procedure to promote "a collaboration between officials of labour inspectorate and employers and workers or their organization." The mechanism provided by OPHRD for adequate inspection in chapter 04 required framework and implementation. There needs a proper reporting system as the majority of cases are not reported in Pakistan and mineworkers are exposed to routine hazards. All workers must medically be examined for open-cut and underground mining. The role of the chief inspector and medical

⁷⁶² Zhou, M and ILO "Pakistan's hidden workers: Wages and conditions of home-based workers and the informal economy. ILO. 2017," http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-islamabad/documents/publication/wcms_554877.pdf, accessed 25 January, 2020

practitioner is very significant for determining the criteria for medical examination. The employers are ignorant and due to the ineffective inspection system fatalities and accidents occur.⁷⁶³

The employer responsibility is to provide appropriate PPE and need workshops to train the mineworkers. Moreover, fencing of entrances, rescue operations and lifesaving is part of employer obligations. There are numerous other obligations like design and construction of mines, blasting techniques, removal of defects, maintenance and provide the safe working condition. The issue is that mine-owner or employer is not fulfilling his obligations to minimize the risk. There needs such a framework at the provincial and regional level to overcome such menace.⁷⁶⁴

Numerous precious lives of miners are lost due to old mining technique, old equipment and roof collapse. Further, dust inhalable, respirable and thoracic particles badly affect miners' health. The presence of toxic gases, uneven roofs, unfavourable temperature and poor ventilation shows administrative lacking for victim workers. The use of old equipment are causes of noise pollution and results in various diseases. There required a mechanism for curbing old technique and equipment in the mining sector for better OHSE. The use of IT for the miner and sophisticated tools are required for eradicating such issues. There need mitigation measures and opt for modern technologies and to replace the timber pillars and equipment monitoring. A specific percentage of income need to be fixed and spent on OHSE protection in the mining industry. There need to exterminate the old technique through law enforcement agencies and relevant mining labour departments. Fixing noise standards to reduce accidents and diseases in mines is a must.⁷⁶⁵

The mining projects impact the mining environment as well the natural resources specifically, water, wildlife and forestation. Coalmines pose toxic issues to nearby vicinity causing respiratory issues through toxic gases and fumes. Moreover, illegal hunting increased and affects the wildlife. The agriculture land becomes barren as forests and vegetation were cleared for mining purposes. Water is contaminated with waste and toxins after hydrostatic pressure during mining operation while blasting causes a rise in global temperature. This may

⁷⁶³ "Occupational Safety and Health: Legal Framework and Statistical Analysis" Industrial Labor Standards Unit, Ministry of Overseas Pakistani and Human Resource Development (OPHRD), 2017.

⁷⁶⁴ Ali, Hamid & Ali Zaka. *Pakistan Labour Manual – the Code of Labour Laws, Rules & Regulations for the Industrial, Commercial & Labour Establishment*. Karachi, Pakistan

⁷⁶⁵ Turkish Miner Reveals Lax Safety Record and Climate of Fear at Soma Mines, Constanze Letsch, May 22, 2014, *Published in Dawn, May 22nd, 2014*

cause coal slurry and waste products that contaminate the aquifer and make it unfit for drinking causing many diseases. NIOSH and MSHA provided PEL for mining hazards and Pakistan exceeded that limit. There needs a proper solution from the environmental and mining department to overcome this risk. Furthermore, there needs an implementation of PPP to overcome environmental issues.⁷⁶⁶

6.1.3 Enforcement Adaptation of Mines OHSE

The Mine OHSE system in Pakistan has been modified with some restrictions and capabilities. OHSE system in the mining sector lacks implementation and proper room in the planning and decision-making process. The problems in quality reporting, reviews, enforcement mechanism, and pitiable administrative set up pose a great threat to mineworkers for which legal actions are the dire need of the present hour. Mismanagement of resources, lack of experience, and political pressures pose hurdles in achieving a good OHSE system in the mining sector and the research effort focuses on digging out the discrepancies in the present system of OHSE in Pakistan.⁷⁶⁷ A sound and realistic legal system along with judicial, administrative institutions, and third party reviews can be productive in minimizing the above-stated lacunae in the said sector. For the evaluation and structuring of OHSE frameworks, several best practice principles can yield the desired results. These steps empower and enable mineworkers to participate in the decisions making processes. Mines OHSE should be inclined with the cultural and institutional context of the state along with the rights and competence of the communities. A proactive approach towards consultation, participation, decision making can be fruitful in making the system best for the workers and can reduce the issues concerning mining.⁷⁶⁸

6.1.4 Rectifying and Strengthening Legal Provisions

There need to review and update the century-old legislation of the Mines Act, 1923. It hurdles the OHSE information on point of “secrecy” to serve colonists purpose and gave enormous powers to Chief inspectors concerning mining accidents confidentiality. This out-dated legislation cannot cover the modern-day challenges in mines OHSE. Toxic and hazardous substances are not properly addressed as per modern technology and mining techniques in small mining businesses.⁷⁶⁹ The legislation needs back up from technical and professional experts for

⁷⁶⁶ “The Kyoto Protocol originated at the third COP to the United Nations Convention on Climate Change held in Kyoto, Japan in December 1997.”

⁷⁶⁷ Combating Silicosis, By Zeenat Hisam | 10/16/2016 12:00:00 AM, The writer is a researcher in the development sector. zeenathisam2004@gmail.com

⁷⁶⁸ “National Commission on Human Rights Chairman retired Justice Ali Chohan recommended cancelling leases to mine owners for not ensuring health and safety standards are met in a hazardous environment.”

⁷⁶⁹ Critical legal analysis of Mines Act, 1923, Chapter

effectiveness. The inspector diminutive actions and capacity against repeated accidents are causes of weak enforcement of law and OHSE standards. There needs coordination amongst stakeholders and inspection⁷⁷⁰ for meaningful development and enforcement of mines OHSE legislation after strong business criminal liability.⁷⁷¹ The need for proper PPE and “hygiene card” must ensure by an employer. The Act lacking to ensure “right to refusal of unsafe work” in case of any danger and unable to determine the liability of owners etc. The mineworkers’ responsibilities and rights are not updated in the legal regime of Pakistan and need lessons from UK or US practices.⁷⁷²

The legal framework regarding OHSE in the mining sector of Pakistan is outdated and lacks penalties for contemporary violations. This research aims to work on those weak areas and the legal framework is updated to cope with the present needs of the time. The legal development regarding OHSE in the mining sector in Pakistan need to be incorporated into local legislation and concerned institutions. The lacunae in the evaluation of institutional framework can be reduced if the global and local standards are in line with each other. Most importantly implementation of the laws is the only way to make this system better. The quality of the information provided in the notices and OHSE reports and the methods of informing mineworkers and stakeholders were not up to the mark. Lack of transparency and communication further aggravated the issue. Furthermore Section 9 of the Mines Act, 1923 creates hurdles in receiving quality information and is not accessible to victims. Such issues need to be addressed for a better working environment.⁷⁷³

6.1.5 Information and Improving Communication in Mines OHSE

Under this research, the lack of communication between different mining departments, stakeholders, EPA, and access to information has been identified. Lack of transparency in the decision making processes and building trust among relevant authorities were some of the causes of failure in the mining sector. The use of noticeboards and the internet can be effective in the spread of information. All the relevant data and access to information concerning OHSE should be available to every stakeholder and mineworker. The information and OHSE data provided in

⁷⁷⁰ “For example, despite 45 documented incidents resulting in more than 318 deaths in the last eight years, the Chief Inspector Mines of Baluchistan has not prosecuted even a single mine owner/manager for criminal negligence under the Mines Act. (What Is Behind The Deaths Of Coal Miners In Balochistan?Ali Javed | Usama Khawar Ghumman updated September 25, 2018).”

⁷⁷¹ Criticism over Section, 6, 7, and 21 of Mines Act, 1923 for developing the concept of “Corporate Manslaughter and corporate criminal liability.”

⁷⁷² “Occupational Safety and Health: Legal Framework and Statistical Analysis” Industrial Labor Standards Unit, Ministry of Overseas Pakistani and Human Resource Development, 2017.

⁷⁷³ SC Urged to order Inquiry into Deaths Of 318 Coal Miners in Eight Years, Nasir Iqbal, Updated September 09, 2018, *Published in Dawn, September 9th, 2018.*

executive summaries need to be understandable for stakeholders. The language of the text should be simple enough and translated in the Urdu language. A transparent and impartial review committee comprising experts from the mining sector needs to be established for a better OHSE in mines. The government should provide proper funds and remuneration for the committee. There is a dire need of an effective communication system amongst international and national stakeholders concerning OHSE. Furthermore, need efficient alert and surveillance system to exterminate the hurdles.⁷⁷⁴

6.1.6 Need Mines OSHE Consultant or Manager

Registration and a code of conduct for mines OHSE consultants are the needs of the present hour and will help in getting rid of copy-paste culture when suggesting the required measures. This step will discourage incompetent OHSE legal experts. Furthermore providing funding for international training to consultants and inspectors will help in improving the quality of OHSE measures to a great extent. The need for qualified OHSE experts in the management area is emphasized in this research. The OHSE management field is a specialized one but the professionals lack the required expertise. So a qualified OHSE planner/manager (depending upon the project size) to coordinate the mines OHSE process should be appointed for a smooth working system.⁷⁷⁵

6.1.7 Refining Inter-Agency Coordination

There need tripartite cooperation and consultation amongst stakeholders for compliance of better OHSE standards. Punjab establishes OHSE council and meeting board for collaboration, discussion and participation of stakeholders. Bilateral negotiation and understanding is the need of hour amongst businesses, employer and workers for better relations. Such steps will promote better working conditions, employment satisfaction, job security, vocational training and family support. This participation will enable parties to discuss the mines OHSE in collective bargaining negotiations and agreement. There need to revamp the mentioned structure for effective enforcement of OHSE standards. For a better and useful OHSE system in the mining sector, strong coordination among various services providing agencies and institutions such as financial and environmental can be effective. It would help in scrutinizing the mining projects and to get rid of any negative OHSE impacts. The legislative measures need to be adopted to enhance inter-

⁷⁷⁴ What Is Behind The Deaths Of Coal Miners In Balochistan?, Ali Javed | Usama Khawar Ghumman Updated September 25, 2018,

⁷⁷⁵ Hermung, I and Broberg, 2007. "The OHS consultant as a facilitator of learning in workplace design processes: Four explorative case studies in current practice," *International Journal of Industrial Ergonomics* 37(9): 810–16. doi.org/10.1016/j.ergon.2007.07.007.

agency coordination to assign responsibilities to the respective departments/agencies before mining.⁷⁷⁶

6.2 Claims and Compensation Sytem

6.2.1 Business Responsibility for Occupational Diseases and Injuries

The liability law intends to avert harm, to disperse the misfortune as per the contemplations of social equity. (Chapter 5, heading 5.4) The objective is to hold the business liable for losses resulting from their activities and appropriate incentives to risk reduction victim compensation.⁷⁷⁷ The damages are allocated between the victim and injured party under joint liability fault or either fully externalized or internalized. Expansion in technology is linked with increased risk of exposure to harm and insufficient alertness about fault theory.⁷⁷⁸ Enterprise liability theory is brought to tackle technical-industrial risks. In “Escola vs Coca Cola Bottling Co. of Fresno” establish strict liability based on corporate liability. Enterprise liability is to carry business and compensate in fiscal terms to the victims.⁷⁷⁹ The civil liability claims that damage cannot be erased by a legislative act. The legislator recommends the burden of damage and preventive approach as per principles of economic justice.⁷⁸⁰

The corporate criminal liability is a concept to create a legal framework for victims of occupational injuries. The liberal state turned into welfare while industrialized society is now risk society and trying to maintain a balance amongst welfare state, environmental responsiveness and market.⁷⁸¹ Civil liability is “an efficient form of law” in Europe and the US concerning OHSE violations. The courts’ decision got influence over the legislative process while the legislator and legislation be contingent on judges’ interpretation.⁷⁸²

The private law and civil liability law play out an extra capacity in the directing of technical-industrial risks. Preventative controls through the application of public law play a dominant role in damage anticipation. The public law statutes create statutory duties, which grant

⁷⁷⁶ “Punjab and Sindh have at least institutions for training purposes, i.e., Saeed Awan Centre for Improvement of Working Condition & Environment and National Institute of Labour Administration and Training as well as an OSH Centre respectively.”

⁷⁷⁷ Ursin E and Nolan Ve (1995) “*Understanding Enterprise Liability – Rethinking Tort Reform for the Twenty-first Century*,” Philadelphia Temple University Press.

⁷⁷⁸ Lederman E (2000) *Models for Imposing Corporate Criminal Liability: From Adaptation and Imitation Toward Aggregation and the Search for Self-Identity* Buffalo Criminal Law Review 642.

⁷⁷⁹ *Escola v Coco Cola Bottling Co. of Fresno*, 24 Cal.2d 453, 150 P.2d 436.

⁷⁸⁰ Minister M (1994) *Federal Facilities and the Deterrence Failure of Environmental Laws: The Case for Criminal Prosecution of Federal Employees* Harvard Environmental Law Review 137 at 146.

⁷⁸¹ Ashford NA “*The Encouragement of Technological Change for Preventing Chemical Accidents: Moving firms from secondary prevention and mitigations to primary prevention*” A Report to the US Environmental Protection Agency Centre for Technology Policy and Industrial Development at MIT Cambridge Massachusetts I-7.

⁷⁸² Woolfson C (et al) (1997) “*Paying for the Piper*”: *Capital and Labour in Britain’s Offshore Oil Industry* United Kingdom Mansell Publishing Pty (Ltd).

a private cause of action. The legal duty in the law of delict is enlarged by statutory duties, thus enabling the enforcement of public law by civil litigation. Even if a hazardous economic activity has been approved by public law, and the entity successfully complies with licensing requirements, it does not imply that civil liability is omitted. The freedom of business is not to be construed with the freedom to injure. Public law controls do not aim at the omission or avoidance of liability for actions but rather at the evasion of technical-industrial risks.⁷⁸³

6.2.2 State Regulation for Worker Compensation

The direct liability for workers injuries are accident is not a viable option and compensation scheme is necessary for stopping workplace diseases and injuries. The idea is to implement an insurance scheme to preclude diseases and injures as per their former accident record. The employer with poor accident record will pay more premiums and incentivize the preventive measure to revise OHSE and improved premium will “make a valuable and positive contribution to accident prevention”.⁷⁸⁴

The employer is charged with the flat-rate system or premium rating system as financial incentives. The next is “classified rating” as per premium are connected with risks of different classes of industry. The corporate bodies can’t spend more on OHSE measures except the financial push to do so. Neither the flat rate nor classified rate system will offer fiscal incentives for the reduction of diseases and accidents. The enterprise disease and accident record will not changes by the premium pay under the flat and classified rate.⁷⁸⁵ Numerous experts and reports opposed the civil liability for occupational diseases and injuries. Further, the liability plays complementary functions for stopping injuries and diseases at the workplace.⁷⁸⁶ The employer will bear the financial loss for non-compliance of OHSE violations. Damages are small as compared to cost for accident prevention and production.⁷⁸⁷ The businesses mostly don't pay the damages and workers are barred from suing employer under workers’ compensation legislation in the UK. The insurance premiums are not adequate as per the employer’s accident record

⁷⁸³ Department for Work and Pensions, *A guide to Industrial Injuries Disablement Benefits* Department for Work and Pensions UK (April, 2004).

⁷⁸⁴ Hodges J “*Eight Years of Robens Style Legislation in Queensland – What have we learnt?*” Paper presented at the Productivity, Ergonomics and Safety Conference Ergonomics Society of Australia Canberra (24 to 27 November 1996).

⁷⁸⁵ Rest K and Ashford N (1997) “*Occupational Health and Safety in British Columbia: An Administrative Inventory of Prevention Activities of the Workers’ Compensation Board*,” Cambridge Massachusetts Ashford Associates.

⁷⁸⁶ Gross JA (1998, “*The Broken Promises of the National Labor Relations Act and the Occupational Safety and Health Act: Conflicting Values and Conceptions of Rights and Justice*” Chicago-Kent Law Review 351.

⁷⁸⁷ Benjamin P (1995) *The Convention and Recommendation on Safety and Health in Mines: The Innovation and Continuity* 1995 ILJ 1333.

against the prevention of workplace accidents and diseases connected with waiting for a decision of high-cost civil litigation.⁷⁸⁸

There need preventive measures for certain risks and need to improve standards for publicity and investigation. The Parliamentary debate over the drafting of legislation for ensuring prevention of occupational injuries and diseases mostly detracts from the primary purpose. The civil law and procedure is not efficient and practical and going to replace the workers' compensation legislation. The workers are doing well under-compensation system than civil actions.⁷⁸⁹

6.2.3 UK Industrial Injuries Benefit Scheme

Industrial injuries scheme is contained in the “*Social Security Act* of 1998, the *Social Security Contributions and Benefits Act* of 1992 and the *Social Security Administration Act* of 1992”. These Acts establish the structure for the detailed principles contained in guidelines and requests affirm by Parliament. Business injuries and accidents provide benefits to workers. There is a list of specific diseases under the above-mentioned law for which the following benefits are provided.

“The industrial injury benefits comprise Industrial Injuries Disablement Benefits and Allowances like Constant Attendance Allowance; Exceptionally Severe Disablement Allowance; Reduced Earnings Allowance; Retirement Allowance; Industrial Death Benefit and Unemployability Supplement and benefits payable under the Workmen's Compensation (Supplementation) Scheme and Pneumoconiosis, Byssinosis and Miscellaneous Diseases Benefit Scheme.”⁷⁹⁰

The “Reduced Earnings Allowance” (REA) is a separate benefit paid on its own from the “Industrial Injuries Disablement Benefit”. The REA replaced the “Special Hardship Allowance” (SHA). The claimant is entitled to REA if his disablement is less than 14 per cent and he is remunerated for the loss during an accident. The claimant is eligible for REA being un-fit for work due to injury or assessed as disable.⁷⁹¹ REA is a partial claim and subject to renewal contingent on the evaluation of disability. Further, the amount depends on the elective

⁷⁸⁸ Ursin E and Nolan Ve (1995) “*Understanding Enterprise Liability – Rethinking Tort Reform for the Twenty-first Century*,” Philadelphia Temple University Press.

⁷⁸⁹ Tibor T and Feldman I (2007) *Implementing ISO 14000: A Practical, Comprehensive Guide to the ISO 14000 Environmental Management Standards* New York McGraw-Hill.

⁷⁹⁰ Section 2(1)(a) and Section 94 of the *Social Security Contributions and Benefits Act* of 1992

⁷⁹¹ Schedule 7 paragraph 11(1), 11(5) (b), *Social Security Contributions and Benefits Act* 1992. See Also, The *Social Security (Industrial Injuries) (Prescribed Diseases) Regulations* 1985 regulation 17.

occupation of inquirer's income. There is no annual increase under REA if the claimant applies for social security of retirement.⁷⁹²

The claimant is retired and paid "Retirement Allowance" (RA) which is less than REA at a weekly rate under pension "Industrial Injuries Disablement Benefit." The inquirer may get just one award of RA, regardless of what number of REAs was granted.⁷⁹³ Further, RA will not disturb additional "National Insurance Benefit." Another benefit for children or widow of a worker died as a result occupation disease or injuries is "Industrial Death Benefit" (IDB).⁷⁹⁴ Widow wife is entitling for IDB if she is residing at death time with deceased husband or receiving any maintenance. There will be a higher level of benefit under IDB if fulfil the conditions.⁷⁹⁵ "Un-employability Supplement" (UNSUPP) was ended as the result of an increase in the "Industrial Injuries Disablement Benefit." The victim is entitled after fulfilling the criteria. The applicants of UNSUPP are eligible to get an allowance under-compensation or worker and "Diseases Benefit." It is granted under "Workmen's Compensation Scheme" or "Pneumoconiosis, Byssinosis and Miscellaneous Diseases Benefit Scheme."⁷⁹⁶

6.2.4 Incapacitation Benefit Workers' Industrial Injuries

The "Industrial Injuries Disablement Benefit" is weekly assistance paid to employees who become disabled due to workplace accident. The benefits will be paid as per the nature of the injury and the "Industrial Injuries Disablement" fund will not be paid at less than limits prescribed. The worker injured can get benefit according to his incapacity concerning OHSE. The disablement or other conditions' will be calculated post-accidents.⁷⁹⁷ The case will be denied at post-medical exam if the individual neglects to turn up without just cause. The assessment may be made final and for a limited period for the injured person and will be re-examined and the disablement will be assessed again.⁷⁹⁸

The amount paid to injured worker depends on his seriousness of the disease and mental and physical state. The "Basic Industrial Injuries Disablement Benefit" not affect the loss of

⁷⁹² Schedule 7 paragraph 11(10) 12, *Social Security Contributions and Benefits Act 1992*.

⁷⁹³ Schedule 7 paragraphs 13(3) (4), (6) and (11). *Social Security Contributions and Benefits Act 1992*.

⁷⁹⁴ Section 106, *Social Security Contributions and Benefits Act 1992* schedule 7 part VI and the *Social Security (General Benefits) Regulations 1982* regulation 23.

⁷⁹⁵ *Social Security (Widow's Benefit and Retirement Pension) Regulations 1979* regulation 17. *Social Security Contributions and Benefits Act 1992* schedule 7 paragraph 17 & 18.

⁷⁹⁶ Department for Work and Pensions *A guide to Industrial Injuries Disablement Benefits* Department for Work and Pensions UK (April 2004).

⁷⁹⁷ Section 103(7), 103(2), *Social Security Contributions and Benefits Act 1992*, See Also, *Social Security (General Benefits) Regulations 1982* regulation 11.

⁷⁹⁸ *Social Security Act of 1998* sections 19(1) and 19(3). See the *Social Security Contributions and Benefits Act of 1992* Schedule 6(2).

earning or nature of the job.⁷⁹⁹ It does not affect “National Insurance” (NI). It may affect income-related benefits that claimant or his partner receive. A person shall not be eligible to a disablement pension until 90 days period beginning with the day of the relevant accident.⁸⁰⁰ The worker must notify the employer about the occupational accident for the claim of “Industrial Injuries and Disease Disablement Benefit.”⁸⁰¹ If the assessment is less than the prescribed limit for occupational deafness it cannot be aggregated with any other assessment of disablement.⁸⁰² The claimant must put an application with specific reason with benefit is restricted. Further, the applicant can file appeal, revision and supersession. The Commissioner of Social Security and secretary of the state decide appeals and question law respectively.⁸⁰³

6.2.5 Workers Compensation for OHSE Injuries

The “Social Security Contributions and Benefits Act” discusses the OHSE injuries plan to be “employed earner” injuries, while in “employed earner’s employment.” Independent employer was different from contract employer and volunteer workers working for charities and students interns etc.⁸⁰⁴ “Social Security (Employed Earners’ Employments for Industrial Injuries Purposes) Regulations 1975”, talk about employment scheme like volunteer and paid workers like mine inspectors, mariners, and rescue brigades.⁸⁰⁵ The “social security (Categorization of Earners) Regulations, 1978” contribute to the social security about self-employed and employed earners.⁸⁰⁶ The widow can claim “Industrial Injuries Disablement Benefit” when workers die without claiming it. The executor or dependents will be entitled to benefits if the claimant dies. The industrial injuries system will not defend the injured from abroad. The exceptions to the general rule are workers for whom the UK has a reciprocal agreement in “European Economic Community” countries.⁸⁰⁷

⁷⁹⁹ *Social Security Contributions and Benefits Act 1992* Section 103(3).

⁸⁰⁰ *Social Security (General Benefits) Regulations 1982* regulation 11. See the *Social Security Contributions and Benefits Act 1992* section 103(6).

⁸⁰¹ “Social Security Commissioner on 30 September 2003, Report,” <http://www.osscsc.gov.uk>. Accessed 14-9-2019

⁸⁰² Regulation 20(1), 15(3), 29(a), *Security (Industrial Injuries) (Prescribed Diseases) Regulations 1985*.

⁸⁰³ *Social Security Administration Act 1992* section 8 and *Social Security (Claims and Payments) Regulations 1987* regulations 24 and 25. See Also, *The Social Security (Claims and Payments) Regulations 1987* regulation 6.

⁸⁰⁴ Mischke C and Garbers C (1994) *Safety at Work: A guide to Occupational Health, Safety and Accident Compensation Legislation* Kenwyn Juta.

⁸⁰⁵ Mayhew C, Quinlan M and Bennett L *The Effects of Subcontracting / Outsourcing on Occupational Health and Safety* Executive Summary, Industrial Relations Research Centre University of New South Wales Sydney Australia (1996).

⁸⁰⁶ *The Social Security (Employed Earners’ Employments for Industrial Injuries Purposes) Regulations 1975*,

⁸⁰⁷ Lewis R (1986) *Compensation for Industrial Injury* London Professional Books Limited. See Also, Regulation 30 & 30(5) and 120 *Social Security Contributions Regulations 1979*.

6.2.6 Workers' Compensation Coverage

There are state and federal compensation systems in the US, the former cover more workers when not protected in the later.⁸⁰⁸ The “*Energy Employees Occupational Illness Compensation Act*”, for nuclear weapons workers injuries from noxious radiations while civilian employee covers under “*Federal Employees' Compensation Act*.”⁸⁰⁹ Each state possesses its own workers' compensation system, like types of claims, insurance, compensation, coverage conditions regarding employers' protection. The compensation system in the US is privately funded and most states put down mandatory coverage for reimbursement. Certain affirmations are incorporated with the procedure to guarantee that labourers and their dependents collect benefits from employers paid by premium. The rate which the business pays differs considerably in different industries depends on the nature of risk at the workplace. The rate of compensation depends on the nature of the industry as the mining and logging industry will pay higher rates than less risky like other services.⁸¹⁰

Some legal practices utilize the “right to control” for workers' compensation and concerned nature of work. The control is contingent on four features like employment termination, compensation mechanism, equipment furnishing and exercise of control.⁸¹¹ The nature of work has its features like the level of skill, separate business and extent of accident burden.⁸¹² The employer inquiry has to be answered for compensation. A worker hired by a general employer is obligated for worker compensation if referred to a special employer. Moreover, even if he hired by a special employer who is the controller as well. The hired worker can claim compensation from the general or special employer in certain jurisdictions. The worker voluntary work does not fall under the workers' compensation.⁸¹³ The “casual employment” is irregular, temporary, incidental and outside the employment scope. The volunteer work is not qualified for compensation or other benefits. The court established that unapproved workers are

⁸⁰⁸ Chapter 5, heading number 5.4, 5.3 and Chapter 4 labor related provisions.

⁸⁰⁹ Mischke C and Garbers C (1994) *Safety at Work: A guide to Occupational Health, Safety and Accident Compensation Legislation* Kenwyn Juta.

⁸¹⁰ Employers engaged in relatively hazardous activities, <http://www.workerscompresources.com>. Accessed on 14-9-2018

⁸¹¹ Bartrip PWJ (1987) *Workmen's Compensation in Twentieth Century Britain* Hants Gower Publishing Company. “In *Macias v Dept. of Labor & Industries*, 100 Wash.2d 263, 668 P.2d 1278 (1983) and See *Casa Bonita Restaurant v Industrial Comm'n*, 677 P.2d 344 (Colo.Ct.App. 1983).”

⁸¹² Flynn KM (1988) *Workmen's Compensation Law Review* Volume 10 New York William S. Hein & Co Inc. See also, *Interstate Industrial Park v Afterdeck Restaurant*, 478 So.2d 852 (Fla.Ct.App.1985).”

⁸¹³ MC Garity TO and Shapiro SA (1993) *Workers at Risk: The Failed Promise of Occupational Safety and Health Administration* Westport Praeger.

not authorized for “vocational rehabilitation benefits” due to work ineligibility but qualified for compensation.⁸¹⁴

There are situations where dependents of workers are entitled to compensation. The dependents need or establish or permitted to receive benefits at the time of worker death. The dependent spouse mandated the conclusive evidence for the existence of their marriage to be authorized for workers compensation.⁸¹⁵ Special conditions in workers’ compensation law usually apply to aliens and minors. Few jurisdictions recognized the surviving minor and parents as presumed dependents. The members of a family living at the time of death are permitted dependents.⁸¹⁶ The supportive business can’t be sued for harms caused by an injury or disease that is covered by workers’ compensation. There are injuries not covered by workers’ compensation, injuries sustained by an employee of a non-complying employer. The employer intentional act or harms create “dual capacity” free from a servant/master relationship. The business sometimes retaliated for workers compensation or other rights when the workers file the claim.⁸¹⁷ The employer is responsible for workplace injuries and hazards and must compensate the workers. There is no immunity from damages or compensations and employers are responsible for workers medical facilities. Further, employers must know about workplace diseases and remove workers from hazardous or risky situations.⁸¹⁸

6.2.7 Apportionment of Workers’ Compensation Benefits

Many states apportion the OHSE disease claim in statutory provisions. The workers’ compensation body make sure the disease caused by employment. The Columbia District and other state legislation provided for cost apportionment of industrial disease and claim from employer of the exposure.⁸¹⁹ This arrangement is mitigated to second-injury fund and cost apportionment by the statute provides. These funds are intended to maintenance for disable workers and encourage business. The business needs to pay the sum which must pay for the disability while the employer confirms the second-injury relief from the statute. Further, the employer should aware of the initial condition.⁸²⁰

⁸¹⁴ *Del Taco v. Workers’ Compensation Appeals Board*, 79 Cal.App.4th 1437, 94 Cal.Rptr.2d 825 (Cal.App.2d Dist. 2000)

⁸¹⁵ *Weber v Aetna Casualty & Surety Co.*, 406 U.S. 164, 31 L.E.d. 768, 92 S. Ct. 1400 (1972).

⁸¹⁶ Benjamin P *The reform of the Workmen’s Compensation Act: The beginning of democratic social security?* Johannesburg Centre for Applied Legal Studies University of the Witwatersrand (March 1992). See Also, “In *Farnsworth v Indus. Comm’n* 534 p2d. 897 (Utah 1975)”.

⁸¹⁷ Hood JB (1990) *Workers’ Compensation and Employee Protection Laws* St Paul Minnesota West Publishing Co.

⁸¹⁸ Flynn KM (1998) *Workmen’s Compensation Law Review* Volume 10 New York William S. Hein & Co Inc. “The Pennsylvania case of *Tatrai v Presbyterian Univ. Hosp.*, 439 A.2d 1162 (Pa. 1982)”.

⁸¹⁹ Hood JB (1990) *Workers’ Compensation and Employee Protection Laws* St Paul Minnesota West Publishing Co.

⁸²⁰ Mischke C and Garbers C (1994) *Safety at Work: A guide to Occupational Health, Safety and Accident Compensation Legislation* Kenwyn Juta.

6.2.8 Impairment Time Limitations Benefits

The term “disability” in the workers’ compensation context means loss of physical or mental function influences worker capacity to procure a living. The claimant disability and percentage of impairment shall be established through medical evidence and examination. Further, compensation is awarded on the basis of worker education, skill, age and training in the geographical area. The disability is determined on a partial or total basis refers to temporary or permanent.⁸²¹ Rules containing certain limitations on the period during which a worker may claim and other prohibitive issues exist in numerous states. The limitations contain nominal exposure rules and claim for dirt respiratory ailments. The claimant needed to have work in a place according to OHSE standards. The OHSE claim disease required medical examination.⁸²²

The perpetual inabilities in all states are similar and claimant demonstrate workplace infection make him incapable is entitled to benefits. There are various jurisdictions deduce the loss of limbs or blindness as total incapacity and called as a severe impairment. They are entitled to benefits with no job surety after permanent disability. The general rule that compensation of permanent disability continues till claimant start earning or the claimant dies.⁸²³ The compensation depends on the post-injury stage of disability and connected with claimant condition in hospital. There is an issue of return for employment if he claims a temporary disability for benefits. The temporary disability is restoration compensation during disability or substitutes wage benefit. There is a specific time of more than three weeks for getting such benefit under temporary disability.⁸²⁴ Most workers’ compensation frameworks accommodate certain instalments to be made independently from real or imminent loss of wages. The awards are created for injured workers like loss of mental or physical working or medical impairment caused injury or disease. The loss eyesight, limb, hearing and other impairments fall under “scheduled permanent partial disability awards” or non-scheduled.⁸²⁵

The first category award was medical impairment and the second was worker compensation for medical hindrances for a person’s capacity to win a living. The disable worker

⁸²¹ Piron J *Workmen's Compensation Law, The test for "arising out of and in the course of" employment* Institute of Labour Relations University of South Africa Pretoria.

⁸²² Ison T (1992) *A Universal Plan of Compensation for Disablement* 11J 1333. “US Court of Appeals for the Seventh Circuit, *Allen v Weinberger* 552 F.2d 781 (7th Cir. 1997).”

⁸²³ *Horne v Great Lakes Construction. Co.*, 18 Ohio St. 3d 79, 480 N.E. 2d 753.

⁸²⁴ Benjamin P *The reform of the Workmen's Compensation Act: The beginning of democratic social security?* Johannesburg Centre for Applied Legal Studies University of the Witwatersrand (March 1992).”

⁸²⁵ Mischke C and Garbers C (1994) *Safety at Work: A guide to Occupational Health, Safety and Accident Compensation Legislation* Kenwyn Juta.

engagement for the same nature of work that caused an injury is not justified.⁸²⁶ A consolidation method is adopted for claimant acquiring of work and procure a living with medical hindrances. An occupational disability is part of permanent partial disability.⁸²⁷ There are schedule awards in various state laws for body parts loss or identification of fixed amount loss.⁸²⁸ The “catch-all” compensation for claimants engage in employment which caused injuries and put a negative impact on earning capacity, employability of worker. It is not damaged in earning capacity but a wage-impairment award.⁸²⁹ Temporary total disability compensates the claimant for actual loss of wages and is a distinguishable loss of earning. Workers are more compensated with maximum benefit for loss of earning capacity in permanent total disability.⁸³⁰

6.2.9 Disability Compensation and their Calculation

The state legislation pays compensation to injured or expires workers as per the loss of their physical limit. The impairment or disability limit is the criteria for awarding the compensation. The death benefits are planned as a substitute for the loss of financial help from the deceased worker. Some awards are for the claimant’s recognition for loss of mental or physical functioning.⁸³¹ It is calculated as per employee weekly wages at the time of death or injury and will award 66 per cent of that. The OHSE diseases benefits are the same as injuries while some states provide allocated cost if there are initial conditions. Substitute advantages provide by few states for workplace diseases casualties called weekly benefits or lump sums under “change of occupation award.”⁸³² Sometimes, there is no specific injury date or inception of disease is indefinite and gradual and hard to diagnose the occupational disease. Further, there is no compensation or award if the nature of the disease is vague, uncertain or unclear in a medical sense.⁸³³

All states accommodate the recovery of harmed labourers to empower them for the work market. Recompense is allocated until the claimant returns to the labour market. The processes of

⁸²⁶ Mischke C and Garbers C (1994) *Safety at Work: A guide to Occupational Health, Safety and Accident Compensation Legislation* Kenwyn Juta.

⁸²⁷ Goodman K (1999) *Procedural Aspects of Compensation for Permanent Disability due to Occupational Disease* ILJ 1368.

⁸²⁸ Rest K and Ashford N (1997) “Occupational Health and Safety in British Columbia: An Administrative Inventory of Prevention Activities of the Workers’ Compensation Board,” Cambridge Massachusetts Ashford Associates.

⁸²⁹ *Frederico’s Case*, 283 Mass. 430, 186 N.E. 599, 88 A.L.R. 630, “There no fixed rule, however, and the general rule is that no “inherent connection” exists between the loss of earning capacity and the actual loss of earnings”.

⁸³⁰ Rest K and Ashford N (1997) “Occupational Health and Safety in British Columbia: An Administrative Inventory of Prevention Activities of the Workers’ Compensation Board,” Cambridge Massachusetts Ashford Associates.

⁸³¹ Erlich Ri (1992) *Procedures for Assessing Diagnosis, Compensability, Impairment and Disability in Cases of Work-related Disease – A Proposal* ILJ 1372.

⁸³² Mischke C and Garbers C (1994) *Safety at Work: A guide to Occupational Health, Safety and Accident Compensation Legislation* Kenwyn Juta. “In *Ferris v Ohio Indus. Comm’n* 17 Ohio St. 2d 49, 245 N.E. 2d 357.”

⁸³³ White Paper on the Report of The Commission Of Inquiry For Occupational Diseases *Browne Commission: Final Report of the Commission of Inquiry into Health Services* RP 67/1986 Government Printer Pretoria.

rehabilitation vary from state to state while few state compensate on the condition of claimant rehabilitation. These arrangements include remittance and support of employer or specific fund for vocational and physical rehabilitation.⁸³⁴ The maintenance allowance is granted for the rehabilitation of temporary total disability like lodging, travel, board and compensation. The weekly benefits for survivors are equivalent to benefits for weekly total disability benefits. The spouse weekly benefit ended upon remarriage.⁸³⁵ Though, few states accommodate the instalment of singular amount grant to surviving spouse upon re-marriage. The surviving children benefit ended till majority age or full-time students till 25. Few states recognised the unpaid benefits for surviving wife which accrued at deceased lifetime but will be paid after the death.⁸³⁶

6.2.10 Compensation System for OHSE Disease

Work-related diseases can be categorized as per specific industrial process and trades. Certain jurisdictions have listed the industrial diseases in their legislations. They put the “catch-all” or general provision for compensation of occupational diseases during employment.⁸³⁷ There is a vague and less significant distinction between injuries and OHSE diseases. There is a distinction between diseases and occupational diseases based on its compensability and its connection with employment and humankind. There are various diseases connected with physical labour like lung, skin, and mental diseases with high-pressure positions in the mining sector.⁸³⁸ The rundown of these injuries or issues is wide like hernias, hearing loss by noisy environments, allergies and compensation is often paid for these. Hearing loss is treated as an occupational disease rather than injury in various jurisdictions. The worker will also be compensated that develops sensitivity to an irritant of work exposure or allergic. Mental illness and strain are not entitled to claim but legal issues are ascending for emotional trauma or mental stress is a cause of disability.⁸³⁹

In some jurisdictions, the claimant must provide evidence for occupational diseases and to establish their employment was strange to expose them to emotional distress. Few states

⁸³⁴ Mischke C and Garbers C (1994) *Safety at Work: A guide to Occupational Health, Safety and Accident Compensation Legislation* Kenwyn Juta.

⁸³⁵ Grenig JE (1987) *Prentice Hall's Workers' Compensation Handbook* Paramus NJ Prentice-Hall Information Services. “*Nyitray v Industrial Common of Ohio*, 2 Ohio St. 3d 173, 443 N.E. 2d 962.”

⁸³⁶ Rest K and Ashford N (1997) “*Occupational Health and Safety in British Columbia: An Administrative Inventory of Prevention Activities of the Workers' Compensation Board*,” Cambridge Massachusetts Ashford Associates.

⁸³⁷ Grenig JE (1987) *Prentice Hall's Workers' Compensation Handbook* Paramus NJ Prentice-Hall Information Services.

⁸³⁸ Gray WB and Scholz JT (1990) *OSHA Enforcement and workplace Injuries: A behavioral approach to risk assessment* Journal of Risk & Uncertainty 177.

⁸³⁹ Erhlich RI (1992) *Procedures for Assessing Diagnosis, Compensability, Impairment and Disability in Cases of Work-related Disease – A Proposal* ILJ 1372.

entertain mental trauma claim either as OHSE disease or injury. The mental illness must be related to OHSE violation for an appropriate claim of compensation.⁸⁴⁰ OHSE diseases are divided into scheduled and non-scheduled while depends on industrial processes and the employment relationship. Some legal practices treat injuries differently from occupational diseases and prevent for compensation. The disease is linked with employment nature.⁸⁴¹

6.2.11 Compensation for OHSE Injuries

The injury that covers compensation must be work-related, “in the course of” and “arising out of employment”.⁸⁴² The employees in the course of employment are engaged with some task or workplace activities of an employer not directly connected. There are comparative practices in various states regarding OHSE injuries compensation. The court ruled that employee work other than regular become injured are in course of employment and compensable. Further, the employer must know about activity that of prohibited or permitted in the work environment.⁸⁴³ Injuries “arising out of employment” include situations about employee work-site, on-call or standby and individuals require living in workplace locations. The personal activity injury of an employee will not be entertained while compensation is granted of injury during duty.⁸⁴⁴ The employees are covered for compensation violate work rules but not during travelling between home and workplace. The court decides such situation that compensation is due if transportation provided by the business.⁸⁴⁵

The deliberately self-inflicted injuries are not entitled to be paid while is paid only for employees’ neglect. The “willful misconduct” required “inexcusable ignorance” premeditation and bad judgment is not appropriate. A worker will be entitled complete compensation for the worse working conditions cause sustain injuries.⁸⁴⁶

6.2.12 Procedure for Lodging Claim

The administrative agencies administer, adjudicate and supervise worker compensation issues with a mechanism of judicial review. The judicial review is the last remedy for compensation

⁸⁴⁰ Goodman K (1992) *Procedural Aspects of Compensation for Permanent Disability due to Occupational Disease* ILJ 1368.

⁸⁴¹ Rest K and Ashford N (1997) “*Occupational Health and Safety in British Columbia: An Administrative Inventory of Prevention Activities of the Workers’ Compensation Board*,” Cambridge Massachusetts Ashford Associates.

⁸⁴² Olivier MP (1995) *Workers’ Commuting Injuries: A South African Perspective* ILJ 559.

⁸⁴³ Ison TG (1994) *Rehabilitation Following Occupational Injury and Disease* ILJ 1171. ” The New Jersey Supreme Court in *Strezelecki v Johns-Manville Products Corp.*, 65 N.J. 314, 322 A.2d 168 (1995).”

⁸⁴⁴ Olivier MP (1995) *Workers’ Commuting Injuries: A South African Perspective* ILJ 559. “An example of this approach is the New Jersey decision in *Meo v Commercial Can Corp.* 76 N.J. Super.484, 184 A. 2d 891 (1992)”

⁸⁴⁵ *Rhodes v Workers’ Compensation Appeals Board*, 84 Cal App. 3d 471 148 Cal. Rptr. 713 (1978), see Also, Georgia case of *Kight v Liberty Mutual Ins. Co.*, 141 Ga. App. 409, 233 S.E. 2d 453 (1977).

⁸⁴⁶ MC Garity TO and Shapiro SA (1993) *Workers at Risk: The Failed Promise of Occupational Safety and Health Administration* Westport Praeger.

claim while the compensation law obligated to notify the employer about the workers' injury.⁸⁴⁷ There is a conflict of laws amongst US state with unavoidable multi-state agreements. The statutory provisions address the issue of conflict of laws while workers' compensation claim vary from state to state will not be enforced in other states.⁸⁴⁸ The location of the employer's head office or residence or domicile of a claimant may affect claiming of workers compensation. Out of state injuries apply the law based on employment contract within a foreign state. In situations where the condition of damage or business is remote a common procedure is difficult.⁸⁴⁹ The compensation of workers procedure requirements should be recognised and weighted from one state to another. The challenges, as a rule, happen when more than one state grants pay to a claimant for similar damage or death.⁸⁵⁰ The workers' compensation acts remedies and program exists and has vague or unclear coverage. The doctrine of "twilight zone" established in the "Longshoremen's and Harbor Workers' Compensation Act." The regulation guarantees the danger of ill-advised remedies is tended to, it permits an assumption of inclusion under the main act giving a premise for the claim. There is a rule of concurrent jurisdiction in borderline cases that involves occupation death or injuries.⁸⁵¹ The worker compensation is connected with the "Social Security Act" or relevant benefits and the mechanism of award of federal or state employees' compensation.⁸⁵²

6.2.13 Courts and Workers' Claim

The detailed has been discussed in the UK chapter regarding the corporate OHSE crimes and regime. (as discussed in Chapter 3). The employees are legally entitled to claim damages from an employer in cases of diseases and injuries. There are duties imposed on the employer and the one who are self-employed or workers on a fee. There are benefits and damages are given or provided under different situations like industrial injuries or diseases caused by work condition. The employer is duty-bound of reasonable care concerning mineworkers' OHSE as an objective test. Employer will be responsible for workers OHSE and risk associated with work and shall provide information on the risk associated. Further, the employer is under a duty to take care of employment premises and must notify defect or apprehended risks concerning the workplace.

⁸⁴⁷ Atiyah Ps (1978) *Accidents, Compensation and the Law* 2nd edition London Wiedenfeld and Nicolson.

⁸⁴⁸ Gordon BR (1994) *Employee Involvement in the Enforcement of the Occupational Health and Safety Laws of Canada and the United States* Comparative Labour Law Journal 527.

⁸⁴⁹ Hunter Bm (1993) *Regulating Employers and Employees: Health and Safety in the Workplace* JLS.

⁸⁵⁰ Hood JB (1990) *Workers' Compensation and Employee Protection Laws* St Paul Minnesota West Publishing Co.

⁸⁵¹ *Davis v Department of Labour & Industries* of Washington, 317 US 249, see Also, *Sun Ship, Inc. v Pennsylvania*, 447 US 715 (1980)

⁸⁵² Van Kerken (1997) "The Right of an Employee to Stop Work in Dangerous Circumstances at the Workplace: An International Perspective on South African law" ILJ 1198.

The employer to take precautions to protect workers from violence during working. His duties as an employer cannot be delegated.⁸⁵³

Ensuring OHSE against workplace accidents and incidents is needed for victims of the workplace. The inquiry required best to redress victims of such injuries and diseases. Common law can be expanded to “an enterprise theory of tort liability.” The conventional hypothesis that risk depends on liability and victims of occupational accidents need to treat distinctly from other workers. The expansion of compensation through the law of torts be utilized to prevent accidents and diseases, for workers’ compensation schemes and civil liability of an employer for occupational injuries and diseases in the UK and USA.⁸⁵⁴

A common law claim must be distinguished from the breach of statutory duty. The claim of mineworkers for occupational diseases and injuries at the workplace are tort negligence. There are three for an employee for tort negligence. The employer lack of duty of care and that breached and the worker suffered damage. There must be employment relationship for duty of care and can be extended to a self-employed contractor.⁸⁵⁵ The “The Employer’s Liability (Defective Equipment) Act” restricts the business for employee care and using defective hardware the employer is not responsible for negligence alone. The employer liability can be extended to a manufacturer and will get damages, costs or indemnity from later.⁸⁵⁶ The tort claim will pay by the defendant will contribute cost, insurance or damage for complete compensation of an injured employee.⁸⁵⁷

6.2.14 Employer Vicarious Liability

The business is liable for the workers' careless acts with other workers during employment as well as for the independent contractor appointed for duty of care of employees. The independent contractor is the third person and put employees under his control. The employer is vicariously liable for the acts of third-person carelessness. Establishing vicarious liability necessitates that the representative committed the careless follow up on his own during his work. The average care is equivalent, whether the employee or his employer is being sued in respect to his acts or

⁸⁵³ Benjamin P *A Review of Labour Markets in South Africa: Labour Market Regulation: International and South African Perspectives* Employment & Economic Policy Research Programme, Human Sciences Research Council (October 2005). See Also, *Mc Closkey v Western Health and Social Services Board* [1983] 4 N.I.J.B., C.A. & *Dutton and Clark v Daly* [1985] I.C.R. 780.

⁸⁵⁴ Jones WK (1992) *Strict Liability for Hazardous Enterprise* Colorado Law Review 1705- 1779.

⁸⁵⁵ Mayer CJ and Yellen D (1992) “Coordinating Sanctions for Corporate Misconduct: Civil or Criminal Punishment,” American Criminal Law Review 961.

⁸⁵⁶ The word “equipment” in the Act is ambiguous. In *Coltman v Biggy Tankers. The Derbyshire* [1987] 3 All E.R. 1068, H.L. it was held that a ship constitutes “equipment”.

⁸⁵⁷ *Civil Liability (Contribution) Act* of 1978, See also, *Mc Dermid v Nash Dredging and Reclamation Co. Ltd* [1987] 3 W.L.R. 212, H.L.

oversights during employment.⁸⁵⁸ The banned act expressly falls within employment relationship but there is no specific test of the act that it is permissible or not.⁸⁵⁹ The business will not be vicariously liable for practical jokes of workers as it out of employment relation. Employer will not be vicariously liable for private torts committed by an independent contractor or employee if he failed to take reasonable OHSE measures.⁸⁶⁰ An employer should take proper steps for OHSE of workers and appoint skilful contractors for work. The employer will be responsible to workers for the negligent fixture of independent contractors.⁸⁶¹

6.2.15 Breaches of Employer Liability Interpretation

There is a statutory duty under certain statutes on an employer to ensure the OHSE and welfare of employees against breaches. The employee will be compensated for injury if remedied in the statutory regime and common law. The duties recognized under the HSW Act of 1974, are general and not specific to the business. The violations of obligations sometimes give rise to criminal acts and avoid civil action for damage.⁸⁶² The statutory obligations are not allocated for the business of workers. Such duty exists is subject to an expression of the Act or regulation. An employer is liable for breach of duty through the third party is responsible like factory, mining industry independent contractor.⁸⁶³ The breach of a statutory duty decides by a court as a criminal offence or civil wrong. The OHSE related Acts should be construed to protect workers against accidents. The rule of construction against creating and deciding offences is last resort and applied only if other rules fail. If the statute indicates an aim for prevention of specific injury, the civil liability will reasonably be confined to such injury.⁸⁶⁴

6.2.16 Negligence and Relevant Proof

The burden of proof on an employee for his injury and breach of duty and accusation can be gathered from facts. The employer is to provide the OHSE under relevant obligations. The employer must prove his prospects in his defence of onus of proof in his favour. Workers must prove the presence or lack of OHSE at the workplace the possible injury or accident that could

⁸⁵⁸ Ashford N and Rest K (1997) *Occupational Health and Safety in British Columbia: An Administrative Inventory of Prevention Activities of the Workers' Compensation Board*, Cambridge Massachusetts Ashford Associates.

⁸⁵⁹ Ursin E and Nolan Ve (1995) *Understanding Enterprise Liability – Rethinking Tort Reform for the Twenty-first Century*, Philadelphia Temple University Press.

⁸⁶⁰ Jones WK (1992) *Strict Liability for Hazardous Enterprise* Colorado Law Review 1705- 1779.

⁸⁶¹ Ursin E and Nolan Ve (1995) *Understanding Enterprise Liability – Rethinking Tort Reform for the Twenty-first Century*, Philadelphia Temple University Press.

⁸⁶² Section 40, *Occupiers' Liability Act* of 1984. “

⁸⁶³ Atiyah PS (1978) *Accidents, Compensation and the Law* 2nd edition London Wiedenfeld and Nicolson.

⁸⁶⁴ *Braham v J. Lyons & Co.* 1 W.L.R. 1048, at 1051; [1962] 3 All E.R. 281, C.A., at 283 *per* Lord Denning, M.R.

be avoided.⁸⁶⁵ The employer can delegate certain obligations to the worker but he will not be liable for any duty breach while statutory obligations cannot exempt the employee. The employer will be vicariously liable for the breach of statutory duty if the worker establishes that duty which occupational accident or injury.⁸⁶⁶ The onus is on the representative to demonstrate and build up his case in industrial activity for carelessness. The carelessness requires three heads how the mishap happened, what constituted negligence, and the injury or damage was caused as a result of the negligence.⁸⁶⁷ The principle of *res ipsa loquitur* is that if a representative establishes an injury caused by business then the latter should exhibit the innocence and no negligence. “*Res ipsa loquitur*” doesn't make a difference where the reason for the accident is known. The principle applies the onus on the defendant to clarify the mishap and will prove the absence of negligence.⁸⁶⁸

The representative must establish that the business' negligence is the main cause of injuries. There are at least two reasons for the mishap that are accidental to one another the business can't escape the risk to assess contending causes to learn which of them is dominant. If the negligence is caused by the employee himself, the damages awarded will be diminished by a rate appropriate to the level of carelessness. The causes for a disease is either independent or work nature, the business is obligated in the later form as it is presumed that disease caused by workplace condition.⁸⁶⁹

6.2.17 “Standard of Care”

The courts interpreted various phrases and expected from an employer about the standard of care and regularly used in legislation. These are, “safe, secure, efficient, practicable and reasonably practicable provided and available, dangerous.”⁸⁷⁰ Safe means safe for all hazards and eventualities while danger means perceived risk about workers.⁸⁷¹ Security means complete protection from OHSE risks whether predictable or not.⁸⁷² The employer is under regard for trouble, danger and safeguards expense though he took “all practicable measures” to manage,

⁸⁶⁵ In *Wigley v British Vinegars* [1992] 3 W.L.R. 731; [1962] 3 All E.R. 161, H.L. See also, In a House of Lords decision, *Mc Williams v Sir William Arrol & Co. Ltd.* [1962] 1 W.L.R. 295.

⁸⁶⁶ Van Kerken (1997) “*The Right of an Employee to Stop Work in Dangerous Circumstances at the Workplace: An International Perspective on South African law*” ILJ 1198. See, Also, *Manwaring v Billington*, 2 All E.R. 747, C.A. In *Ginty v Belmont Building Supplies*, 1 All E.R. 414.

⁸⁶⁷ Gunningham N and Johnstone R (1999) *Regulating Workplace Safety: System and Sanctions* New York Oxford University Press.

⁸⁶⁸ Barrett B and Howells R (1995) *Cases and Materials on Occupational Health and Safety Law* 1st edition London Cavendish Publishing Limited.

⁸⁶⁹ Cunningham N (1995) *Environment, Self-Regulation, and the Chemical Industry: Assessing Responsible Care* Law and Policy 57.

⁸⁷⁰ *Carr v Mercantile Produce* [1949] 2 K.B. 601 [1989] 2 All E.R. 531.

⁸⁷¹ *Murfin v United Steel Companies* [1987] 1 W.L.R. 104; [1987] 1 All E.R. 23, C.A.

⁸⁷² *Trott v W.E. Smith* [1997] 1 W.L.R. 1154; [1957] 3 All E.R. 500, C.A.

implement and eliminate risk or hazard.⁸⁷³ It is an obligation of “reasonably practicable” on an employee to comply with the efficient OHSE standards at the workplace.⁸⁷⁴ The care standard cannot be expected so high from an entity like statutory commitments. It comprises of risk or hazard from business irrespective of accidental conduct of workers. The predictable risk and accident is one which would reasonably probable “in the ordinary course”.⁸⁷⁵ The reality and possibility of damage are the hazards evaluating factors. The business must have taken proper consideration of industrial hazards and precautions safely.⁸⁷⁶ It is employers’ responsibility to consider predictable risks, their gravity of penalties, and the probability of accident and scale of risk.⁸⁷⁷

The mining industry must establish a greater level of affectability than typical. Workers have to inform about the susceptibility of risk of disease or injury. The employer is responsible for workers protections to adopt precautionary measures.⁸⁷⁸ The employer is responsible for errors and mistakes or insensibleness if the work involves inherent danger and does not extend to OHSE protections against worker irresponsibility.⁸⁷⁹

Employers are not required to issue instructions unless the employee is not able to judge the full extent of the risk.⁸⁸⁰ Employers are required to curtail widespread unsafe OHSE practices that have developed over time in workplaces. The absence of a mishap doesn't comprise a defence, as it does not follow that an accident should occur before a system can be termed as unsafe.⁸⁸¹ The degree of knowledge of employer will be used to establish a predictable risk if he is now known at the time of the accident. The obligation of care required the significance of statutory OHSE arrangements under common law.⁸⁸²

⁸⁷³ *Payne v Weldless Steel* [1996] 1 Q.B. 196 [1955] 3 All E.R. 612 C.A.

⁸⁷⁴ *Crookall v Vickers-Amstrong* [1995] 1 W.L.R. 659 [1955] 2 All E.R. 12.

⁸⁷⁵ Kamp A and Le Blansch K *Integrating Management of OSH and the Environment: Participation, Prevention and Control*. Paper delivered at the Policies for Occupational Health and Safety Management Systems and Workplace Change Conference Amsterdam (21-24 September 1998).

⁸⁷⁶ Hermanus MA *Trends in Occupational Health and Safety Policy and Regulation – Issues and challenges for South Africa* Takemi Program in International Health Harvard School Public Health (June 1999).

⁸⁷⁷ Emmett EA “*Regulator reform in Occupational Health and Safety in Australia*,” Paper presented at The Institute of Public Affairs Conference on Risk, Regulation and Responsibility Sydney (July 1995).

⁸⁷⁸ Glendon I and Booth R (1995) *Risk Management in the 1990s: Measuring Management Performance in Occupational Health and Safety* JOOHS 559.

⁸⁷⁹ MC-Garity TO and Shapiro SA (1993) *Workers at Risk: The Failed Promise of Occupational Safety and Health Administration* Westport Praeger.

⁸⁸⁰ Forster KR Bernstein DE and Huber PW (1999) *Phantom Risk, Scientific Inference and the Law* 1st edition Massachusetts MIT Press.

⁸⁸¹ Emmett EA “*Regulator reform in Occupational Health and Safety in Australia*,” Paper presented at The Institute of Public Affairs Conference on Risk, Regulation and Responsibility Sydney (July 1995).

⁸⁸² Glendon I and Booth R (1995) *Risk Management in the 1990s: Measuring Management Performance in Occupational Health and Safety* JOOHS 559. “*See Brown v John Mills & Co. (Llanidloes) Ltd.* (1970) 114 S.J. 149, C.A.

6.2.18 Damages and Insurance

Damages are awarded to the aggrieved party for the loss sustained under civil liability. It is calculated according to the nature of loss before or after the commission of a tort. There is an issue to compute the fiscal damages for personal injuries of non-pecuniary harm.⁸⁸³ The situation that harm was predictable as the workers sensibly demonstrated. Damages are divided into two domains of non-fiscal and fiscal loss in which the latter is further split into two medical expenses and earnings. The earning loss can be recovered as special damage and sustained between trial and date of the accident.⁸⁸⁴ The claimant loss is calculated of his life expectancy from the time before and after an accident and is recovered as future earnings from that time of the accident to expected life. General damages may be awarded in the shape of medical and nursing treatment before and after trial.⁸⁸⁵ The non-fiscal harms result from workplace disease or mental or physical injury. Further, such damages are demanded suffering, pain and nervous shock while no fiscal damages for diminished life and recoverable income loss.⁸⁸⁶ Workers are through medical treatment can reduce damage for which he is duty-bound. The claimant granted social security benefits which are distant from damages while some deductible benefits are industrial rehabilitation allowance, job release scheme and supplementary benefits.⁸⁸⁷

The employer must guarantee personal injury obligation during their business under the “Employers’ Liability (Compulsory Insurance) Act, 1969” and the failure of such a guarantee is a crime. The employers are duty-bound to present insurance certificate of the workers for processing of their reimbursement as per their insurance policies. The insurer is fiduciary for providing the workers’ insurance claim. Such insurance is not a defence and is a settlement between the employer and employee. Further, the worker cannot claim against the employer for more amounts.⁸⁸⁸

⁸⁸³ Mischke C and Garbers C (1994) *Safety at Work: A guide to Occupational Health, Safety and Accident Compensation Legislation* Kenwyn Juta. See Also,

⁸⁸⁴ Plasket C *Administrative Action: The Constitution And The Promotion Of Administrative Justice Act 3 of 2000* Paper delivered to the Legal Resources Centre Seminar on the Promotion of Administrative Justice Act 3 of 2000 Johannesburg (23 October 2001). See Also, *O’Sullivan v Herdmans Ltd.* [1987] 1 W.L.R. 1047, H.L.

⁸⁸⁵ “Shaw A *What Works? The strategies which help to integrate OHS management within business development and the role of the outsider* Paper delivered at the Policies for Occupational Health and Safety Management Systems and Workplace Change Conference Amsterdam (21-24 September 1998).” See Also, *Dews v National Coal Board* [1997] 3 W.L.R. 38, H.L.

⁸⁸⁶ Wright F (1997) *Law of Health and Safety at Work* London Sweet and Maxwell.

⁸⁸⁷ Section 1 and 1(1), *Administration of Justice Act* of 1982.

⁸⁸⁸ Goodman K (1992) *Procedural Aspects of Compensation for Permanent Disability due to Occupational Disease* ILJ 1368.

6.3 OHSE Enforcement

6.3.1 OHSE Compliance and Criminal Provisions

As discussed in Chapter 3 it is desirable that undertakings ought to deliberately execute controls to guarantee consistency with OHSE best practice. The organizations should embrace a motivator in business the method of “quasi-criminal” which is not serious like traditional offences. The criminal law purpose in OHSE is occasionally conceptual, retributive, instrumentalist or figurative. As far OHSE is concerned, the goal of criminal indictment at the highest point of the authorization is instrumentalist – general prevention of guilty parties, joined with explicit discouragement, recovery and instances of incapacitation. The criminal prosecution concerning OHSE has certain objectives like symbolic, moral or punitive for industrial homicide.⁸⁸⁹

The primary objective of prosecuting OHSE guilty parties is to demoralize corporate criminals and others from engaging in proscribed conduct by punishing the offender. Criminal punishment will, along these lines, deter the wrongdoer or potential guilty parties for their wrongdoing. There is a difference of opinion amongst experts that deterrence model is mandatory for OHSE compliance while some representatives want to evade much deterrence for valuable corporate conduct.⁸⁹⁰ The difficulty in that e.g. a limited liability company is just at risk to the degree of its advantages, and fiscal punishments are likely to leave a “deterrence gap” because “they are incapable of making corporations internalize all of the social costs resulting from inappropriate OHSE policies.” The deterrence model presumed the corporations focus on profit growth and is enforceable for corporate crimes. The business crimes are not offences of passion and little support for these crimes. Such crimes can be controlled by the policy of deterrence approach after the severity of and certainty of punishment and detection in a business context.⁸⁹¹

OHSE offences are “one-off acts of the commission but are rather ongoing states or conditions”. The corporate offenders are not difficult to identify but the detection rate is low and deterrence is easy to compare to traditional criminals.⁸⁹² Few people inside corporations decrease

⁸⁸⁹ Emmett EA *Regulator reform in Occupational Health and Safety in Australia* Paper presented at The Institute of Public Affairs Conference on Risk, Regulation and Responsibility Sydney (July 1995).

⁸⁹⁰ Lederman E (2000) *Models for Imposing Corporate Criminal Liability: From Adaptation and Imitation Toward Aggregation and the Search for Self-Identity* Buffalo Criminal Law Review 642.

⁸⁹¹ Mayer CJ and Yellen D (1992) “Coordinating Sanctions for Corporate Misconduct: Civil or Criminal Punishment,” American Criminal Law Review 961.

⁸⁹² Tombs S and Pearce F (1997) “Hazards, Law and Class: Contextualizing the Regulation of Corporate Crime,” Social and Legal Studies 79 at 92 – 9.

workplace and empower workers to heal their grievances.⁸⁹³ Evidence suggests that penalties accomplish both general and explicit prevention. The results of mining legislation in Oregon State observe that increased penalties have injury reduction, though an inadequate indicator of compliance. The penal provisions create deterrence by influencing employer and corporate behaviour and sometimes did not alter.⁸⁹⁴ Deterrence does not affect all people and endeavours and not vague entities from their operational environments. There must a proper mechanism of criminal prosecution for ineffective persuasive measures.⁸⁹⁵ The punishments forced and assume a significant job in duty holders' perception of general deterrence. The perception will caution the hidden criminals of penal obligation for non-compliance.⁸⁹⁶ The consistency in the application of prosecution measures is important for effective deterrence. Prosecutions are required against undertakings where the push or support methodology has failed for non-compliance of OHSE responsibilities.⁸⁹⁷

6.3.2 Occupational OHSE Crimes and Substitute Penalties

In, the 1980s the chaos about businesses was that it profited at the cost of workers living in the UK. The charge of involuntary manslaughter is not concrete under these situations. The types of involuntary manslaughter are "unlawful act manslaughter" and "gross negligence manslaughter." There will be a charge of gross negligence and manslaughter for the death of industrial activity. It is difficult to determine that OHSE crime as "reckless" or "grossly negligent" and same for the perpetrator.⁸⁹⁸ When an accident occurs in a major organization is hard to establish corporate criminal liability. The element of "mens-rea" is missing in corporate crimes as body corporate lacks natural personality.⁸⁹⁹ The Court applied the vicarious liability in criminal sanction in case of "Great North of England Railway Co" ruled for corporate criminal liability under a statutory duty.⁹⁰⁰

⁸⁹³ Lederman E (2000) *Models for Imposing Corporate Criminal Liability: From Adaptation and Imitation Toward Aggregation and the Search for Self-Identity* Buffalo Criminal Law Review 642.

⁸⁹⁴ Rabinowitz RS and Shapiro SS (1997) "Punishment Versus Cooperation in Regulatory Enforcement: A case study of OSHA," *Administrative Law Review* 713.

⁸⁹⁵ V Van Kerken (1997) "The Right of an Employee to Stop Work in Dangerous Circumstances at the Workplace: An International Perspective on South African law" *ILJ* 1198.

⁸⁹⁶ Mischke C and Garbers C (1994) *Safety at Work: A guide to Occupational Health, Safety and Accident Compensation Legislation* Kenwyn Juta.

⁸⁹⁷ Forman BN and Bonner JP (1993) "Bridging the Deterrence Gap: Imposing Criminal Penalties on Corporations and their Executives for Producing Hazardous Products," *San Diego Justice Journal* 1

⁸⁹⁸ LAW COMMISSION *Legislating the Criminal Code: Involuntary Manslaughter* Report No. 237 HMSO UK London (1996).

⁸⁹⁹ Lederman E (2000) *Models for Imposing Corporate Criminal Liability: From Adaptation and Imitation Toward Aggregation and the Search for Self-Identity* Buffalo Criminal Law Review 642.

⁹⁰⁰ Law Commission *Criminal Law Involuntary Manslaughter: A Consultation Paper* No 135 HMSO UK London (1994).

The issue of identification of director or manager makes them liable for corporate criminal acts. Such corporate criminal liability was discussed in “Tesco Supermarkets Ltd v. Natrass” and established corporate offences for OHSE violations. The court ruled it is through the manager with whom the company should be identified.⁹⁰¹ The enterprise’s vicarious liability or the doctrine of identification in actual wrongdoing can be proven to be that of one individual. The OHSE offences through Robens Commission “can be laid without qualification at the door of a particular individual.” No one was convicted in “Zeebrugge disaster” nor did anyone blame for crime identification.⁹⁰² A wave is taken to legislate corporate killing in the UK as death caused by the failure of the board to approved precautionary measures.⁹⁰³ Mr Justice Turner ruled that corporation as well as a person shall be guilty of manslaughter if found for any omission. The businesses and their controlling officer shall be liable under the principle of aggregation.⁹⁰⁴ There are many OHSE crimes and maximum penalties under section 33 of the relevant legislation. The directors, managers and secretary of body corporate are responsible for OHSE crimes established under section 37. In the case of “J Armour v. Skeen (Procurator Fiscal Glasgow)” and “Regina v Boal” established the director’s liability for the OHSE offences.⁹⁰⁵ Further, compliance of general duties and regulation is upon employers under the relevant legislation. They must comply with the prohibition or improvement notices under OHSE standards.⁹⁰⁶

The publicity order is the substitute penalty. A court could order an enterprise to advertise in a newspaper depending on the company operation, to “publicize” the OHSE offence committed by the enterprise. The content of advertisement suggests points, shape and subtleties of offence. Further, the court penalty and charges, harms details, executive involvement in crime and appropriate measures for a suitable remedy.⁹⁰⁷ The sentences of serious OHSE crimes create deterrence amongst businesses and the general population that such crimes are not “quasi-criminal.” There is a lack of an appropriate forum to pursue a specific mechanism against OHSE crimes and criminal.

⁹⁰¹ *Tesco Supermarkets Ltd v Natrass* [1972] AC 153.

⁹⁰² Law Commission *Legislating the Criminal Code: Involuntary Manslaughter* Report No. 237 HMSO UK London (1996).

⁹⁰³ Law Commission *Criminal Law Involuntary Manslaughter: A Consultation Paper* No 135 HMSO UK London (1994). See Also, Concerns have been expressed about the new legislation. See: <http://www.eef.org.uk/UK/whatwedo/healthandsafety/submissions/2004/>.

⁹⁰⁴ House of Commons, Select Committee on Employment *the Workings of the Health and Safety Commission and Executive: Achievements since the Robens Report* Sixth Report, Session 1981-1982 HMSO UK London (1983).

⁹⁰⁵ *J Armour v Skeen (Procurator Fiscal Glasgow)* [1977] IRLR 310.

⁹⁰⁶ Section 33 of Health and Safety at Work Act of 1974.

⁹⁰⁷ Johnstone R “*The Court and the Factory: The Legal Construction of Occupational Health and Safety Offences in Victoria*” Unpublished Ph.D. Thesis The University of Melbourne (1994).

The UK OHSE Commission publishes the “Enforcement policy statement” and empowers court for business probation and supervisory direction. Further, the policy focuses on corporate structures to prevent OHSE crimes and enforce effective SMS.⁹⁰⁸ The court can order for internal investigation for a convicted corporation must “investigate an offence committed on its behalf, undertake disciplinary proceedings, and submit a detailed and satisfactory compliance report.” The criticism is that of court supervisory functions for which there are no resources or skills.⁹⁰⁹ Organizational reform orders can be implemented or be imposed on enterprises where serious and repetitive contraventions result in deficient OHSE management. The court can pass an order to submit a plan of compliance including details of enforcement, prevention and detection of OHSE violations.⁹¹⁰

A progressively extreme type of sanction centres around the rehabilitative or organizational reform is the punitive injunction, which is deterrent or retributive punishment. This demands the new mechanism of SMS and rectifies the OHSE poor management system. “The punitive injunction thus serves as both a punishment and super-remedy”.⁹¹¹ Such verdicts are held for corporations having poor OHSE record to arrest the criminals and guard the community.⁹¹² The drawback in a dissolution of provision can affect the workers OHSE as well as consumers, shareholders and suppliers. The individual dissolution of sanctions is less destroying for workers and corporate network while the UK court imposes on directors liable for OHSE crimes.⁹¹³

6.3.3 Ancillary Purposes OHSE Criminal Liability

The framework to deal OHSE in the administrative model is a threat to employers. Moreover, there need to adopt work safety measures and an incentive to develop OHSE programs and SMSs. Then need to enforce sanctions on OHSE offenders, and the court must penalize for non-compliance of OHSE measures and SMS and direct to establish such a system.⁹¹⁴ The criminal law will work by “rehabilitating” the criminal to recognize deeds for social duty and legal

⁹⁰⁸ US Sentencing Commission *Sentencing Guidelines for Organisational Defendants Parliamentary Draft* United States Government Printing Office Washington D.C (1991).

⁹⁰⁹ Lederman E (2000) *Models for Imposing Corporate Criminal Liability: From Adaptation and Imitation Toward Aggregation and the Search for Self-Identity* Buffalo Criminal Law Review 642.

⁹¹⁰ Fisse B and Braithwaite J (1993) *Corporations, Crime and Accountability* Sydney Cambridge University Press.

⁹¹¹ Norric A (1993) *Crime, Reason and History: A Critical Introduction to Criminal Law* London Weidenfield & Nicolson.

⁹¹² Mayer CJ and Yellen D (1992) “Coordinating Sanctions for Corporate Misconduct: Civil or Criminal Punishment,” American Criminal Law Review 961.

⁹¹³ Needleman C *OSHA at the Crossroads: Conflicting Frameworks for Regulating Occupational Health and Safety in the United States* Paper delivered at the Policies for Occupational Health and Safety Management Systems and Workplace Change Conference Amsterdam (21-24 September 1998).

⁹¹⁴ Benjamin P (1995) *The Convention and Recommendation on Safety and Health in Mines: The Innovation and Continuity* 1995 ILJ 1333.

compliance for re-integration. Corporate OHSE crimes submitted by entity need to develop policies, standard operating procedures and disciplinary actions to curb OHSE violations and developed SMS. The court must incapacitate the mining sector for OHSE criminal if rehabilitation and deterrence measures failed.⁹¹⁵ The criminal sanctions are implemented when moral aims are failed because of intolerant behaviour of a corporation. The ethical power of the law is eroded if OHSE offences are “labelled” as misdemeanour crimes. The goal of criminal punishments is general and specific deterrence connected with retribution, denunciation and rehabilitation.⁹¹⁶

6.3.4 OHSE Offences in Comparative Jurisdictions

The implementation tools are civil and administrative and section 17(e) prescribes the employer OHSE crimes cause’s workers’ death under OSHA. The director or manager may be an employer for the implementation of criminal sanctions while they cannot be charged as accessories or accomplices, not as principals. The state does not have to prove that the employer had emanated intent to harm the employee. It is a matter of routine to criminally liable the body corporate in the US. The corporate directors were charged for murder in the grave breaches of OHSE standards at workplace caused deadly accident in “People v. O’Neil”. The criminal liability charge was extended to the corporation that had dissolved.⁹¹⁷ The corporate criminal liability was divided into a vicarious and direct liability.

The corporate offences are assessed in headings of employee or agent. The Supreme Court of USA held that “in the interest of public policy and by imputing his act to his employer and imposing penalties upon the corporation for which he is acting.”⁹¹⁸ The narrow approach of criminal law for corporate bodies provides strict or absolute liability for implementing criminal sanctions.⁹¹⁹ The US developed the concept of “respondent superior” or criminal vicariously liability imposing on companies. The corporate bodies are liable for acts of employees or agents and such development is part of a contract of agency.⁹²⁰ The agent fulfils the business interests of

⁹¹⁵ European Foundation for the Improvement of Living and Working Conditions *Policies on Health and Safety in Thirteen Countries of the EU: The European Situation Volume II* Office of Official Publications of the European Communities Luxembourg (1996).

⁹¹⁶ Gordon Br (1994) *Employee Involvement in the Enforcement of the Occupational Health and Safety Laws of Canada and the United States* Comparative Labour Law Journal 527.

⁹¹⁷ Lederman E (2000) *Models for Imposing Corporate Criminal Liability: From Adaptation and Imitation Toward Aggregation and the Search for Self-Identity* Buffalo Criminal Law Review 642.

⁹¹⁸ Forman BN and Bonner JP (1993) “*Bridging the Deterrence Gap: Imposing Criminal Penalties on Corporations and their Executives for Producing Hazardous Products.*” San Diego Justice Journal 1.

⁹¹⁹ *United States v. 7326 Highway 45 North*, 965 F.2d 311, 316 (7th Cir. 1992)

⁹²⁰ Lederman E (2000) *Models for Imposing Corporate Criminal Liability: From Adaptation and Imitation Toward Aggregation and the Search for Self-Identity* Buffalo Criminal Law Review 642. See Also, *United States v. Koppers Co.*, 652 F.2d 290, 298 (2d Cir. 1981); *United States v. Hangar One, Inc.*, 563 F.2d 1155, 1158 (5th Cir. 1977);

the employer within confines provided by employment relations. The court further asserted that vicarious liability is linked with direct liability if corporate management ratified or authorized the criminal acts.⁹²¹

The confinements that influence the vicarious liability with traditional criminal law led to the creation of the direct liability doctrine. The criminal laws personify and identify the body corporate work within the scope of authority.⁹²² There need to recognise the corporate liability of the business entities. The corporation's agent is a "senior managerial agent" identified with the legal body when granting "duties of such responsibility that his conduct may fairly be assumed to represent the policy of the association".⁹²³ Arguably, "confining the responsibility of a corporation to those acts performed by its organ within the realm of its authority deals a death blow to the theory of corporate organs".⁹²⁴

6.3.5 Procedures for Effective Enforcement through Inspection

As discussed in Chapter 5 there is less implementation from an inspector with great discretionary powers. (heading 5.5) The main challenges are compliance and deterrence focus on "confrontational style of enforcement and the sanctioning of rule-breaking conduct". The mechanism required to establish the OHS offences, penalization and violation detection.⁹²⁵ Moreover, the emphasis of compliance is on bargaining, negotiation and cooperation. Lack of interest of regulated entity or stubbornness invokes the enforcement tools which are a blend of deterrence and pure compliance for OHSE improved performance.⁹²⁶ The enforcement strategies mostly focused on results and repair than legal procedures. There need positive steps for compliance to prevent risks rather than abstaining and punishments. The implementation based on extensive purposes of legislation than permitting.⁹²⁷

The blend of deterrence and compliance is a regulatory mechanism while the regulator challenge is voluntary compliance and enforcement. There is bad or good corporation regarding

⁹²¹ *United States v. 7326 Highway 45 North*, 965 F.2d 311, 316 (7th Cir. 1992); See also *United States v. Route 2, Box 472*, 60 F.3d 1523, 1527 (11th Cir. 1995);

⁹²² See; *United States v. Cadillac Overall Supply Co.*, 586 F.2d 1078, 1080 (5th Cir. 1978)".

⁹²³ Forman BN and Bonner JP (1993) "Bridging the Deterrence Gap: Imposing Criminal Penalties on Corporations and their Executives for Producing Hazardous Products," San Diego Justice Journal 1.

⁹²⁴ Lederman E (2000) *Models for Imposing Corporate Criminal Liability: From Adaptation and Imitation Toward Aggregation and the Search for Self-Identity* Buffalo Criminal Law Review 642. See also, *United States v. Sun-Diamond Growers of Cal.*, 138 F.3d 961, 970-74 (D.C. Cir. 1998);

⁹²⁵ Hunter BM (1993) *Regulating Employers and Employees: Health and Safety in the Workplace* JLS.

⁹²⁶ Gordon BR (1994) *Employee Involvement in the Enforcement of the Occupational Health and Safety Laws of Canada and the United States* Comparative Labour Law Journal 527.

⁹²⁷ Hodges J *Eight Years of Robens Style Legislation in Queensland – What have we learnt* "There was a rise in the incidence of fatalities and major injuries in the UK in the first half of the 1980's at the time when inspection and enforcement activity fell significantly, as a result of increased workload and staff cuts."

compliance and to calculate cost-benefit or incompetent to revise OHSE.⁹²⁸ There is a conflict of profit and OHSE while the regulator might introduce a voluntary mechanism due to corporate interest. But, the voluntarism is unable to efficiently deter the criminals.⁹²⁹ The number of SMEs increases and is a challenge for regulators in various legal jurisdictions for OHSE enforcement. Further, these SMEs causes OHSE worst issues due to short-term profit and economic marginality.⁹³⁰ The stakeholder needs to comply with the OHSE commitment at the corporate level while procuring mining with best principle practices.⁹³¹ The SMS must be to extend to contractors and will implement hazard prevention, control, reporting and emergency procedures. The system can be revised in case of non-compliance while shall be audited and monitored.⁹³²

6.3.6 Apportionment of Resources

The regulators encountered the major issue of resource scarcity. The focus is always on major workplaces than smaller entities. The situation is exacerbated by fixing the liability on the contractors, self-employed and sub-agents. The OHSE inspections teams mostly dealing and spending time on inquiring accidents.⁹³³ Allocation of resources duties are discretionary and to be executed in proactive manner while criteria for allocation must be kept in mind. The relevant agencies should evaluate resource distribution amid large, small and medium entities while larger firms can be easily inspected because of more workers.⁹³⁴ There is need to demarcate the very large and large entities regarding their best OHSE practices and are inspection logical target. The large entities are interesting in SMS and not much interested in a conventional inspection.⁹³⁵ The consideration is the mode of inspection to change employers' attitude after

⁹²⁸ Braithwaite J (1993) *Responsive Business Regulatory Institutions* in C Cody and Sampford (eds) Business, Ethics and Law Sydney Federation Press.

⁹²⁹ Needleman C *OSHA at the Crossroads: Conflicting Frameworks for Regulating Occupational Health and Safety in the United States* Paper delivered at the Policies for Occupational Health and Safety Management Systems and Workplace Change Conference Amsterdam (21-24 September 1998).

⁹³⁰ Mayhew C, Quinlan M and Bennett L *The Effects of Subcontracting / Outsourcing on Occupational Health and Safety* Executive Summary, Industrial Relations Research Centre University of New South Wales Sydney Australia (1996)."

⁹³¹ "In practical terms, this means that clients should: Introduce a corporate commitment to health and safety at all levels in the organisation, including in procurement provision". http://www.sitelines.co.uk/default.asp?channel_id=2232&editorial_id=13241, accessed on 19.1.2019

⁹³² Quinlan M *the Development of OHS Control Systems in a Changing Environment: An International Perspective* School of Industrial Relations and Organisational Behaviour University of NSW Paper delivered at the Workshop on Integrated Control/Systems Control Dublin (29-30 August 1996).

⁹³³ Cunningham N and Grabosky P (1998) *Smart Regulation: Designing Environmental Policy* Oxford Clarendon Press.

⁹³⁴ Gray WB and Scholz JT (1993) *Does Regulatory Enforcement Work? A Panel Analysis of OSHA Enforcement LSR.*"

⁹³⁵ Dr Emile Tompa of Canada's Institute for Work and Health looked at 44 studies published between 1977 and 2002 in the economics and workplace health literature. http://www.tuc.org.uk/h_and_s/tuc-9061-f0.cfm#o5: accessed on 5-12-2018

fine imposition. The preference for large firms over smaller ones is not taken as appropriate. The high penalties imposed on employers compel them for compliance costs. Proper inspection is an effective strategy to have a substantial impact on employer behaviour.⁹³⁶

The inspections have an impact on business and sometimes its compliance cost surpasses employer benefits. This will involve the employer in OHSE which he previously overlooked or ignored. The inspection policy needs to be implemented for serious threats and needs considerations.⁹³⁷ OHSE audits is a new mechanism as compared to conventional inspection and lay focus on an investigation at procedural, policies and legislative level for hazards risks and identification. The future is to consider the inspection procedure for the concerned industry experiencing OHSE issues and to avoid random inspection. The element of voluntarism is required to maintain high OHSE standards for suitable inspection.⁹³⁸

6.3.7 Incentive Mechanism and Encouragement

The inspector's incentive mechanism shall be encouraged in providing assistance and information concerning OHSE issues. But the issue of reluctance is there on part of inspectors. The efficient mechanisms are to provide guiding notes, CoP, advisory standards and guiding material on OHSE for the mining sector. The outcome is to encourage the OHSE commitment and kindle awareness for SMEs. Their resources and skills are inadequate for the efficient control of OHSE concerning mines.⁹³⁹ The SMS is the well-defined mechanism for the implementation of OHSE control along-with the existence of incentives method. The incentives are less demanding comparatively to SMS while a suitable mechanism for SMEs.⁹⁴⁰

The government is to encourage auditing or self-auditing for the encouragement of OHSE. Risk assessment and management are a significant part of OHSE in a work environment. Further, the inspectors' role for the identification of hazards and legislative requirement violations are further issues. There need is a change through periodic revision for various activities.⁹⁴¹ The incentives provided by enterprises is an issue for regulator the former having method of correction during self-audit if contravenes, while later providing remission from

⁹³⁶ Hunter BM (1993) *Regulating Employers and Employees: Health and Safety in the Workplace* JLS.

⁹³⁷ Braithwaite J (1993) *Responsive Business Regulatory Institutions* In C Cody and Sampford (eds) *Business, Ethics and Law* Sydney Federation Press.

⁹³⁸ Tombs S (1995) *Law, Resistance and Reform: "Regulating" Safety Crimes in the UK* *Social and Legal Studies* 343-365.

⁹³⁹ Osborne J and Zairi M *Total Quality Management and the Management of Occupational Health and Safety* Health and Safety Executive Research Report 253 London (1997).

⁹⁴⁰ Loewenson R *Occupational Health and Safety Legislation in Southern Africa: Current Trends* Monographs 1/96 Friedrich Ebert Stiftung and Institute of Development and Labour Law University of Cape Town (1996).

⁹⁴¹ Mayer CJ and Yellen D (1992) "Coordinating Sanctions for Corporate Misconduct: Civil or Criminal Punishment," *American Criminal Law Review* 961.

penalties, enforcement actions or prosecutions.⁹⁴² The enforcement includes fines, formal directions and prohibition and improvement notices. The notices are a fruitful idea of Robens' and based on preventive principle and required swift action. The detection of noxious hazards needs an effective mechanism and the employer is bound to comply.⁹⁴³ The administrative penalties create deterrence but not a replacement of enforcement of OHSE offences. Enforcement focuses on general deterrence and the incentives will not have desired enforcement against persistent enterprises.⁹⁴⁴

6.3.8 OHSE Needs Deterrent Mechanism

There is a suggestion from John Braithwaite corporate responsibility for enforcement fines, notice warning, disable and other punitive probations.⁹⁴⁵ The need for "tit for tat" policy by the regulator and enterprise by getting tough with sharks and facilitate the law-abiding.⁹⁴⁶ The regulator required to come with incentive, encouragement and other strategies. Though the regulator may develop or revised practices and penalties to incapacitate or deter corporate criminals.⁹⁴⁷

The deterrence is attached with punitive and fines to incapacitate the corporation who avoid voluntarism. The OHSE regulators and administrative practices are lacking an efficient mechanism to handle the perpetrators of cost overshadowing. Other factors are prosecution cost, court imposition of penalties, resource lacking and cultural resistance of inspectorates. The notices and prosecution further exacerbate the situation and required steady enforcement.⁹⁴⁸ The penalty, prohibition and improvement notices deteriorate the situation. There needs a structured and consistent enforcement routine for inspections.⁹⁴⁹ The ratio of prosecution is fluctuating and mostly instituted because of injuries and diseases of the workplace while the inspectorate

⁹⁴² Hunter BM (1993) *Regulating Employers and Employees: Health and Safety in the Workplace* JLS.

⁹⁴³ Scholz JT and Gray WB (1993) *Does Regulatory Enforcement Work? A Panel Analysis of OSHA Enforcement* LSR.

⁹⁴⁴ Dawson P (1995) "Managing Quality in the Multi-Cultural Workforce," In Making Quality Critical: New Perspectives on Organizational Change W. Wilkinson and H Willmott (eds) London Routledge.

⁹⁴⁵ Braithwaite J (1993) *Responsive Business Regulatory Institutions* in C Cody and Sampford (eds) Business, Ethics and Law Sydney Federation Press. "A Similar approach has been proposed by Rees, in terms of flexible enforcement: see Rees (1988) *Reforming the Workplace: A Study of Self-Regulation in Occupational Health and Safety*".

⁹⁴⁶ Barrett B and Howells R (1995) *Cases and Materials on Occupational Health and Safety Law* 1st edition London Cavendish Publishing Limited.

⁹⁴⁷ Ayres I and Braithwaite J (1999) *Responsive Regulation* Oxford Oxford University Press.

⁹⁴⁸ "Shaw A What Works? The strategies which help to integrate OHS management within business development and the role of the outsider Paper delivered at the Policies for Occupational Health and Safety Management Systems and Workplace Change Conference Amsterdam (21-24 September 1998)."

⁹⁴⁹ Van Kerken (1997) "The Right of an Employee to Stop Work in Dangerous Circumstances at the Workplace: An International Perspective on South African law" ILJ 1198.

attempted to enforce the OHSE standards. OHSE accidents and diseases are always grave.⁹⁵⁰ The regulated industries are not complying the OHSE standards regarding minor accidents unless serious fatalities occurred and undertake remedial actions.⁹⁵¹

6.3.10 OHSE Prosecution

The regulatory authorities should remember certain standards to establish indictments against guilty parties. (Chapter 5, heading 5.5). The process of bringing indictments by the OHSE controller must be reliably applied. Regulatory organizations should likewise exhibit their capacity to move reliably up to the implementation where the obligation holders are not consenting to guidelines. Rules ought to be created in meeting with all gatherings who are engaged with the requirement of OHSE to ensure the transparency and acceptance of the guidelines. Prosecutions are to be effective rather than taking reactive steps, proactive prosecutions are to be implemented which called as the prosecution of “pure risk.”⁹⁵²

OHSE legislation imposes general duties of care and diligence on employers and persons involved in industrial and business workplaces. Duty holders and employers non-following their general obligation of care requires the examination and indictment on the encompassing arrangement of a workplace injury or fatality.⁹⁵³ Some prosecutions by enforcement are not event-related. Further, the potential exists for conceivable casualty or injuries or diseases and the employer possesses a bad injury record while failure to follow OHSE management.⁹⁵⁴ There are few hindrances because of OHSE experts like evidence collection, labour-intensive, industrial practice and inspectors’ record. OHSE enforcement and legislation include the contracts of franchisors and contractors and should take cognizance of corporate entities.⁹⁵⁵

The indictments ought to be centred on the parties inside these agreements who exercise power over OHSE management and breaches of OHSE obligations.⁹⁵⁶ The approvals forced on

⁹⁵⁰ Needleman C *OSHA at the Crossroads: Conflicting Frameworks for Regulating Occupational Health and Safety in the United States* Paper delivered at the Policies for Occupational Health and Safety Management Systems and Workplace Change Conference Amsterdam (21-24 September 1998).

⁹⁵¹ Blansch K and Kamp A *Integrating Management of OSH and the Environment: Participation, Prevention and Control*. Paper delivered at the Policies for Occupational Health and Safety Management Systems and Workplace Change Conference Amsterdam (21-24 September 1998).

⁹⁵² Deturbide M (1995) *Corporate Protector or Environmental Safeguard? The emerging role of the environmental audit* Journal of Environmental Law and Policy 1.

⁹⁵³ Lederman E (2000) *Models for Imposing Corporate Criminal Liability: From Adaptation and Imitation Toward Aggregation and the Search for Self-Identity* Buffalo Criminal Law Review 642.

⁹⁵⁴ Van Kerken (1997) “*The Right of an Employee to Stop Work in Dangerous Circumstances at the Workplace: An International Perspective on South African law*” ILJ 1198.

⁹⁵⁵ Benjamin P (2005) *The Convention and Recommendation on Safety and Health in Mines: The Innovation and Continuity* 1995 ILJ 1333.

⁹⁵⁶ Needleman C *OSHA at the Crossroads: Conflicting Frameworks for Regulating Occupational Health and Safety in the United States* Paper delivered at the Policies for Occupational Health and Safety Management Systems and Workplace Change Conference Amsterdam (21-24 September 1998).

duty-holders an emphasis on OHSE and provide incentives to employers to improve OHSE management systems. The penalties imposed on convicted must be serious and applied to guarantee the validity of the criminal justice system. Prosecutions ought to centre around arrangements in OHSE enactment and additionally on offences under the common law, such as culpable homicide. The result of effective prosecution needs more publicity to improve moral, symbolic and to achieve deterrence.⁹⁵⁷

6.3.11 Courts and its Financial Penalties

One steady analysis of the OHSE requirement system is that the (monetary) penalties introduced by the courts are inadequate and ineffective in deterring offenders. The corporation externalizes the penalties on consumer and other stakeholders' occurred corporate crime affect society. There are limited options with courts to impose penalties on corporations for OHSE crimes.⁹⁵⁸ Monetary sanctions for corporate criminal offences are normally legitimized by two contentions: firstly the companies are artificial bodies and cannot be imprisoned. Secondly, fines must be imposed on corporate criminals as it easy to calculate, cost-effective and manage to provide funds to the state to balance implementation cost.⁹⁵⁹

The expert chastised the fines for business crimes but to address the financial concern of business and reason of crime namely procedure, practice or politics of the company. The monetary penalties must not be abandoned and required measures for adequate fines and sanctions required for enhanced penalties. Two reasons must be taken for fine enhancement and those are an effective deterrent and defendant resources for fine adaptation. The fine must be increased for a continuation of OHSE offences after a specific period the risk found. Such revenue must utilize for the betterment of OHSE agencies.⁹⁶⁰ The issue that could emerge from expanding monetary penalties across-the-board for all enterprises is the so-called "deterrence trap" or "retribution trap". Mostly, the corporation involved in serious OHSE crimes but unable to pay fines. This issue might be inclined to by what is known as a "day fine" system. This fine is connected to crime heinousness and defendant resources.⁹⁶¹

⁹⁵⁷ Tombs S (1995) *Law, Resistance and Reform: "Regulating" Safety Crimes in the UK* Social and Legal Studies 343-365.

⁹⁵⁸ NORRIS A (1993) *Crime, Reason and History: A Critical Introduction to Criminal Law* London Weidenfield & Nicolson.

⁹⁵⁹ Bonner JP and Forman BN (1993) *Bridging the Deterrence Gap: Imposing Criminal Penalties on Corporations and their Executives for Producing Hazardous Products* San Diego Justice Journal 1.

⁹⁶⁰ Tombs S and Pearce F (1997) "Hazards, Law and Class: Contextualizing the Regulation of Corporate Crime," Social and Legal Studies 79 at 92 – 9.

⁹⁶¹ Mentzger MB and Schwenk CR (1990) *Decision Making Models, Devil's Advocacy, and the Control of Corporate Crime* American Business Law Journal 323 at 326, 331.

6.3.12 Prosecution and OHSE Compliance

The accusations for OHSE offences must be prosecuted in “special courts” like industrial relations tribunals or within the mainstream criminal justice system. Commentators opine that OHSE offences should just be indicted under the mainstream criminal justice system and their removal may give an impression of “quasi-criminal” and regulatory. The contention is an exceptionally limited and one-sided methodology towards the issue of upholding OHSE. The arrangement lies in a balanced approach, where both industrial relations tribunals and the mainstream justice system platforms are utilized. The industrial relations tribunals utilized for authorization, as it based on the incentive or encouragement while prosecution is an example of former as “quasi-criminal”.⁹⁶²

OHSE criminals are called as “non-serious” in US tribunals for industrial relations when prosecuted. This results in the infringement being settled timeously and cost-viably. This methodology would likewise offer the benefit of maintaining a strategy from the issue that if “escalation of penalty occurs, motivation for corporate compliance shifts from co-operation and trust, to deterrence and mistrust.” There must be specific mechanism reserved for OHSE offenders prosecution in the conventional criminal justice system and crimes like “repeated, serious and willful” must be a conventional system.⁹⁶³ The OHSE enforcement agencies’ prosecution for culpable homicide is few, under the OHSE legislation, and under general criminal law against individual corporate officers. The prosecution of a larger organization is a multifaceted, expensive and time-taking process. Ascertaining the guilty is cumbersome in the complex chain of command of a large corporation like “A corporate society finds it easier to hide its skeleton in closets and in a big corporation the closets are more numerous and more obscure”.⁹⁶⁴ There is a need for distinct and corporate prosecution but complex in nature due to market demands, business priorities and different operating processes inside business entities. Such, elements indicated the corporate criminal behaviour of business and individuals.⁹⁶⁵

It is important to indict people, rather than the enterprise because the organization prosecution cannot stop the executives from OHSE issues or control hazards. They can advance their careers by doing so, without risking personal liability. The emphasis would be placed on

⁹⁶² Tombs S and Pearce F (1997) “*Hazards, Law and Class: Contextualizing the Regulation of Corporate Crime*,” Social and Legal Studies 79 at 92 – 9.

⁹⁶³ Lederman E (2000) *Models for Imposing Corporate Criminal Liability: From Adaptation and Imitation Toward Aggregation and the Search for Self-Identity* Buffalo Criminal Law Review 642.

⁹⁶⁴ Tombs S and Pearce F (1997) “*Hazards, Law and Class: Contextualizing the Regulation of Corporate Crime*,” Social and Legal Studies 79 at 92 – 9.

⁹⁶⁵ Rabinowitz RS and Shapiro SS (1997) “*Punishment Versus Cooperation in Regulatory Enforcement: A case study of OSHA*,” Administrative Law Review 713.

management about the individual and entity prosecution.⁹⁶⁶ Top management is seldom the “direct perpetrators”, they are in a position to change to workplace administration to develop SMS and prevent OHSE crimes. Top administration dedication can change OHSE system and culture of the association while lower-level employees are not made accuse for management of OHSE issues.⁹⁶⁷

6.3.13 Employer-Employee Obligations

According to Section 5(b) of the OHS Act, 1970; an employee has to “comply with OHSE standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct”. The workers or their representatives can request an inspection as right from relevant authority if they believes occurrence of OHSE violation. Further, employee will inform Labour secretary in writing about any violations before or after inspection and will get protection from retaliation. The term employer has broader scope while “employee” includes applicants for employment, supervisors, employees of an employer other than the retaliator and former employees. The employees are protected against warnings, discharge, reduction of pay refusing suspension and replacement with other worker. But the right to refusal to hazardous work is not available u/s 11 of the Act, unless proves beyond doubt of existence of risk.⁹⁶⁸ The National Labour Relations Act (NLRA) empowers private sector workers to bargain collectively with their employers and join unions that can help to improve workplace and OHSE conditions. The NLRA provide protection to collective employee activity with wider scope than section 11(c) of OHS Act. NLRA protecting only collective activity make it narrow in scope.⁹⁶⁹

Those employees who file a complaint with OSHA and other agencies are protected under the Act. Further, adds participation in an OSHA inspection, notice of contest and OHSE conditions other than OSHA. In “*Donavan v R.D. Andersen Construction Co.*” Kansas Federal District Court included an instance where an employee provided details related to OHS concerns to a newspaper reporter.⁹⁷⁰ A complaint on the charge of refusal of unsafe work and OHSE violations can be filed with OSHA. The charge for refusing unsafe work related to OHSE activities can be filed with the National Labour Relations Board (NLRB) and a complaint with

⁹⁶⁶ Lim Wen Ts'ai (1990) *Corporations and the Devil's Dictionary: The Problem of Individual Responsibility for Corporate Crimes* Sydney Law Review 311 at 331 and 335.

⁹⁶⁷ Forman BN and Bonner JP (1993) “*Bridging the Deterrence Gap: Imposing Criminal Penalties on Corporations and their Executives for Producing Hazardous Products*,” San Diego Justice Journal 1.

⁹⁶⁸ Sections 5, 8 and 11 (c) of OHS Act.

⁹⁶⁹ Gross JA (1998), “*The Broken Promises of the National Labor Relations Act and the Occupational Safety and Health Act: Conflicting Values and Conceptions of Rights and Justice*” Chicago-Kent Law Review 351.

⁹⁷⁰ *Donovan v Peter Zimmer Am., Inc.*, 10 OSHC 1775 (D.S.C. 1982), pertaining to a complaint filed with a state department of labor and *Dunlop v Hanover Shoe Farms*, 441 F. Supp. 385, 4 OSHC 1241 (E.D. Pa. 1976) pertaining to a complaint filed with a legal aid society).

OSHA. The scope of section 21 speaks about the employers' retribution against a worker for undertaking OHSE activities.⁹⁷¹

There are two reasons for relative extensive OHS articles in US labour agreements. US unions lack provisions for OHSE committees in the workplace that force them to bargain for their rights given by law. The rate of union formation is low in the US while the numbers of SMEs are increasing. This approach is creating hurdles for workers to access joint committees. Because of weak legal protection, many unions have negotiated contract clauses barring retaliation against workers who refuse to work under fatal conditions.⁹⁷² Though unions strive to negotiate "pattern" agreements with employers, bargaining is done at the individual enterprise level. The employer envisioned the trade union agreement as an implementation mechanism often leads to workers strikes. Many labour agreements bar strikes or lockouts during the tenure of agreement with peace obligations or no strikes while some agreements provide such rights under special circumstances; for example, the contracts between the United Automobile Workers and the major auto companies in the US allow strikes over hazardous working conditions, but not over benefits or wages as long as the agreement exists.⁹⁷³

To protect the OHSE of employees and accountability purposes at the workplace, it is essential to differentiate between employer and other parties to determine whether an employer-employee relationship exists. The British court of Appeal in the case of "Lane v Shire Roofing Co (Oxford) Ltd", ruled about the recognition of statutory rights and duties as they form the structural pillar of employment. The OHSE legislature legally binds employers and employees for the protection of OHSE at workplaces.⁹⁷⁴ Self-employed contract workers do not come under the ambit of the employer-employee relationship. The determination of employer-employee relationship is essential for claiming compensation by the worker or dependents in case of sustaining the injury.⁹⁷⁵ It is quite tough to determine the temporary self-employed persons because of the disputes arising between employers or employees and government agencies and with third parties. The courts have applied various tests over the years to establish an employer-employee relationship.⁹⁷⁵ Workers importance cannot be ignored as they know better about any threat to their OHSE at a workplace which makes their knowledge and experiences valuable.

⁹⁷¹ Section 11(c), 21, of the Occupational Health and Safety Act of 1970.

⁹⁷² *National Union of Mineworkers v East Rand Gold and Uranium Company Ltd* (1991) 12 ILJ 1221 (A).

⁹⁷³ "Laour strikes, Labour agreements in United States," <http://www.ilo.org/encyclopaedia/?print&nd=857400041>. Accessed 14-10-2018

⁹⁷⁴ Gross JA (1998), "The Broken Promises of the National Labor Relations Act and the Occupational Safety and Health Act: Conflicting Values and Conceptions of Rights and Justice" Chicago-Kent Law Review 351.

⁹⁷⁵ Loewenson R *Occupational Health and Safety Legislation in Southern Africa: Current Trends* Monographs 1/96 Friedrich Ebert Stiftung and Institute of Development and Labour Law University of Cape Town (1996).

Those workers who are prone to injury and health issues at the workplace should be replaced. The OHSE management lack employee involvement and during audit OHSE representatives and workers role is discounted.⁹⁷⁶

In conclusion, there is “an underlying tension for management between effective implementation of OHSE management systems implies worker participation in managerial prerogatives.” The accreditation process should involve and valued workers participation. To achieve these end trade unions need to take in OHSE matters straight in the negotiations, coordination and training with employers. Workers need to equip themselves with all the information related to hazardous plant, substances and procedures at work. But on the contrary, workers are not provided with all the relevant information which lead to recommendations that OHSE legislation should include the right to know and a duty to tell. The regulators and businesses need to recognize the workers' involvement in OHSE management.⁹⁷⁷

6.3.14 Employer Liability

The employer's right to control the details of the work helps to establish an employment relationship. The OHS Act of 1970 defines an “employer as a person engaged in a business affecting commerce” and “employee means an employee or employer in business which affects commerce.”⁹⁷⁸ In “*Moberly v. Day*”, the Supreme Court of Indiana analyzed the above definition by concluding that an independent contractor and not an employee caused the injury. In the above case that independent contractor was held accountable and was penalized for the injury that was caused because of maintenance work. In “*Massey v. Tube Art Display, Inc.*” the Washington Circuit Appeal court found that the defendant was liable for the damages caused by the contractor because it was defendant's duty to control work that was done by a contractor. The Indiana Court in “*GKN Co. vs Magness*” agreed on seven features of two organizations regarding the employment relationship of two employers with an employee.

“(1) right to discharge; (2) mode of payment; (3) supplying tools or equipment; (4) belief of the parties in the existence of an employer-employee relationship; (5) control over the means used in the results reached; (6) length of employment; and (7) establishment of the work boundaries.”⁹⁷⁹

⁹⁷⁶ Mayer CJ and Yellen D (1992) “*Coordinating Sanctions for Corporate Misconduct: Civil or Criminal Punishment*,” American Criminal Law Review 961.

⁹⁷⁷ Forman BN and Bonner JP (1993) “*Bridging the Deterrence Gap: Imposing Criminal Penalties on Corporations and their Executives for Producing Hazardous Products*,” San Diego Justice Journal 1.

⁹⁷⁸ Employer and Employee definitions, Occupational Health and Safety Act of 1970

⁹⁷⁹ 744 N.E.2d 397, 402 (Ind. 2001).

6.3.15 Workers' and Employer Obligations Under Statutory Regulation

The Robens Committee concluded consultation between workers and management could attain OHSE awareness at the workplace. Further, there need to identification and control of OHSE issues.⁹⁸⁰ This report recognised workers involvement in effective OHSE management at the workplace. There need a strong pledge and collaboration from workers as their responsibility for evaluation of OHSE measures at the workplace.⁹⁸¹ The HSW Act mandated the OHSE representatives' appointment and employer consultation with such appointees. The "Secretary of State" under section-2 (4 and 7) publicizes regulation of consultation between employers and recognized trade union OHSE representatives for employees.⁹⁸² The regulations were introduced for unionized workers and the employer is under no obligation to announce workers representation system if the union not concerned. The OHSE representative functions are necessary to negotiate with details. The employer will place restrictions on salary, place and time for the representative activities, while the numbers of OHSE representatives are selected by a concerned trade union. The involvement of several unions does not allow the arrangement amongst many divisions of workers.⁹⁸³

This regulation of consultation is about the non-unionized workplace. The employer is duty-bound to consult concerning OHSE issues with a non-unionized elected employee at a workplace for further negotiation. Further, the employer will provide relevant information to enable employees for effective participation in consultation. The worth of unionized representatives is more than non-unionized as the former can pursue documents, visit occurrences, diseases, following notifiable accidents and conduct inspection. Further, the later is at employer option to make representation for OHSE at work, dangerous occurrences and potential hazards.⁹⁸⁴

The inspectors' u/s 28 of HSW law is obliged to notify the employees or their representative about the OHSE issues and welfare. Besides, inspectors collect factual information about workplace and relevant action which proposes against those premises.⁹⁸⁵ The "Employment Rights Act, 1996" section 44 protect an employee from employment suffering. The employee being representative in the non-unionized industry can be safeguarded in OHSE

⁹⁸⁰ Woolfson C (et al) (1997) *"Paying for the Piper": Capital and Labour in Britain's Offshore Oil Industry* United Kingdom Mansell Publishing Pty (Ltd).

⁹⁸¹ House of Commons, Select Committee on Employment *The Workings of the Health and Safety Commission and Executive: Achievements Since the Robens Report* Sixth Report, Session 1981-1982 HMSO UK London (1983).

⁹⁸² Section 2(4)(7) of the *Health and Safety at Work Act* of 1974

⁹⁸³ *The Safety Representatives and Safety Committees Regulations*

⁹⁸⁴ *The Health and Safety (Consultation with Employees) Regulations*

⁹⁸⁵ Section 28 of the *Health and Safety at Work Act* of 1974

issues to bring employer attention to harms and risks. Section 100 protects the right to refuse to work of employees, who stop work and left premises due to risky working conditions. The firing would be biased of such worker. The employee can initiate legal proceeding u/s 48(1) in an industrial tribunal. The aggrieved will be compensated by employer in case the complaint is proved u/s 49 (1b).⁹⁸⁶ There is a duty to take reasonable care on an employee for protection of OHSE and others. Further, the employee should inform the employer about any accident, shortcomings or dangerous situations not fall under risk assessment.⁹⁸⁷ The employee will be prosecuted if he fails due care. The employer is under a duty to ensure workers OHSE to provide supervision, instruction and training. Further, an employer can take measures against the misconduct and incompetence of employees contravenes the OHSE management and should be dismissed for persistent disregard.⁹⁸⁸

The employee under the HSW Act of 1974 in section 53 (1) is a person who works under an employment contract, for earning reward or gain. The court will determine the status of a worker as an employee.⁹⁸⁹ A distinction required to be drawn to determine the duty of care and tortious liability. Civil liability will be determined by the court if an employee elects to sue for injuries. The question of vicarious liability has to be answered depends on the employment relationship and working situations. The employer civil liability is significant to distinguish between workers and employees. Further, an employer is not bound to train workers that are not employees but required to take “reasonable care in all circumstances.” “*The Employers’ Liability (Compulsory Insurance) Act of 1969*” imposed a duty on an employer to ensure against liability for the employees.⁹⁹⁰ The employer will be liable for injury caused by workers to other co-employees, or public during employment.⁹⁹¹ The occupier of the workplace has to ensure OHSE under “common duty of care.” The employer must ensure a duty of care safe work system, PPE and safe premises.⁹⁹² The “control” is the by-product of “command” established in “*Yewens vs Noakes Bramwell*, that A servant is a person subject to the command of his master as to how he

⁹⁸⁶ Section 44, 48(1), 49 (1)(b), 100, *Employment Rights Act of 1996*

⁹⁸⁷ Regulation 12 of the *Management of Health and Safety Regulations 1992*.

⁹⁸⁸ Section 2 and 7, *Health and Safety at Work Act of 1974*,

⁹⁸⁹ Section 53(1), the *Health and Safety at Work Act of 1974*.

⁹⁹⁰ Diplock LJ in *Savory v Holland, Hannen and Cubitts (Southern) Ltd* [1964] 3 All ER 18. See also, *Cavanagh v Ulster Weaving Co Ltd* [1959] 2 All ER 745.

⁹⁹¹ Ursin E and Nolan Ve (1995) “*Understanding Enterprise Liability – Rethinking Tort Reform for the Twenty-first Century*,” Philadelphia Temple University Press.

⁹⁹² *Donoghue v Stevenson* [1932] AC 562 added another category to the relationships in which a duty of care might exist. This case also marked the weakening of the category approach, in that Lord Macmillan remarked that “The categories of negligence are never closed”.

shall do his work.” This put restrictions on corporations where expert workers under such conditions hard to monitor for an employer.⁹⁹³

In “*Ready Mixed Concrete (South East) Ltd v Minister of Pensions and National Insurance*,” Judge McKenna applied a test that drivers are employees if three conditions contract of service exists.⁹⁹⁴ The driver will provide services for remuneration or wage, while his work will consider services. Lastly, the driver will be under the control of the master to an extent impliedly or explicitly.⁹⁹⁵ The rule that if a worker owns equipment deemed to run the business is not part of a services contract. Like the worker not receiving payment for resting period after completion of one and waiting for next. The self-employed do not mean that his not an employee.⁹⁹⁶

6.4 Paucity in Institutional Framework

6.4.1 Occupational Safety and Health Administration (OSHA)

The OHS Act, 1970 legislated and signed at the era of President Nixon and supported it as law. The OSHA established various agencies inside the department of labour for the enforcement of OHSE standards at the workplace.⁹⁹⁷ Further, the “Inspection and enforcement approaches” of OSHA u/s 8 authorized Labour Secretary for inspection of hazardous and dangerous industrial sites.⁹⁹⁸ The OHSA runs the OHSE programmes and operates millions of annual income. Most states run their OSHA programme for implementation of OHSE. OSHA is in partnership with most states and regulates under their laws. The states want to address their concern and issues for OHSE modification and flexibility. The OSHA concentrates on gathering data from employers in high-risk industries.⁹⁹⁹ The administration introduced “Site-specific targeting program and OSHA Strategic Management Plan.” The later claim the success of OSHA with a person-to-person meeting with worker and employers. OSHA opted for direct involvements to categorize

⁹⁹³ Glendon I and Booth R (1995) *Risk Management in the 1990s: Measuring Management Performance in Occupational Health and Safety* JOOHS 559.

⁹⁹⁴ *Amalgamated Engineering Union v Ministry of Pensions and National Insurance* [1963] 1 WLR 441”.

⁹⁹⁵ *Ready Mixed Concrete (South East) Ltd v Minister of Pensions and National Insurance*.

⁹⁹⁶ Ashford N and Rest K (1997) “*Occupational Health and Safety in British Columbia: An Administrative Inventory of Prevention Activities of the Workers' Compensation Board*,” Cambridge Massachusetts Ashford Associates.

⁹⁹⁷ Its Pakistani heading discussed in Chapter 4, heading 4.4. The challenges discussed in Chapter 5 under heading 5.3 and 5.5.

⁹⁹⁸ Section 8 of *The Occupational Safety and Health Act*, 29 U.S.C. § 657

⁹⁹⁹ The “Occupational Safety and Health Administration (OSHA) Strategic Management Plan” <http://www.natlarb.com/content/laws/OSHA.htm>. accessed on 28-11-2018

hazardous sectors. Besides, they believe to strategically reduce the illness, injuries and fatalities from mines extraction industry.¹⁰⁰⁰

OSHA explains the accidental and scheduled inspection categories. There are unexpected inspections familiarized by OSHA, not for the multi-employer workplace but to cover the operation. The programmed and scheduled inspections are for referrals, investigation for fatality or complaints.¹⁰⁰¹ The staff visits workplaces and advice relevant preventive and precautionary measures, OHSE risks and related plan of action. The initiative emphasis reveals on prevention of injuries and disease by employer's OHSE line of action.¹⁰⁰² The inspector can enter the workplace without search warrant under OSHA regime. In "Marshall v Barlow's, Inc", Supreme Court directed the search warrant approval for OSHA inspection.¹⁰⁰³ The inspections verify the business conditions, areas and operations and maintain the record of compliance standards, illness and injuries. The inspection started with responses like accidents, referral and compliant. OSHA started inspection if OHSE program is inefficient. Further, it stops inspection if risks or hazards are under control.¹⁰⁰⁴

6.4.2 Occupational Safety and Health Review Commission (OSHRC)

The review commission is another agency for resolving action of the employers filed for adjudication under the OHS Act u/ss 10 and 12. OSHRC is a podium for questioning any issue like notice is followed by workers or their employers.¹⁰⁰⁵ The President with consent and guidance of Senate appointed chairman with two members. The OSHRC work on assenting vote of two members while member serves for staggered six tenures. Further, it can opt for their procedure otherwise will direct federal procedure.¹⁰⁰⁶ The bill was introduced to revise the number of Commission members from three to five with proper training. The duration of a member will extend by the President for one year until the nomination of successor in office.¹⁰⁰⁷ The administrative law judge (ALJ) will decide and heard the proceeding at the initial stage. The order of the ALJ shall be a final decision of commission but the member had the power to direct

¹⁰⁰⁰“Federal OSHA and there relevant flexibility to tailor programmes”
<http://www.osha.gov/StratPlanPublic/oshastratplan1.html>. accessed on 12-12-2018

¹⁰⁰¹ Gross JA (1998, “*The Broken Promises of the National Labor Relations Act and the Occupational Safety and Health Act: Conflicting Values and Conceptions of Rights and Justice*” Chicago-Kent Law Review 351.

¹⁰⁰² Mendeloff A, *A Preliminary Evaluation of the 'Top 200' Program in Maine* Report to the Office of Statistics Occupational Safety and Health Administration US Department of Labor Washington DC (March 1996).

¹⁰⁰³ 436 U.S. 307 (1978), See Also, §1908.7(b) (4), 7(b)(4)(i) A & B.

¹⁰⁰⁴ Gora A and Clinton B *the New OSHA: Reinventing Worker Safety and Health* National Performance Review White House Washington DC (May 1995).

¹⁰⁰⁵ 10(c) and 12 of the *Occupational Safety and Health Act* of 1970. See also, 29 U.S.C. §§ 659(c) and 661.

¹⁰⁰⁶ U.S.C. §661(a)(b)(f)(g), Section 12(a) of the *Occupational Safety and Health Act* of 1970.

¹⁰⁰⁷ *Occupational Safety and Health Review Commission Efficiency Act* of 2005

to review the decision within 30 days passing the final order. The review of ALJ's final order is not a matter of right. The decision passed by OSHRC is final on review, while the appeal is possible to a court of competent jurisdiction in the US.¹⁰⁰⁸

6.4.3 Penalties of Civil Nature

Congress authorized the Labour secretary to assess and collect civil penalties from employers upon OSHA standards violations. The OHS Act provides a detailed system for the nature of the violation and their subsequent penalties. Section 17(k) of the OHS Act defines serious violation while "Other than serious" is not defined in the Act. The above loophole is covered by the case-law of "Crescent Wharf & Warehouse Co" where the Commission defined a minor violation. The OHSE violative conditions cause illness and injuries at the workplace. The sources of OHSE violations are risking conditions like processes, operations, means, practices and methods of mining extractions. The employer must know about OHSE violation and take due diligence measures.¹⁰⁰⁹

There are willful and repeated violations with penalties under section 17 of the OHS Act. The notice will be served to an employer for not adjusting or decreasing the risks or hazards. There are "De-minimus" violations do not possess abatement date or penalties and not associated with workers OHSE discussed. The Area Director is bound to draw penalties for violations and add those penalties on citation form. There are mandatory penalties for major violations given under 17(b), while section 17(c) deals penalties which are discretionary because of non-serious nature. Penalties for repeated and willful violations are covered under section 17 while assessment of mandatory penalties is covered under section 17(i). Those penalties which are imposed by the Secretary on an employer are given under Section 10 of the OHS Act.¹⁰¹⁰

If the employer fails to correct OHS violation then the penalty imposed by the Commission becomes final and the employer cannot file judicial review. The Labour Solicitor issues a complaint to the Commission before an ALJ if the employer contests timely. After communication of employer's notice to the OSHA Area Director, the judicial procedure under Section 10 of the OHS Act starts by Review Commission. The Area Director is bound to communicate the notice of contest to the Commission within 7 days of receipt. The burden of proof and to establish the appropriateness of the proposed penalties during the hearing lies on the

¹⁰⁰⁸ 29 U.S.C. §661(j) Section 12(j) of the *Occupational Safety and Health Act* of 1970.

¹⁰⁰⁹ Sections 9 and 17 of the OHS Act, See also, 29 U.S.C. § 666(k).

¹⁰¹⁰ "§ 659(c) The Commission's powers and duties regarding the assessment of penalties are derived from section 17(j) of the Act.

Secretary.¹⁰¹¹ Civil penalties are calculated by OSHA by numerous percentages and numerical values with relevant facts. The nature of penalties is to be determined from mining operations hazards and many workers.¹⁰¹² After judicial review, the appropriateness of the penalty or an OSHA standard *de novo* is determined by the Commission. The formula of OSHA for calculating penalties is not permitted by the requisites of section 17(j) and has faced criticism and rejection to be followed.¹⁰¹³ The grant of a reduction by OSHA is given because of the expensive litigation.¹⁰¹⁴

6.4.4 National Institute for Occupational Safety and Health (NIOSH)

The agency established within the Department of Education, Welfare and Health for OHSE research under section 22 of the OHS Act. Extensive discretionary authority was provided to NIOSH to conduct research on OHSE comprised of “studies of psychological factors and exploration of innovative methods, techniques, and approaches”. The NIOSH researches the OHSE problems and investigates the motivational and behavioural aspect of these issues. Furthermore, they focus on the industrial aspect concerning hazards and their stresses, processes and materials.¹⁰¹⁵ The responsibilities specified by Act for NIOSH to support the OSHA activities for standard setting.¹⁰¹⁶ It enables the labour secretary to establish OHSE standards regarding production. The publication criteria of listed noxious substances and the process of investigation of toxic substances list are to be maintained by NIOSH. It further takes responsibility for education and training with the labour secretary.¹⁰¹⁷ The institute is bound to conduct awareness and capacity-building to make workers qualified under the OHS Act, 1970. The NIOSH is duty-bound to conduct “informational programs on the importance of proper use of adequate safety and health equipment”.¹⁰¹⁸

6.4.5 Prosecutions and Notifications

The concerned officer will make written report and reference to area director and employer at due diligence u/s 9 of the OHS Act. The notices must comprise nature of the violation of

¹⁰¹¹ *Colorado Fuel & Iron Steel Corp.*, OSHC 1295 (Rev Comm'n 1974).

¹⁰¹² Bokat SA (ed) (1988) *Occupational Safety and Health Law* Washington D.C. The Bureau of National Affairs Inc, 292.

¹⁰¹³ This is based on section 17(j) of the Act and has been affirmed by several U.S. courts of appeal. See *California Stevedore & Ballast Co. v OSHRC*, 517 F. 2d 986 (9th Cir. 1975); *Bomac Drilling*, OSHC 1681 (Rev. Comm'n 1981).

¹⁰¹⁴ Bokat SA (ed) (1988) *Occupational Safety and Health Law* Washington D.C. The Bureau of National Affairs Inc.

¹⁰¹⁵ 29 U.S.C. § 669 (a)(1), (a)(4), (a)(7).

¹⁰¹⁶ The Occupational Safety and Health Review Commission (OSHRC), 29 U.S.C. § 671 (c)(1)

¹⁰¹⁷ *Registry of Toxic Effects of Chemical Substances* 29 U.S.C. § 669 (a)(6). See Also, These investigations are called Health Hazard Evaluations (HHEs).

¹⁰¹⁸ 29 U.S.C. § 670 (a) (1).

standards or rules and time limit for the abatement or improvement of that contravention. The section further mandated a notice to post at the workplace within time.¹⁰¹⁹ The notice includes the particulars of employers' contravention without unnecessary details and must be delivered with due diligence. The employer is bound to notice within the time specified at the workplace of violations. The logic is to inform the workers about hazardous activities.¹⁰²⁰ The complaint required quick disposal under section 9. The OHSA manuals for operation ordered the relevant officer to take measures for abatement. The employers are there to submit a plan of abatement concerning violations that required administrative control and proper engineering.¹⁰²¹ The abatement period can be challenged by an employer on the ground of less time for compliance and a petition shall be required for extension of time for reduction.¹⁰²² The secretary is bound for the burden of proof regarding all elements of a contravention of the employer challenges the allegations. There is a defence of coverage for the application of Act from employers' perspective and working condition while the merit of violations falls under substantive defences. The procedural defence makes employer capable to evade liability due to secretary failure of statutory, regulatory and constitutional necessities during an inspection.¹⁰²³

6.4.6 OHSE Structure: The Health and Safety Executive (HSE)

The executive arm of the HSC is established by the HSW Act, however, both work within their spheres. (as discussed in Chapter 4, heading 4.4). The duties of HSC are; policy-making, developing and documenting a plan-work for itself. The HSE identifies the development of new regulations and enforcement priorities. After approval from Secretary of State, this plan-work becomes the official policy of the HSC and the HSE. HSE is responsible for enforcement of the factories, mining, chemical nuclear and petroleum laws. The Executive enjoys a licensing authority under various provisions of the 1974 Act and the Nuclear Installations Acts.¹⁰²⁴ The HSE enforcement and inspection team visit workplaces and put pressure on regulators. HSE concentrating on corporations during inspections those cause major hazards or OHSE risks.

¹⁰¹⁹ Section 9 (b) and 10(a) of the Act, (Section 17(i) of the Act.), In *B.J. Hughes, Inc.*, 7 OSHC 2008 (Rev. Comm'n 1980).

¹⁰²⁰ See *Havens Steel Co. v OSHRC*, 738 F.2d 397, 11 OSHC 2057 (10th Cir. 1984), a nine-week delay; *Bethlehem Steel Corp v OSHRC*, 607 F.2d 871, 7 ISHC 1802 (3rd Cir. 1979), a seven-week delay.

¹⁰²¹ Gross JA (1998, "The Broken Promises of the National Labor Relations Act and the Occupational Safety and Health Act: Conflicting Values and Conceptions of Rights and Justice" Chicago-Kent Law Review 351.

¹⁰²² Mendeloff A A Preliminary Evaluation of the 'Top 200' Program in Maine Report to the Office of Statistics OSHA, US Department of Labor Washington DC (March 1996).

¹⁰²³ Gross JA (1998, "The Broken Promises of the National Labor Relations Act and the Occupational Safety and Health Act: Conflicting Values and Conceptions of Rights and Justice" Chicago-Kent Law Review 351.

¹⁰²⁴ Sections 19 and 20 of the HSW Act, 1974. See section 18 of the Act. The allocation of responsibilities within the HSE is now governed by the *Health and Safety (Enforcing Authority) Regulations 1989*."

Further, they evaluate commitment, managerial capability and risk assessments of entities.¹⁰²⁵ Measures are taken for reliable, balanced and transparent initiatives of enforcement mechanism. The development of employment sectors required an improved inspection system, developing risk-based job structure and resource concentration on industrial activities.¹⁰²⁶

6.4.7 Prosecutions and Prescription Notices

The point which differentiates between HSE and OSHA in the US is the direct imposition of penalties and prosecutions which is backed by the HSE. After promulgation of HSW, the inspectors were accorded with powers while HSE workers were deprived of such authority. Notices to be served are of three kinds namely; “deferred prohibition notices, immediate prohibition notices, and improvement notices.” These notices are directly served to individuals without leading to criminal proceedings. If the individual fails to comply with the orders it will be a criminal offence. The breach of duty may cause a notice to a person without ending his work while immediate notice leads to ceasing of work. A time limit will decide the nature of deferred prohibition notice and immediate notice. There are improvement notices served by inspectors after identification of injury but not as a duty. The improvement and prohibition notices are appealable. The appeal lies against the notice to the industrial tribunal, High Court and “House of Lords.”¹⁰²⁷

6.4.8 Health and Safety Commission (HSC)

The HSC is responsible for the administration of Act, “The Health and Safety at Work Act of 1974” (HSW Act) that strive for promoting research, providing information, submission of proposals for regulations to the “Secretary of State for Environment and Transport” and to provide advisory services. The HSC is a non-elected body that comprises a Chairman appointed by the Secretary while the members are appointed with consultation of representatives of industrial management, employees, and local government.¹⁰²⁸ Those regulations which are developed and documented by HSC with the consent of Secretary of State becomes the law and their breach can lead to a penalty. The HSC is a corporate policy-making body which is

¹⁰²⁵ The Health and Safety Executive in Scotland announced the following on 5 January 2005: “Programme Of HSE Inspections In Fife”, <http://www.gnn.gov.uk/Content/Detail.asp?ReleaseID=140982&NewsAreaID=2>, accessed on 12-9-2019

¹⁰²⁶ “The Chancellor Philip Hampton requested a review into reducing administrative burdens without reducing regulatory outcomes during the Budget 2004, <http://www.hm-treasury.gov.uk/hampton>, accessed on 12-10-2018.

¹⁰²⁷ *Tesco Stores Ltd v Kippax* (1990) COIT 7605-6/90. See also, *In Grovehurst Energy Ltd v Strawson* (1990) COIT 5035/90.

¹⁰²⁸ Tucker E (1995) *the Westray Mine Disaster and its Aftermath: The Politics of Causation* Canadian JLS 91.” For the purpose of giving practical guidance, the HSC also issues Approved Codes of Practice covering and explaining the Regulations.”

administered by elected representatives (officers of trade unions). This Commission is dominated by the "Confederation of British Industries (CBI) and the Trades Union Congress" (TUC) with less importance for a local authority.¹⁰²⁹ The Commission has made it mandatory to make decisions unanimous to avoid a clash between employers and trade unions. The trade unions in the UK give more importance to a voluntary, non-legal system of industrial relations. The HSW Act also encourages participation of workers at decision-making in OHSE issues, for regulations' development. The highest body of the Commission, the HSC strives to bring together employers and unions concerned with a specific hazard.¹⁰³⁰

The HSC, being a non-autonomous body often face political pressure and Secretarial influence. The Commission's work plan, the appointment of commissioners, budget and in inter-departmental consultations on regulations are approved by Parliament. The House of Lords and its committees examine regulations of HSC but often little attention is given to them. Due to a short Parliamentary time and ignorance of OSH issues amongst stakeholders, HSC faces little Parliamentary impact.¹⁰³¹

6.4.8 OHSE Audit

The regulatory resources measures are significant to be familiarized. Third-party lapses and corporate efficient self-regulation are two diverse systems.¹⁰³² The body corporate introduces SMS as per the functions and requirements of an enterprise through appropriate procedures and policies. The role of employees is significant for OHSE procedures and policies development.¹⁰³³ There is a need to boost thinking and learning for the eradication of occupation ailments and injuries after the establishment of procedures and methods. The employees' performance mechanism can be introduced like self-operating, self-monitoring and self-dealing for better OHSE measures.¹⁰³⁴ Self-regulation internal procedure is essential to control, resolve or identify the failure of OHSE. This will ensure the aims of SMS and TQM. The management must have a capacity of self-operating and formulate effective plans efficiently and properly.¹⁰³⁵

¹⁰²⁹ Woolfson C (et al) (1997) *"Paying for the Piper": Capital and Labour in Britain's Offshore Oil Industry* United Kingdom Mansell Publishing Pty (Ltd)."

¹⁰³⁰ Yohay SC (1993) *OSHA Compels Disclosure of Safety and Health Audits: Smart enforcement or misguided policy?* Employee Relations Law Journal 663-8.

¹⁰³¹ Gross JA (1998) *The Broken Promises of the National Labor Relations Act and the Occupational Safety and Health Act: Conflicting Values and Conceptions of Rights and Justice* Chicago-Kent Law Review 351.

¹⁰³² Lederman E (2000) *"Models for Imposing Corporate Criminal Liability: From Adaptation and Imitation Toward Aggregation and the Search for Self-Identity,"* Buffalo Criminal Law Review 642.

¹⁰³³ Loewenberg S *Business Meets its Match* The American Prospect Online (30 June 2003).

¹⁰³⁴ Lederm Lederman E (2000) *"Models for Imposing Corporate Criminal Liability: From Adaptation and Imitation Toward Aggregation and the Search for Self-Identity,"* Buffalo Criminal Law Review 642.

¹⁰³⁵ Rabinowitz RS and Shapiro SS (1997) *"Punishment Versus Cooperation in Regulatory Enforcement: A case study of OSHA,"* Administrative Law Review 713.

There is a need for internal audit in corporations for proper curative action, enforcement and identifying problems. The OHSE accident required to report to the government by an internal audit manager. The grace period is given to rectify the deficiencies provided by authorities before the initiation of prosecution.¹⁰³⁶ Employees should be involved to internalize compliance of OHSE by an enterprise. The SMS lapse cause burden for under-resourced business. The OHSE performance based on agency assets and not on enterprise regulatory inquiry and support compulsory.¹⁰³⁷ The audit of off-shore rigs OHSE was done in paper audit after legal formalities are assessed.¹⁰³⁸ The issue has a solution to assess through OHSE autonomous professional. The audit involves “the structured process of collecting independent information on the efficiency, effectiveness, and reliability of the total SMS”. The audit would aim to evaluate OHSE control and planning system reliability and legitimacy.¹⁰³⁹

The cost will be borne by enterprise and low cost on the regulator. The enterprise complaints might be substantial and deter entities for enforcing SMS for SMEs. The workers OHSE committee, trade union and workplace representatives must include in audit team to overcome the autonomy issue.¹⁰⁴⁰ Further, the issue of training and practical experience is resolved in various jurisdictions. Workers and OHSE representative are a valuable contribution for audit and SMS partnership. The workers' participation in the audit would boost credibility and reduce manipulation and valuable function of “whistleblowing” add to OHSE system.¹⁰⁴¹ The employee can blow a whistle if participate in audit and alert about SMS function. Further, it would empower the regulator for inspection. The worker representative can file compliant for unfair internal audit and OHSE control and lack of management. Legal safeguards required against worker discrimination and victimization. Further, the law must provide assurances to refuse dangerous work and stop operations.¹⁰⁴² There are neither specific qualifications for auditors nor any standards for OHSE audit. Though, general OHSE audits standards are there but

¹⁰³⁶ Needleman C *OSHA at the Crossroads: Conflicting Frameworks for Regulating Occupational Health and Safety in the United States* Paper delivered at the Policies for Occupational Health and Safety Management Systems and Workplace Change Conference Amsterdam (21-24 September 1998).

¹⁰³⁷ Quinlan M *The Development of OHS Control Systems in a Changing Environment: An International Perspective* School of Industrial Relations and Organizational Behaviors University of NSW Paper delivered at the Workshop on Integrated Control/Systems Control Dublin (29-30 August 1996). “

¹⁰³⁸ Stables DJ (2003) *Environmental Audits are Part of the Big Picture* Management Today 56.

¹⁰³⁹ Loewenson R *Occupational Health and Safety Legislation in Southern Africa: Current Trends* Monographs 1/96 Friedrich Ebert Stiftung and Institute of Development and Labour Law University of Cape Town (1996).

¹⁰⁴⁰ Parliament of New South Wales Legislative Council Standing Committee on Law and Justice “*Report on Inquiry into Workplace Safety*” Interim Report. 8, New South Wales Government (December 1997).

¹⁰⁴¹ Emmett EA “*Regulator reform in Occupational Health and Safety in Australia*,” Paper presented at The Institute of Public Affairs Conference on Risk, Regulation and Responsibility Sydney (July 1995).

¹⁰⁴² Ashford N and Rest K (1997) “*Occupational Health and Safety in British Columbia: An Administrative Inventory of Prevention Activities of the Workers' Compensation Board*,” Cambridge Massachusetts Ashford Associates.

confusion on the extent and quality of SMS. This further focus on validation audits components, subsystems and appropriate monitoring concerning OHSE.¹⁰⁴³

6.4.9 Workers Self-Regulation and Third Parties

Those enterprises that implement SMS effectively produce standard results regarding OHSE along with continuous progress and founding an OHSE culture in enterprises. Better implementation of SMS guarantees stakeholders a win-win situation. The enterprises are bound to regulate themselves, taking “ownership” of its OHSE and to explore methods of minimizing occupational injuries and diseases. The employers will also benefit as “a safety systems approach promises to deliver greater OHSE benefits than conventional regulation.”¹⁰⁴⁴

The implementation of self-regulation is significant for SMS enforcement. There required an inquiry of self-regulation to minimize the gap amid private and public concern. The inspectorate needs skills to monitor SMS as per the law.¹⁰⁴⁵ The effectiveness of SMS indicates the compliance of undertakings. Though, the inspection and audit of undertakings are effective phases for SMS monitoring. An audit will further evaluate the examination and adequacy of SMS through certification of enforcement mechanism.¹⁰⁴⁶ Besides, the audit encourages inspectors for visiting different hazardous workplaces or enterprises when there is an imminent risk.¹⁰⁴⁷

6.4.10 OHSE Self-Regulation Enforcement

SMS has played a vital role in the improvement of OSH performance. An efficient implementation is the by-product of the self-regulatory approach. However, the need is to make certain that the major risks connected with this approach do not emerge. The need of the hour is to utilize workers and third-party auditors as “surrogate regulators” and developing a modified role for the inspectorate to focus on audits rather than inspections for SMSs realization. These risks contain:

“Implementation failure; token adoption of ‘paper systems’; collapsing into a behaviourist approach which results in blaming workers; top-down which disempowers rather than directly involves workers; and a mechanistic, box-ticking

¹⁰⁴³ Johnstone R “*The Court and the Factory: The Legal Construction of Occupational Health and Safety Offences in Victoria*” Unpublished Ph.D. Thesis The University of Melbourne (1994).

¹⁰⁴⁴ Emmett EA “*Regulator reform in Occupational Health and Safety in Australia*,” Paper presented at The Institute of Public Affairs Conference on Risk, Regulation and Responsibility Sydney (July 1995).

¹⁰⁴⁵ Tombs S (1995) *Law, Resistance and Reform: “Regulating” Safety Crimes in the UK* Social and Legal Studies 343-365.

¹⁰⁴⁶ Rabinowitz RS and Shapiro SS (1997) “*Punishment Versus Cooperation in Regulatory Enforcement: A case study of OSHA*,” *Administrative Law Review* 713.

¹⁰⁴⁷ Forster Kr Bernstein De and Huber Pw (1999) *Phantom Risk, Scientific Inference and the Law* 1st edition Massachusetts MIT Press.

mentality which, far from achieving cultural change and continuous improvement, produces merely symbolic, rather than real benefits.”¹⁰⁴⁸

6.4.11 Established Inspection Mechanisms

The recommendations of the Robens Report paved the way for the present UK voluntary compliance approach to inspection and enforcement. According to the report, the role of the state in promoting OHSE at the workplace should be restricted. Robens restricted the role for the inspectorate and emphasized more on to give advice and assistance in future rather than on enforcement of regulations. This Committee has authorized the long-standing practice of UK inspectors to rely on persuasion, while the prosecutions were done rarely.¹⁰⁴⁹ The sovereignty of management and workers’ OHSE are highly encouraged by the Committee. The main apprehension of the Committee was that stakeholders are prone to governmental actions for compliance. They mainly focus on legal actions and taking minimum efforts or responsibilities by mineworkers and employers. There needs an attitude for enforcement and avoid unreasonable powers of inspectors.¹⁰⁵⁰

A publication of HSC “A policy for workplace OHSE in the UK to 2010 and beyond”, requires, the expansion of partnerships among the public and private sectors. The risk assessment will need to “make it relevant and available to all and to ensure a sensible approach to risk management a simple, relevant and effective tool.” Help will be provided to enterprises to obtain advice without “fear of enforcement action while allowing the regulators to continue to be tough on those who willfully disregard the law”. The names of convicted OHSE offences and of those who received “Improvement and Prohibition Notices” are published by the HSE. The query is required to ask about persuasion and cooperation about contravention of regulations while OHSE inspectors will not bear such breaches.¹⁰⁵¹ The employers need to provide motivation, information and guidance for OHSE improvement. The role of HSE and HSC is very significant in this regard.¹⁰⁵²

According to the data of the report, most of the employers fear enforcement, while in reality, the present levels of investigation, inspection, and enforcement by the HSE pose a

¹⁰⁴⁸ Parliament of New South Wales Legislative Council Standing Committee on Law and Justice “*Report on Inquiry into Workplace Safety*” Interim Report. 8, New South Wales Government (December 1997).

¹⁰⁴⁹ Hodges J “*Eight Years of Robens Style Legislation in Queensland – What have we learnt?*” Paper presented at the Productivity, Ergonomics and Safety Conference Ergonomics Society of Australia Canberra (24 to 27 November 1996).

¹⁰⁵⁰ “Health and Safety Commission (UK) *Review of the Health and Safety Regulation Main Report (Volume 1) and Summary of findings and the Commission’s response (Volume 2)* HMSO UK London (1994).”

¹⁰⁵¹ United Nations Environment Program (UNEP) *World Conservation Strategy: Caring for the Earth: A Strategy for Sustainable Living* IUCN Publications Services Unit Cambridge UK (1991).

¹⁰⁵² “Civil Aviation Authority (CAA) of Great Britain Published Report”, <http://www.hazards.org/commissionimpossible/nov04.htm>. Accessed on 22-9-2018

minimal threat. The data evidenced that alternative interventions are there due to inadequate enforcement and inspection like firm reputation, partnership approaches and supply chain pressure.¹⁰⁵³

Conclusion

OHSE agencies need specific prosecution and hard sanctions against an employer and other duty holders such as high ranking manufacturer, directors, contractors, managers and suppliers of unsafe extractions in the mining sector.¹⁰⁵⁴ Afore-said discussion emphasizes that UK and US approach the issue of reimbursing injures and infected workers differently, although the workers' compensation schemes of both countries are similar. The US workers' compensation system is based on insurance while UK compensation system is based on social indemnification criteria. There is civil suit claim for compensation of workers in the UK, while in the US they may sue a business for genuine OHSE violations. Fiscal penalties are suitable as a general impediment but not a compelling change for corporate behaviour but apply to sanctions to revise their OHSE standards for workers protection. The remedies of common law are there available for OHSE violations in certain states but there need special sanctions and measure to eradicate such violations and reveals different lessons for Pakistan. The disagreement is that the law of tort is not preventive, and the only remedy is through the statutory approach providing detailed guidance for enterprise's conduct. Most accidents occur due to negligence and cannot be circumvented through penalties and need deterrence like comparative approach. Further, after an accident, it is suggested that investigation by enforcement agencies utilizing differential premiums in workers' compensation could increase preventive controls of OHSE.

There is a need to alter the enforcement and consider situations of violation, OHSE management quality, compliance history and business of record of exposing workers to risks and need to adopt such practices in Pakistan. The instance shows that these authorities select hazards or industries for OHSE implementation program.¹⁰⁵⁵ The SMS is familiarized and integrated with less legislation with limited empirical evidence. Further, this mechanism shall be inculcated employing regular, planned and small increase into legislation. It indicates in substantial evidence, "the integration of SMSs into the regulatory framework offers one of the most potent

¹⁰⁵³ Tombs S and Pearce F (1997) "Hazards, Law and Class: Contextualizing the Regulation of Corporate Crime," *Social and Legal Studies* 79 at 92 – 9.

¹⁰⁵⁴ Forman BN and Bonner JP (1993) "Bridging the Deterrence Gap: Imposing Criminal Penalties on Corporations and their Executives for Producing Hazardous Products," *San Diego Justice Journal* 1.

¹⁰⁵⁵ European Agency For Safety And Health At Work *Priorities and Strategies in Occupational Safety and Health Policy in the Member States of the European Union* European Agency for Safety and Health at Work Bilbao Spain (1997).

opportunities for regulatory reform in many years.”¹⁰⁵⁶ The conflict of interest (COI) at the workplace is between workers, government and employer regarding OHSE issues in UK and USA. The COI impact the process of policy-making and development of regulation in the UK.¹⁰⁵⁷ Gaps are eliminated by different institutions during treatment and there is slight civic accountability. The review, notices and civil penalties of OSHRC, OSHA and HSC show the implementation of OHSE sanctions to resolve the legal issues economically and timely. Globally, the workers are encouraged to contribute to the promotion of their OHSE working condition as well as legislation. A mechanism of negotiation and cooperation between employer and employees was recognised by OHSE committee in developed states. The authoritarian employers and exploitive governments target collective bargaining and unionization in most states. The worker participation should entrench in OHSE management like monitoring and administering management system, designing of apparatus and plant.¹⁰⁵⁸

¹⁰⁵⁶ Van Kerken (1997) “*The Right of an Employee to Stop Work in Dangerous Circumstances at the Workplace: An International Perspective on South African law*” ILJ 1198.

¹⁰⁵⁷ House Of Commons, Select Committee On Employment *The Workings of the Health and Safety Commission and Executive: Achievements Since the Robens Report* Sixth Report, Session 1981-1982 HMSO UK London (1983).

¹⁰⁵⁸ Johnstone R “*The Court and the Factory: The Legal Construction of Occupational Health and Safety Offences in Victoria*” Unpublished Ph.D. Thesis The University of Melbourne (1994).

FINAL CONCLUSION AND RECOMMENDATIONS

Conclusion

The findings and recommendations will be useful for legislation and policy formulations for Pakistan. The abuse of OHSE and labor rights is secondary in numerous conventions while the study provides effective insight for mines OHSE. The work appraise the holistic, comprehensive and comparative legal approach to bridge the gap with developed states mines OHSE practices and provide legal recommendations for Pakistan. This study has shown that the occupational diseases and accidents are underreported and there is a need for addressing miners OHSE issue at the workplace. Mineworkers' in developing countries face several occupational safety and health risks such as biological pollution, heat, and dust and organo-chemical hazards. Factors such as lack of adequate resources, socio-economic problems, geographical and cultural factors, and absence of opportunity to conduct research are responsible for the above-stated issues. The hurdles in implementation and enforcement of controlled measures are lack of national government policies, necessary training and expertise. National and international actors need to address mines OHSE issues and develop solutions for the development of mining industry.

This research has examined OHSE issues among mineworkers with low education, income, and social status who receive minimal support from state regulatory and enforcement agencies. The literature review has shown that the mechanism of inspection, reporting and social security is lacking and dire need for compliance. The literature review also emphasized globalization and OHSE, accidents, hazards and injuries among mineworkers as well as OHSE issues in Pakistan with the role of regulatory bodies, policies and laws for protecting workers. The governments should improve the institutional framework, capacity-building and infrastructure in mining industry as well as revise, upgrade and adopt standard procedures and other essential strategies.

There are gaps in existing legal regime and the mining industry in Pakistan is lacking credible OHSE measures. The mining industry is not only responsible for occupational health issues but affects mining vicinity. Small scale and informal mines contribute to labour markets and must be recognized. The objective is to fill the substantial knowledge gaps concerning OHSE in Pakistan. Despite many legislation and policies, this sector is standing at the same place due to non-compliance of laws and standards. Till date mining industry is the most hazardous one for mineworkers. The reasons for the failure of the mining sector are lack of implementation of laws, non-enforcement and incapability of management and regulatory authorities, absence of recording accidents and data and weak prosecutions. Developed nations

have taken many steps such as legislation and implementation to prevent loss of human capital which is productive step for improvement of mines OHSE. Lack of basic education and absence of preventive OHSE measures are threats to miners health and causes health issues such as fatigue, stress, allergic reactions strain, hearing loss etc. Besides, defective equipment, lack of experience and negligence adds fuel during mining accidents.

This research study has highlighted the need for adequate remedies, legal standards and practices to curb or prevent the exploitation and oppression in mining. The government necessitates to ensure after establishing corporate criminal liability for mining occurrences. The OHSE institutions required hard sanctions and tough prosecutions against the violaters for unsafe extractions. The government, mining businesses and communities need to identify the dissenting areas in mines OHSE legislation through joint participation. The requirements of identification of grey areas with existing legislation and to create a compatibility between mining and environmental laws for miners protection. There is also a need for strong investigations for OHSE accidents and negligence. It is the corporate liability of mining companies to reveal the legal obligations regarding mining activities, assessments, environmental deals and other liabilities. Moreover, a mechanism is required within concerned departments to monitor progress and follow mines operations. The legal framework must ensure the enforcement of legislative compliance and OHSE management system. The objective of the implementation is to alleviate occupational injuries and accidents. The transparent monitoring from associated departments for effective implementation of OHSE legislations, Pollutor Pays Principle (PPP) and precautionary measures are required. The developed states recognised the method of cooperation and negotiation between employee and employer. The staff of department or companies should be punished for non-compliance of OHSE legislation and enforcement.¹⁰⁵⁹

The significant query is that of comparative practice and adoption of its legal practices for Pakistan along with recognition of criminal liability. UK and US have a vague history of regulation because of the stigma attached to OHSE crimes. Various institutions are established for different OHSE purposes in the developed states that is a comparative approach for Pakistan. The regulations were developed with hurdles to establish the OHSE crimes. These steps compelled employers to invest in OHSE to avoid any criminal penalty for their failure. The corporations were rarely punished for OHSE offences and require practical steps to discourage such inhuman attitude. Various legislation were formulated to end corporate killings by organizations. These legislations were with loopholes given way to employers to escape prosecution and penalty for

¹⁰⁵⁹ Colin Noy Boocock, "Environmental Impacts of Foreign Direct Investment in the Mining Sector in Sub-Saharan Africa", (2002). Accessed from, www.unsystem.org/ngls/documents/publications.en/voicesafrica/number6/

their failures evident in “Paddington, The Piper Alpha, Herald of Free Enterprise”, and other calamities in UK. Such accidents created environmental issues within mining vicinity as well as for general environment. The ILO 2006 Convention is another step with aim to reduce OHSE accidents and diseases. This type of gross negligence of overlooking individual liability was rectified by incorporating in upcoming legislations under which a person charged can be hugely fined. The comparative study is applied and adept to bring better recommendations for Pakistan. The legislative development provide a wide range of penalties to the accused of their negligence and business killings.¹⁰⁶⁰

The mining sector requires adequate protection and proper legal solutions to make this sector OHSE compliant. The mines OHSE required a rational policy instrument on ethical, legal and environmental practices in the mining sector. The government and relevant stakeholders need to conduct research to expose non-compliant businesses probing OHSE sustainability and award unrealistic tasks. There are repercussions for sustainable development for not carrying out independent research in the mining sector. The mines-owner cannot classify the OHSE investment and continue ignoring reports on diseases and accidents. The lack of proper reporting concerning mines OHSE, hazards, and a potential disaster for local communities are embraced by the mining industry. The work focuses on to highlight the gaps and weaknesses in mines OHSE and its impact on societies and mineworkers. There are incoherent relationships amongst government, companies, owners and miners.(discussed in Chapter 6)

The way forward that there needs an appropriate policy and legislation at every level with sustainable enforcement procedures. Such measures required to empower the community and miners to communicate the irregularities. These measures could mitigate OHSE problems and hazards for viable mining. Assessment and awareness are important tools to overcome OHSE issues at every level. The mining sector facing numerous challenges like legal, political, socio-economic, poor working conditions, lack of information, social investment and education on a corporate part. There required better compliance of OHSE standards and legislations for sustainable mining in Pakistan. These mining businesses had to create a balance of obligations amongst stakeholders for better OHSE practices. It is a government responsibility to update the legislation and make appropriate measures to eradicate the OHSE non-compliance. A poor working condition during the mining process had a deep impact on workers OHSE and requires appropriate regulation to avoid adverse impacts. The legal mechanism and procedures are unable to ensure “responsible” mining OHSE in Pakistan.

¹⁰⁶⁰*R. v Transco plc* op. cit. n.339

Recommendations

This research recommends the following reforms for addressing the legal lacunae , proposing measures for the meticulous implementation of current laws and regulations and other necessary ways to overcome the challenges in the area of OSH:

- There is a need to enforce and establishes mines OHSE policies after consultation with mineworkers and other stakeholders. The policy requires a detailed mechanism, suggestions and amendments in formal and informal mines at the national, provincial and local level. The policy necessitates appreciation and input from businesses and administrative level and mandated proper communications amongst the relevant stakeholder. There need a review, enforcement and formulation of OHSE policies with dissemination and collection of relevant information of relevant hazards. Other activities such as monitoring, surveillance, good practices are required for the implementation of efficient policies as discussed in details in Chapter 4.
- As duly highlighted in Chapter 4 and 5 mines environmental concerns requires adequate enforcement plan relevant to stakeholders within a national framework. The enforcement plan further requires to collaborate with a local, provincial and national government to implement environmental management and OHS. The preventive and precautionary approach must be the purpose of OHSE at the workplace. The design or planning or working environment or workplace must be healthy and safe. This must promote mines health program to enhance mineworkers' social, mental and physical well-being. The help of experts can be taken to prevent accidents and mishaps through precautionary and preventive measures. The regulatory authority requires to play its part consistently for a healthy and safe working environment. The plan requires a watchful sustainable transformation at the local and national level. Furthermore, reforms are needed at ministerial level after collaboration with relevant stakeholders concerning OHSE.
- Ensuring provisions of "Occupational health services" for all mineworkers in order to promote and protect all health-related issues. Proper and timely actions are absolutely vital to mitigate the occupational hazards through rehabilitation, curative measures and proper compensation or wage system. The services will improve the working condition and health of all workers. These services are to be mandated for the victims of workplace diseases and occupational accidents and injuries. Social security needs to be implemented to cover mineworkers' welfares, wages, old-age benefits,

minimum rest, compensation under unified welfare authority. Further, miners must be registered with the local government other than businesses. The mineworkers need to register with NADRA as a step to access to justice for the needy. This needs effective enforcement and a mere proposal by experts are nothing to attain social justice. The mineworkers need to be registered with “Employees Old-Age Benefits Institution (EOBI).” The contractors or employers are not interested to pay any attention to medical treatment or compensation after mines accidents.¹⁰⁶¹

- As discussed in Chapters in 4, 5 and 6 the administration or relevant competent authorities must update or devise to employers and miners regarding their safe places and procedures and basic medical facilities. The local authorities need to focus on the designing or structuring of ventilated and safe mines workplace. The employers and mineworkers must know about the significance and methods of the safe and healthy working mechanism during mines operation. There need a proper healthy, safe working environment training, education and guidelines within the legal framework.¹⁰⁶²
- There is low use of PPE amongst mineworkers and hence in need of proper guidance on the significance of safety tools. (as discussed in Chapter 4 and 5). Prerequisite of proper training and education regarding incorporating the PPE in OHSE practices and labour union are significant for reduction of workplace injuries, diseases and illnesses.¹⁰⁶³ A “Smart Helmet” was designed for safe mining with cost-effective “Zig-Bee wireless technology.” Miners must be trained for emergencies in the mining sector. The OHSE education, training and awareness are lacking mock exercises. Evacuation exercises and rescue education must be done by mineworkers before mining operations, e.g. 33 Chile miners were rescued after two months. The mine-owners forbade the victims to share any information with the media. There necessity of effective implementation and harmonization of provincial and federal level regarding mines OHSE. Furthermore, there requisite to establish an integrated authority for strengthened OHSE.¹⁰⁶⁴

¹⁰⁶¹ As discussed in Chapter 5 in obstacles and challenges.

¹⁰⁶² Combating Silicosis, By Zeenat Hisam | 10/16/2016 12:00:00 AM, The writer is a researcher in the development sector. zeenathisam2004@gmail.com.

¹⁰⁶³ The Rights of Pakistani Coalminers, Anam Zeb, May 1, 2016, the writer is a freelance columnist and a climate change activist working in the development sector.

¹⁰⁶⁴ Turkish Miner Reveals Lax Safety Record and Climate of Fear at Soma Mines, Constanze Letsch, May 22, 2014, *Published in Dawn, May 22nd, 2014*

- There is a need for an effective labour inspection system for compliance of OHSE standards. The mining department needs more vehicles, equipment, more inspectors and other logistics for the growing number of informal mines and mining companies. Further, a systematic inspection after consultation with mineworkers, employers consisting of competent doctor and inspector.(Discussed in Chapter 4 and 5). The system should be capable to create standard reports concerning occupational accidents and diseases. The ILO country head signed an agreement with Netherland to provide capacity building for inspection system concerning OHSE. There needs proper up-to-date, modified and effective legislation and strong unions in Pakistan. Certain steps such as a strong inspection and investigation system, updating laws and strong labour unions are the need of the hour for which every stakeholder need to play their respective role. Political will/commitment could be one way to strengthen OHSE regime in the country. The provinces are required to legislate on the subject with a proactive approach in post-devolution scenario. Mining accidents in Sor-Range and other areas must be the lessons for the government.¹⁰⁶⁵
- Decentralization of departmental activities is also required between environment and mines for the appropriate enforcement and inspection. Some functions of the mines department must be transferred to environmental authorities for environmental issues. There need to establish an OHSE executive or commission or a regulator free from political interference. The establishing of the commission or executive is the “renewed move to establish regulatory bodies.”¹⁰⁶⁶ All the investment projects need different environmental assessments to remove hazardous environmental impacts. The mining and environmental laws need to amend to remove mines environmental hazards and conflict of interest for approval of EMP, SEA and EIA. There are communicable diseases and employment issues connected with mining operation area and need strong assessment procedures for such projects. (Discussed in Chapter 4 and 5 under heading 5.2, 4.5)
- Multi-layered sub-contracting system needs to be discouraged by the owners with a strong regulatory mechanism. The mineworkers are under compulsion in multi-faced contracts and fragmented liability from the contractors. The mineworkers are not properly compensated during employment and witnessed the worst labour practices in

¹⁰⁶⁵Soot and Plunder, By Zofeen T. Ebrahim | 6/3/2018 12:00:00 AM

¹⁰⁶⁶Robens, *Safety and Health at Work. Report of the Committee 1970-72* op. cit. n.20, p.153

mines. An appropriate mechanism is required against negligent contractors to enact proper OHSE and labour standards.¹⁰⁶⁷ There requires to establish a supervisory framework for proper checking to eradicate the evil of corruption. Further, the strict implementation of anti-corruption is the need of the hour. This necessitates awareness among mineworkers about the submission of corruption charges against the oppressors. The licence of mine-owner should be cancelled who are not complying OHSE provisions. Furthermore, it should also be cancelled who pay no attention to the enforcement of mining and environmental laws.¹⁰⁶⁸ (Discussed under heading 5.3 and 5.5).

- The international bodies like ILO and WHO appealed to numerous countries to ban hazardous and risky mines. Few states fulfilled the appeal while federal government must spare some time to curb risky mines.¹⁰⁶⁹ The government of Pakistan need to ratify C-155, C-176 and "ILO Codes on Safety and Health in Underground Coalmines, 2006" to develop guidance and general principles regarding mines operation to meet international standards.¹⁰⁷⁰ The Sindh government legislate the "Health and Safety Act, 2017" and acquired inspection capacity building with the support of ILO.¹⁰⁷¹ The Sindh government is unable to stop the underground coal gasification (UCG) as it contaminates the aquifer. These coal mining plants generate hazardous substances and caused cancer due to benzene and toluene. These projects had been banned around the world lacking environmental evaluation and dewatering. Such water is used in various sectors like food production and security and agriculture. There requires for the care of the general public in the vicinage of mining. The future legal recommendations must extend for the legislative purpose for general public safety from mines collapse.¹⁰⁷² (Discussed under heading 4.3 and Chapter 2).
- The proper OHSE management system for occupational accidents and disease in the mining sector are need of time. Furthermore, appropriate resources and support for enforcement of anti-discrimination policies at a business level at the workplace. There

¹⁰⁶⁷Govt Asked to Improve Governance Instead of Selling Industrial Units, The Newspaper's Staff Reporter, December 05, 2015, *Published in Dawn, December 5th, 2015*

¹⁰⁶⁸ William, D. R. and Porter, J.S. "Access to Environmental Information in Tanzania", (1999) accessed from <http://www.daneparairie.com>

¹⁰⁶⁹Workers, Activists Demand Ban on Use of Asbestos, The Newspaper's Staff Reporter, January 09, 2018, *Published in Dawn, January 9th, 2018*

¹⁰⁷⁰Coal Miners: The Ground Realities, Zeenat Hisam, July 28, 2014, *the writer is associated with the Pakistan Institute of Labour Education and Research. zeenathisam2004@gmail.com. Published in Dawn, July 28th, 2014.*

¹⁰⁷¹Occupational Safety, Rukhsana Shah, October 15, 2018, *the writer is a former federal secretary. Published in Dawn, October 15th, 2018*

¹⁰⁷²Thar Coal Gasification Project, From the Newspaper, August 23, 2011, ZahoorAbbasi San Diego, California.

need nomination of OHSE representative and provide them sufficient time to resolve issues, consultation, training and acquisition of rights for efficient management. Proper communication is required to these representatives like an investigation of an accident, enforcement of risk control, monitoring and all relevant information.¹⁰⁷³ The government must take measures to boost private institution and to associate with relevant communities to develop a joint stance on mines OHSE during production and exploration.¹⁰⁷⁴ The role of NGO INGOs are vital for this purpose. This will ensure compliance, government participation in decision-making and protections of OHSE rights.

- There are mechanisms for workers diseases and injuries to make accountable the enterprises for damages and the other alternative is the remedy of tort law. There are various loopholes in the suggestion that such tort claims are time-taking and costly and contributory negligence is an issue for the mineworkers and will be hard if the business cannot afford their proper compensation. The second alternative is that such claim need to be taken from state owned workers compensation fund with efficient management on the part of the governmental department. Such claiming of tort from through court or administrative process is “capped” and the workers award a fraction of what he will receive. It is further recommended that preemptive measures should be strengthened and injured workers need to be rehabilitated to facilitate their return to the workplace.
- It is obligatory on everyone to report about occupational accidents and diseases caused by the workplace. The whistleblower must be protected under the law if he informed the relevant authorities about mines accidents. This information and cooperation will help to prosecute the OHSE criminals for the protection of mineworkers’ rights.¹⁰⁷⁵ (Discussed in Chapter 5)
- “Occupational Liability Act” need to be introduced in Pakistan.

¹⁰⁷³ Elected OHSE representatives working in the Western Australian mining industry under the MSIA 1994 s62 are entitled to attend a 5 day Occupational Safety and Health Representatives course that is accredited under section 14(1) (h) of the Western Australia Occupational Safety and Health Act 1984, to learn about how to perform the functions of their role.

¹⁰⁷⁴ Mwalyosi, Rand Hughes, R “The performance of EIA in Tanzania: An Assessment”, (1998), IRA Research Paper No. 41/IIED Environmental planning Issues No. 14.

¹⁰⁷⁵ “Occupational Health and Safety Laws, Dr Abdur Rehman Cheema and Danish Ahmed Khan, November 13, 2015, Danish Ahmed Khan is an assistant professor at the Department of Management Sciences, Comsats Institute of Information Technology. He can be contacted at danish_ahmed@comsats.edu.pk. AbdurRehman Cheema is a development studies academic and practitioner based in Islamabad.”

BIBLIOGRAPHY

BOOKS

1. James A. Gross, "Shameful Business, A case for Human Right at American Workplace," Cornell University Press, 2010.
2. Dr. M.H Malik and Dr. M.Y.Shaeen. Factors affecting Productivity in Textile industry. in PTJ Nov-dec.1988,p 21.
3. Dhar B. B (2000) "Mining and Environment" (A.P.H.Publishing Corporation):pp.1
4. Gayle Woodside and Dianna Kocurek. Environmental Safety, and Health Engineering ,chapter 9 Safety Management p. 252 .
5. Barrett B and Howells R (1995) *Cases and Materials on Occupational Health and Safety Law* 1st edition London Cavendish Publishing Limited.
6. Joint ILO/WHO committee on occupational health : Second Report,Technical Report Series ,66,1953.Geneva : WHO,1952 www.ilo.org/
7. Glazewski J and Bradfield G (et al) (1999) *Environmental Justice and the Legal Process* Cape Town Juta.
8. Dhar, B.B (2000). Environmental Management Systems for closure and Best Practice in the Indian Mining Industry. In A. Warhurst and L.Noronha (Eds.) *Environmental Policy in Mining*; pp.295-31 0; Florida: CRC Pre.ss LLC.
9. Glazewski J (2005) *Environmental Law in South Africa* 2nd edition Durban Butterworths
10. Anonymous. The enigmatic epidemiology of nasopharyngeal carcinoma. *Cancer Epidemiol. Biomarkers Prev.*, 15: 1765–1777, 2006.
11. Ayesha Anjum, AshfaqAhmad Mann and M. Aqeel Anjum. Pakistan Health Concerns among Workers in Weaving Industry: A Case Study of Tehsil Faialabad, Pakistan *J. Agric. Soc. Sci.*, 5: 106–108
12. Ashford NA and Caldart CC (1996) *Technology, Law, and the Working Environment Revised Edition* Washington DC Island Press.
13. Atiyah PS (1978) *Accidents, Compensation and the Law* 2nd edition London Wiedenfeld and Nicolson.
14. Ayres I and Braithwaite J (1992) *Responsive Regulation* Oxford Oxford University Press.
15. Bacow LS (1980) *Bargaining for Job Safety and Health* Cambridge MIT Press.
16. Baram MS and Partan DG (1990) *Corporate Disclosures of Environmental Risks, U.S. and European Law* Stoneham MA Butterworth Legal Publishers.
17. Bardach E and Kagan R (1982) *Going by the Book: The Problem of Regulatory Unreasonableness* Philadelphia Temple University Press.
18. Haines F (1997) *Corporate Regulation: Beyond "Punish or Persuade"* Oxford Claredon Press.
19. Hood JB (et al) (1990) *Workers' Compensation and Employee Protection Laws* St Paul Minnesota West Publishing Co.
20. Ghosh. Anjan. (1988) 'Environmental Impact of Coal Mining in Eastern India' in Joshi S.C. and Bhattacharya G. (Eds.). *Mining and Environment in India*, Nainital: HR Publishers
21. Hopkins A (1995) *Making Safety Work: Getting Management Commitment to Occupational Health and Safety* Sydney Allen and Unwin.
22. Hutter BM (1997) *Compliance: Regulation and Environment* Oxford Claredon Press.
23. Kloss D (1994) *Occupational Health Law* 2nd edition Oxford Blackwell Scientific Publications.
24. Neethling J, Potgieter JM and Visser PJ (2001) *Law of Delict* 4th edition Durban

Butterworths.

25. Nolan Ve and Ursin E (1995) *Understanding Enterprise Liability – Rethinking Tort Reform for the Twenty-first Century* Philadelphia Temple University Press.
26. Nonet P and Selznick P (1978) *Law and Society in Transition: Towards Responsive Law* Harper and Row, New York.
27. Norric A (1993) *Crime, Reason and History: A Critical Introduction to Criminal Law* London Weidenfield & Nicolson.
28. Santos MA (1995) *Limits and Scope of Environmental Law* Springfield Illinois Charles C Thomas Publisher.
29. Starks JW (1994) *The Handbook of Health and Safety Practice* London Pitman Publishing.
30. Teubner G, Farmer L and Murphy D (1994) *Environmental Law and Ecological Responsibility: The Concept and Practice of Ecological Self-Organization* Chichester John Wiley & Sons Ltd.
31. Tibor T and Feldman I (1997) *Implementing ISO 14000: A Practical, Comprehensive Guide to the ISO 14000 Environmental Management Standards* New York Mc Graw-Hill.
32. Wells C (1993) *Corporations and Criminal Responsibility* Oxford Clarendon Press.
33. Wilkinson A and Willmott H (1995) *Making Quality Critical: New Perspectives on Organisational Change* London Routledge.
34. Woolfson C (et al) (1997) *"Paying for the Piper": Capital and Labour in Britain's Offshore Oil Industry* United Kingdom Mansell Publishing Pty (Ltd).
35. Wright F (1997) *Law of Health and Safety at Work* London Sweet and Maxwell.

JOURNAL ARTICLES

1. Professor James Gross, "Workers' Rights as Human rights: WAGNER Act Values and Moral Choices," *Journal of Labor and Employment Relations*, University of Pennsylvania, Volume 4, Number 3, Spring 2002.
2. James A Gross, "The Human Rights Movement at US Workplace: Challenges and Changes," *ILR Review*, Volume 65, Number 1, Cornell University, 2001.
3. James A. Gross, "Applying Human Rights Standards to Employment Rights in USA: A Human Rights Watch Report, 2000" *Industrial Relation Journal*, 33:3 ISSN 0019:8692.
4. Kevin Kolban, "Labor Rights as Human Rights?," *Virginia Journal of International Law*, Volume 50, Issue 2, 2010.
5. James A. Gross, "The Broken Promises of National Labor Relation Act and The Occupational Health and Safety Act: Conflicting Values and Conceptions of Rights and Justice," *Chicago Kent Law Review*, Volume 73, No. 1, 1998.
6. Jame A Gross, "Surreptitious Violations: Human Resources and Human Rights Violations," Chapter 8, ILR, Cornell University, 2010.
7. Emily E, Spieler, "Risks and Rights: A case of Occupational Safety and Health as a Core Worker Rights," Chapter 4, ILR, Cornell University.
8. James A Gross, "A Long Overdue Beginning: The Promotion and Protection of Workers Rights as Human Rights," Chapter 1, *Industrial and Labor Relations (ILR) School*, Cornell University.
9. Jeff Hilgert, "A New Frontier for Industrial Relations: The Workplace Health and Safety as Human Rights," Chpater 3, ILR, Cornell University.
10. James A Gross, " A Logical Extreme, Proposing Human Rights Foundations for Workers' Rights in United States," ILR, Cornell University.
11. James A Gross, "Takin' It to the Man: Human Rights at the American Workplace," Chapter 2, ILR, Cornell University.
12. Nazia Malik, Ashfaq Ahmed Maan, Tariq Sultan Pasha,, Saira Akhtar and Tanvir Ali

- Role of hazard control measures in occupational health and safety in the textile industry of Pakistan , Pak. J. Agri. Sci., Vol. 47(1), 72-76; 2010
13. James A. Gross, “ A Human Rights Perspective on US Labor Relations Law: A Violation of The Right of Freedom of Association,” National Employee Rights Institute & Chicago-Kent College of Law, Employee Rights and Employment Policy Journal, 3 Employment relations & Employment Policy J. 65, 1999.
 14. BONNER JP and FORMAN BN (1993) *Bridging the Deterrence Gap: Imposing Criminal Penalties on Corporations and their Executives for Producing Hazardous Products* San Diego Justice Journal 1.
 15. BROWN RM (1992) *Administrative and Criminal Penalties in the Enforcement of the Occupational Health and Safety Legislation* Osgoode Hall Law Journal 691.
 16. CUNNINGHAM N (1995) *Environment, Self-Regulation, and the Chemical Industry: Assessing Responsible Care* Law and Policy 57.
 17. Anonymous, Economic development and occupational health in Latin America: a new directions for public health in developing countries, American Journal of Public Health 1885:75:536-542
 18. Nazia Malik, Ashfaq Ahmed Maan, Tariq Sultan Pasha,, Saira Akhtar and Tanvir Ali Role of hazard control measures in occupational health and safety in the textile industry of Pakistan , Pak. J. Agri. Sci., Vol. 47(1), 72-76; 2010
 19. Sabur Ghayur and Zulekha Zar. Pakistan: Working Conditions in the Textile Sector: A Study of the Large-scale Textile Manufacturing Industries in the City of Karachi. Pakistan Development Review, spring 1995.
 20. Lodhi ZH. Position paper for environmental quality standards of noise in Pakistan. Online (Cited 2007 Dec 9). Available from URL: [http:// www. Environment gov .Pk / PRO_ PDF / Paper GEN. PDF](http://www.Environment.gov.Pk/PRO_PDF/Paper_GEN.PDF)
 21. Hafiz Danish Ashraf, Malik AftabYounus, Pardeep Kumar, M. Talha Siddiqui, Syed Salman Ali, M. Irfanullah Siddiqui ,Frequency of hearing loss among textile industry workers of weaving unit in Karachi, Pakistan Pak Med Assoc, Vol.59, No.8, August 2009 p 575-579
 22. DETURBIDE M (1995) *Corporate Protector or Environmental Safeguard? The emerging role of the environmental audit* Journal of Environmental Law and Policy 1.
 23. GROSS JA (1998) *The Broken Promises of the National Labor Relations Act and the Occupational Safety and Health Act: Conflicting Values and Conceptions of Rights and Justice* Chicago-Kent Law Review 351.
 24. LEDERMAN E (2000) *Models for Imposing Corporate Criminal Liability: From Adaptation and Imitation Toward Aggregation and the Search for Self-Identity* Buffalo Criminal Law Review 642.
 25. STABLES DJ (2003) *Environmental Audits are Part of the Big Picture* Management Today 56.
 26. Statistics of Mines in India (200 1), GOI, Ministry of Labour, Directorate General of Mines Safety; Vol.I (Coal)
 27. Tariq Awan ,Occupational Health and Safety in Pakistan, Pakistan Institute of Labour Education and Research (PILER) ALU Issue No. 39, April - June 2001

PAPERS, REPORTS, CONFERENCE PROCEEDINGS AND DISSERTATIONS

1. Alexander, D. W. (2003, February 23-26), *Cost of Coal Mine catastrophes*, SME 2003 Annual Meeting, Cincinnati, OH, Preprint, 03-73, p. 4.
2. Allan, Stuart, “The Corporate Manslaughter and Corporate Homicide Act 2007 or the Health and Safety (Offences) Act 2008: Corporate Killing and the Law” PhD thesis, 2016, <http://theses.gla.ac.uk/7376/>

3. Benjamin P and Greef J *The report of the Committee of Inquiry into a National Health and Safety Council in South Africa* Johannesburg Department of Labour (1997).
4. Jeffrey Arthur Hilgert, "The Protection of the Right to Refuse Unsafe Work: Human Rights and The Failure of Global Worker Health and Safety Policy" PhD Dissertation, ILR School, Cornell University, 2011.
5. Bernstein JD *Alternative Approaches to Pollution Control and Waste Management: Regulatory and Economic Instruments* Washington Urban Development Programme The International Bank for Reconstruction and Development / The World Bank (March 1993).
6. Benjamin P *The reform of the Workmen's Compensation Act: The beginning of democratic social security?* Johannesburg Centre for Applied Legal Studies University of the Witwatersrand (March 1992).
7. Burke N *Gaining Organisational Commitments to OH&S by Integrating Safety Onto Your Business Plans* Paper presented at Proactive OH&S Management Conference Sydney (9 and 10 March 1994).
8. Charles Muboh-Array Ntiu, "Hazard Assessment and Disaster Preparedness in Sustainable Development in Mpumalanga (South Africa) Coalmine Areas," PhD dissertation, School of Geography and Environmental Science, University of Johannesburg, 2012.
9. Clinton B (President) and GORE A (Vice President) *The New OSHA: Reinventing Worker Safety and Health* National Performance Review White House Washington DC (May 1995).
10. Emmett EA *Regulator reform in Occupational Health and Safety in Australia* Paper presented at The Institute of Public Affairs Conference on Risk, Regulation and Responsibility Sydney (July 1995).
11. HERMANUS MA *Trends in Occupational Health and Safety Policy and Regulation – Issues and challenges for South Africa* Takemi Program in International Health Havard School Public Health (June 1999).
12. Jadavpur University, Kolkata (2003) *Report on demarcation of different types of land with broad species of floral assemblages, on integrated mining plans of South Karanpura Coalfield Area*
13. Kamp A and LE Blansch K *Integrating Management of OSH and the Environment: Participation, Prevention and Control*. Paper delivered at the Policies for Occupational Health and Safety Management Systems and Workplace Change Conference Amsterdam (21-24 September 1998).
14. Kapelus P (et al) *Corporate Social Responsibility (CSR): Implications for an ISO Standard* Standards South Africa African Institute of Corporate Citizenship (August 2004).
15. Marna Jackson, "Occupational Safety and Health Management: The role of Criminal Law and the Law of Delict in Safeguarding Workers" PhD Law, Faculty of Law, University of Johannesburg, 2006.
16. Noleen McNamara, "Environmental Regulation of Mining: An International Comparison," A Dissertation Submitted for fulfillment of Doctorate of Philosophy in School of Law of University of Southern Queensland, 2009.

17. Needleman C *OSHA at the Crossroads: Conflicting Frameworks for Regulating Occupational Health and Safety in the United States* Paper delivered at the Policies for Occupational Health and Safety Management Systems and Workplace Change Conference Amsterdam (21-24 September 1998).
18. Plasket C *Administrative Action: The Constitution And The Promotion Of Administrative Justice Act 3 of 2000* Paper delivered to the Legal Resources Centre Seminar on the Promotion of Administrative Justice Act 3 of 2000 Johannesburg (23 October 2001).
19. Persson J. (2003) Environmental Impact of mining in a European Context; Master of Science programme; Department of Environmental Engineering Management Group; Lulea University of Technology; Lulea (Sweden)
20. Rehak, T. R., Bajpayee, T. S., Mowrey, G. L., & Ingram, D. K. (2001). Fly rock issues in blasting. In: Proceedings of the 27 Annual Conferences on Explosives and Blasting Technique, Vol I, January 28 - 31, 2001, pp.165-175.
21. Shaw A *What Works? The strategies which help to integrate OHS management within business development and the role of the outsider* Paper delivered at the Policies for Occupational Health and Safety Management Systems and Workplace Change Conference Amsterdam (21-24 September 1998).
22. Zimolong G *What Successful Companies Do* Paper presented at Safety In Action Conference Melbourne Australia (February 1998).
23. Statistics of mines in India (2001); Vol- I (Coal); Issued by Directorate General of Mines Safety, Dhanbad; pp-125
24. Whiasu (2004); (Welsh Health Impact Assessment Support Unit) Health Impact Assessment of the Proposed Extension to Margam Opencast Mine and National Public Health Service for Wales on behalf of the Margam opencast and Health Steering Group pp.3-4 and p.20
25. Verakis, H. C. & Lobb, T. E. (2001). Blasting Accidents in Surface Mines, A Two Decade Summary. In: Proceedings of the 27 Annual Conferences on Explosives and Blasting Technique, Vol I, January 28- 31, 2001, pp. 145-152.

INTERNATIONAL LAW TREATIES AND CONVENTIONS

- ILO Labour Inspection Convention, 1947 (No. 81) in 1953.
- Occupational safety and Health Convention, 1981 (No. 155) and its Protocol of 2002
- Occupational Health Services Convention, 1985 (No. 161)
- Promotional Framework for Occupational Safety and Health Convention, 2006 (187)
- Occupational Diseases Recommendation, 2002 (No. 194)
- Occupational Safety and Health Recommendation, 2006 (No. 197)
- Hygiene (Commerce and Offices) Convention, 1964 (No. 120)
- Occupational Safety and Health (Dock Work) Convention, 1979 (No. 152)
- Safety and Health in Construction Convention, 1988 (No. 167)
- Safety and Health in Mines Convention, 1995 (No. 176)
- Safety and Health in Agriculture Convention, 2001 (No. 184)
- Radiation Protection Convention, 1960 (No. 115)
- Occupational Cancer Convention, 1974 (No. 139)
- Working Environment (Air Pollution, Noise and Vibration) Convention, 1977 (148)
- Asbestos Convention, 1986 (No. 162)

- Chemicals Convention, 1990 (No. 170)
- C45 Underground Work (Women) Convention, 1935
- C89 Night Work (Women) Convention (Revised), 1948
- C90 Night Work of Young Persons (Industry) Convention (Revised), 1948

CODES OF PRACTICE AT INTERNATIONAL LEVEL

- 2006 - Safety and health in underground coal mines
- 1991 - Safety and health in opencast mines
- 1986 - Safety and health in coal mines
- 1974 - Prevention of accidents due to explosions underground in coal mines
- 1965 - Guide to the prevention and suppression of dust in mining, tunnelling and quarrying
- 1959 - Prevention of accidents due to electricity underground in coal mines
- 1959 - Prevention of accidents due to fires underground in coal mines
- 1949 - Model code of safety regulations for underground work in coal mines
- 2001 - HIV/AIDS and the world of work

DOMESTIC LAWS

- Dock Laborers Act, 1934
- Mines Act, 1923
- Petroleum Act, 1934
- Workmen Compensation Act, 1923
- Provincial Employees Social Security Ordinance, 1965
- West Pakistan Shops and Establishments Ordinance, 1969
- Boilers and Pressure Vessels Ordinance, 2002
- The Health and Safety at Work Act 1974
- Oil and Gas (Safety in Drilling & Production) Regulation, 1974 (issued under the Mines Act);
- Pakistan Nuclear Safety and Radiation Protection Ordinance, 1984 and Regulations, 1990;
- Pakistan Environment Protection Act, 1997.
- Hazardous Occupations Rules, 1963
- Dock Workers Act, 1934,
- LPG. Rules, 1937
- The Explosives Act, 1884, and Rules 1940: and the
- Gas Cylinder Rules, 1940,
- Electricity Act, 1910 and Rules 1937
- Boilers and Pressure Vessels Ordinance, 2002
- The Workmen's Compensation Act, 1923 and Rules 1961
- Pakistan Nuclear Safety and Radiation Protection Ordinance 1984
- Regulation 1990 is a comprehensive,
- The Hazardous Occupation Rules of 1978.
- Social Security Ordinance 1965
- Shop and Establishment Ordinance 1969
- Khyber Pakhtunkhwa Factories Bill on March 19, 2013
- The Factories (Punjab Amendment) Act, 1940

- Factories Act, 1934 (XXV of 1934)
- Fatal Accidents Act, 1855 (No. 13 of 1855)
- Factories (North-West Frontier Province Amendment) Act, 1946 (No. 7 of 1947).
- Hazardous Occupation Rules, 1963 (No. 1-6 (L-II/64).
- The Factories (West Pakistan Amendment) Ordinance, 1966 (W.P. Ord. VI of 1966).
- Labour Laws (Amendment) Ordinance 1972 (No. 9).
- Punjab Weights and Measures (International System) Enforcement Act, 1975 (LII of 1975).
- Pakistan Nuclear Safety and Radiation Protection Ordinance (No. IV of 1984).
- Employment of Children Act, 1991 (Act No. V of 1991).
- Boilers and Pressure Vessels Ordinance (CXXI of 2002).
- Nuclear Safety and Radiation Protection (Treatment of Food by Ionizing Radiation) Regulations, 1996.
- Pakistan Nuclear Regulatory Authority Ordinance, 2001 (No. 3 of 2001).
- Hazardous Substances Rules, 2003.

CASE LAWS

1. Tradesmen International (Pvt.) Ltd. V Federation of Pakistan, 2008 CLD 1217.
2. Messrs World Wide Trading Co. v. Santo Electric Trading Co. Ltd., PLD 1986 Karachi 234.

OHSE ACCIDENTS IN PAKISTAN

1. November 4, 2015, causing 45 deaths and injuring over 100 labourers working in the Sundar industrial area of Lahore.
2. "Mine safety crisis in Pakistan: 10 more people killed," accessed August, 3, 2017, <http://www.industriall-union.org/mine-safety-crisis-in-pakistan-10-more-people-killed>.
3. 12 March 2016: Ten workers lost their lives in Orakzai Coal mine accident
4. 19 February 2016: Three coal miners were killed by poisonous gas in a mine in the Duki area (IndustriALL)
5. 30 January 2016: Three workers were in the Pakistan Mineral Development Corporation (PMDC) owned Sor-range mine in Quetta (IndustriALL)
6. 19 January 2016: Two workers were killed in the Chamalang coal mines at Loralai
7. 08 January 2016: Two workers were seriously injured in Sharigh Coal Filed
8. 2 December 2015: Three coal miners were killed and two others were injured as result of a blast in a coal mine in the Dukki area of Balochistan
9. 27 October 2015: Three mine workers died and three injured when a coal mine collapsed in Jamshoro district on Sunday. A portion of the mine, owned by Sindhu Coal Mines in Khanote area. (The Express Tribune)
10. 26 October 2015: Two mine workers died and 16 Injured in avalanche in the village of Baisar in Naran valley. (The Express Tribune – October 26 & October 28)
11. 26 July 2015: Two mine workers were killed and another injured on Saturday when a large boulder fell on them while they were working at Bampokha marble mines in Buner. (The Express Tribune)
12. 9 June 2015: A labourer was killed as he was hit by rolling boulders in a gypsum mine in the Khandi Mountain near Lakki Banda village in Karak tehsil. (DAWN)
13. 19 February 2015: Eight coal miners died and fourteen wounded inside a coal mine accident in Balochistan's Dukki area on Friday morning. Bodies were rescued after four days of rescue operation. (DAWN, The Express Tribune).

14. February 2015: 19 coalminers were killed in an accident which occurred in the Sinjadi mining area, Quetta region (DAWN)
15. 20 January 2015: One labourer was killed in Pir Sabaq mine when a boulder fell over him (The News).
16. 15 January 2015: Six coalminers were killed and over 15 were injured when a powerful explosion occurred in a coalmine of Sherazi Coal Company in Doli, Orakzai Agency. Three of the wounded were critical when the news was reported. (The Express Tribune)
17. 15. 12 January 2015: Two coal miners lost their lives in a mine accident in Khyber Agency area (The Express Tribune)
18. 16. 3 January 2015: 12 workers were killed when a marble mine collapsed during blasting in the Ziarat area of Lakaro village in the Mohmand tribal district. (Dunyanews.tv)
19. 17. 30 December 2014: Feroz Mine caved in due to heavy blasting in neighboring Frontier Mine, burying two miners alive. The bodies of two miners were recovered after 36 hours. (The Express Tribune)
20. 18. 9 September 2014: Three labourers were killed and two others were injured in a coal mine blast in Orakzai Agency, at Al Hussaini Coal mine in Doli, Lower Orakzai Agency. (The Express Tribune)
21. 19. 30 June 2014: Two miners were killed as coal mine caved in at the mining zone of Yaqoob Brohi village near Jhimpir, Thatta. (DAWN)
22. 20. 29 January 2014: Two coal miners died and five severely injured in an explosion in Doli area of Orakzai agency area (The Express Tribune)
23. 21. 12 November 2013: Three coal miners were killed when a trolley loaded with coals fell on them in a coal mine in Duki Tehsil of Loralai district (The Express Tribune)
24. 22. 17 May 2013: Three miners were killed when a coal mine tunnel collapsed in Doli area of Lower Orakzai. The Express Tribune.
25. 23. 28 January 2013: Eight coal mine workers were killed and two others fell unconscious in a methane gas explosion at mine No. 23 owned by the Akbar Nasir Coal Company in Duki area of Balochistan's Loralai district. IndustriALL
26. 24. 24 December, 2012: Seven miners, including six of a family, were killed in an explosion in a coalmine in the Doli area of Lower Orakzai Agency area. The Express Tribune.
27. 25. 27 November 2012: An explosion inside a coal mine in Tora Wari of Hangu district killed two miners and injured two others, The Express Tribune
28. 26. 14 October 2012: A coal miner was killed and two injured in a mine explosion in Doli, Orakzai Agency - The Express Tribune
29. 27. 14 September 2012: Two miners were killed while another was wounded in a coalmine blast in the Shahrag area of the Harnai district. The Express Tribune
28. 26 January 2012, One person was killed, while two others were trapped, when a coalmines collapsed in Mach, Quetta. The Express Tribune.
30. 25 January 2012: After 48-hour long rescue operation 11 bodies of miners were pulled out of a phosphate mine in Abbottabad on Friday (The Express Tribune)
31. 13 October 2011: Five miners were killed and three others injured in a Methane gas explosion in a Degari coal mine in Zarkhu area of Mastung district (DAWN)
32. 13 October 2011: Nine miners were killed and five injured when a portion of a mine located in Dasht collapsed. The Express Tribune
33. 30 September 2011: In a massive landslide in a marble mine in Bam Pokha Village, Six miners died and three more were injured. The Express Tribune
34. 20 August 2011: Four workers lost their lives and another four were injured when a portion of a mine caved in at Kot Diji, in Khairpur district. The Express Tribune.
35. 27 July 2011: Three miners were killed while four others were injured in a gas explosion in a coalmine in Sangni Mehra area, Muzaffarabad. The Express Tribune.

36. 20 March 2011 - At least 52 workers were killed in when explosions triggered a collapse in a coalmine in SorRange in Balochistan province. The mine was owned by the Pakistan Mineral Development Corporation (PMDC) and leased to a private contractor at the time of the accident. All of the deceased were young men, aged between 18 and 25 years.(DAWN, The Express Tribune, & IndustriALL)
37. 11 January 2010: Two separate mine accidents occurred at the Habibullah Coal Mines Co. near Spin Karez. Three miners died when a roof collapsed, while eight others were trapped and killed following a blast at the mine in the Marwar coal fields.(IndustriALL)
38. 04 January 2010: Four workers charred to death in a coalmine in the Marwar area. Three miners who received serious burn injuries in the accident have also been rescued. (DAWN)
39. 2 January 2010: Gas explosion at the Al-Rahman mine near Marwar killed ten miners, including three Afghan workers.(IndustriALL)

DICTIONARIES

1. *Oxford Dictionary of Law*, Oxford University Press, 7th ed., 2009.
2. *Black's Law Dictionary*, Sixth Ed. West Publishing Company, U.S.A.
3. Curzon, LB, *Dictionary of Law*, Int. Law Book Services, Kaula Lumpor, 4th ed., 1994.

WEBLIOGRAPHY

- <http://www.ilo.org/global/standards>
- www.un.org/sustainabledevelopment/blog
- <http://www.ciwce.org.pk/index.html>
- <http://www.oecd.org/industry>
- <http://www.who.int/iomc/>
- <http://www.undp.org/content/undp>
- <https://www.unglobalcompact.org>
- <http://www.osha.gov>
- <http://www.unctad.org/en/docs>
- <http://www.un.org/sustainabledevelopment/blog>
- <http://www.un.org/esa/sustdev/partnerships>
- <http://www.iiied.org>
- <https://www.wto.org/english/news>
- <http://documents.worldbank.org/curated>
- <http://ewebapps.worldbank.org/apps>
- <http://www.worldbank.org/en/results>
- http://www.icmm.com/html/work_prog
- http://www.unep.org/labour_environment