EFFECTIVENESS OF OCCUPATIONAL SAFETY AND HEALTH IMPLEMENTATION IN THE PUBLIC SECTOR: A CASE STUDY OF OIL AND GAS DEVELOPMENT COMPANY

BY

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NATIONAL UNIVERSITY OF MODERN LANGUAGES

ISLAMABAD

JUNE, 2023

EFFECTIVENESS OF OCCUPATIONAL SAFETY AND HEALTH IMPLEMENTATION IN THE PUBLIC SECTOR: A CASE STUDY OF OIL AND GAS DEVELOPMENT COMPANY

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF PHILOSOPHY

In Governance & Public Policy

То

FACULTY OF SOCIAL SCIENCES



NATIONAL UNIVERSITY OF MODERN LANGUAGES, ISLAMABAD

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Candidate of <u>Master of Philosophy</u> at the National University of Modern Languages do hereby declare that the thesis <u>Effectiveness Of Occupational Safety And Health Implementation In</u> <u>The Public Sector: A Case Study Of Oil And Gas Development Company</u> submitted by me in partial fulfillment of MPhil degree, is my original work, and has not been submitted or published earlier. I also solemnly declare that it shall not, in future, be submitted by me for obtaining any other degree from this or any other university or institution.

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ABSTRACT

Title: Effectiveness Of Occupational Safety And Health Implementation In The Public Sector: A Case Study Of Oil And Gas Development Company

The purpose of this study is to verify the effectiveness of the Occupational Safety and Health Management System in the OGDCL. OHS is an activity to ensure and protect the safety and health of the human resource through the prevention of occupational injuries and occupational diseases. One way of preventing work accidents is to implement OHS System. The OHS process begins with a good planning process to ensure that its implementation complies with the desired policies and objectives. This research adopted the quantitative approach to collect the data through questionnaires. The data has been collected from the OGDCL employees – Engineers, administrative staff and lower staff. The data has been then analyzed descriptively through SPSS version 22. Based on the results of this research, it is found that the implementation of OHS in the organization is not fully complied with the Pakistan Government Regulation. There are still few unfulfilled criteria that are concerning policy, plan of OHS, document control, product control, work security, material management, skills and abilities. This study resulted in the acquisition of the results of analysis in the achievement level of OHS as 92.2% and has been included in the satisfactory category. And analysis of the implementation of OHS to the established principles has been above 50% and can be interpreted that OHS is considered important to be applied in the organization.

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LIST OF ACRONYMS

Acronym	Full Name
OGDCL	Oil and Gas Development Company Limited
OSH	Occupational safety and health
ILO	International Labor Organization
WHO	World Health Organization
OHSMS	Occupational Health and Safety Management System
EU	European Union
HSE	Health and Safety Environment
AIDS	Acquired Immune deficiency Syndrome
HIV	Humane Immune deficiency virus
TQM	Total Quality Management
DWCP	Decent Work Country Program
BPJS	Badan Penyelenggara Jaminan Social
PPL	Pakistan Petroleum Limited
E&P	Exploration and Production
ILS	International Labor Standards
PSX	Pakistan Stock Exchange
LSX	London Stock Exchange
US	United States
UK	United Kingdom

DEDICATION

I would like to dedicate this thesis

То

My parents for their continued support, May Allah bless them.

ACKNOWLEDGMENT

I am thankful to Allah Almighty for giving me the strength and energy to complete this entire thesis. As it was not possible without the help of Almighty Allah.

I would like to start by expressing humble gratitude to my admirable supervisor, Ms. Saadia Bano Hashmi, whose continuous support, advice, and guidance during the entire course of my thesis enabled me to accomplish this valuable task. No doubt, without her continuous support and guidance, I would not have been able to accomplish it. I am very thankful to her and pray for her healthy life ahead.

To conclude, I am thankful to my parents and brother for supporting me in the entire course work, May Allah bless them, Ameen.

Thank you all.

CHAPTER 1 INTRODUCTION

1.1 Introduction

Under Public health department works sub-section which named Occupational health and safety (OSH). To establishing this branch for betterment of employee's health and safety standard, their focus on to get information about injuries and illness ratio in workplace and gives recommendation for reducing those elements which harmful for health on job area (Tadesse & Admassu, 2006). It is the prime responsibility of all organization to ensure health precautions according to OSH standards in their working places because their jobs directly connected with health safety. Health and safety problems in jobs were firstly considered that technically raised safety and health problems and its need technical handling to resolve issues. Later on, different factors highlighted the cause of organizational problems like, human factors, behavioral and organizational culture problems which also importance for causing health issues. Development of management giving awareness of issues and providing problems solutions by arranging activities regarding issues solutions. The OSH management required a unified access to all these factors which highly recognized in broader concept (Cagno et al., 2011).

Burton 2007 present ISO Standard 45001 OSH needs a guideline for management systems. Management System is a set of rules and regulations. An organization has management system which defines rules and regulations by which policies developed to achieve their objectives. A management system was established by OSH, which used for prevention of illness and injuries in workplaces of workers and tries to improve working environment and safe workplace. Occupational safety and health connect administration (OSH) and 'system thinking' (MS). When an organization include factors limitation to avoid risk by system thinking, to control professional risk needs a systematic way of regularization in organization. The EU introduced this framework in 1989 and now it is famous model in world because OSH system not compulsory in organization but must be a health safety measurement and control system for workers according to OSH system. Within the EU, industries bound by law to follow the safety measurement and establishing safety management unit for protection (Burton, 2007).

The OSH management system supported by government of different countries and implemented in their organizations. In Denmark, their regular screening inspections are not conducted while voluntary management system promotion is exempted in the UK. Instead, EU in all other countries has improved their organizations. In USA, OSH-MS implementation in health protection program is a big example of safety. OSH-MS regularization arrangements were established in 1990's to enhance Quality control process, specifically bring according to the standard of ISO 9000 Quality Control Management (Rahman & Kamil, 2022). To manage precautionary measures and health security in working environment utilized Occupational Health and Safety Management System (OHSMS) which is a systematic approach of prevention. As the OHSMS is a broader term, and it has not been defined properly. The definition of OSHA Safety and Health Program Management Manual and ILO-OSH (2001) defines the Occupational Health and Safety Management System as "A set of interrelated or interacting elements to establish and implement OSH policy and practices and to achieve those objectives." Meanwhile, the Occupational Health and Safety Assessment Series (OHSAS, 2007), defines OHSMS as a "part of an organization's management system used to develop and implement its Occupational Health & Safety policy and manage its Occupational Health & Safety risks" (Nurhazirah et al., 2021).

An organization bounds by health and safety program to adopt safety process for workers. To provide protection for employees is the objectives of safety process in working areas. The safety regularization rules Section 4. (1) Specifies the safety criteria to be adopted in a health and safety program while some of these not applicable in all working area. It's necessary for employees to follow safety measurement according to OSH consultancy because health risk present in work areas. After identification of hazards at workplace needs control on risk and give exposure to worker regarding safety.

Details of the required elements of an occupational health and safety program are outlined in the attached regulations. Health and safety policy needs in working areas due to many reasons, including: to ensure employees health and safety system by company managements and business performance depends on employee's safety program. It is also showing the company's commitment and principles of safety for their workers to provide a good environment. The regulation makes company accountable and responsible to provide safe and healthy atmosphere for employees and establish safety measurement according to OSH Act. Followed such practices and procedures which prevent workers from injuries and illnesses in workplace. The safety measurement applicable on all employees will be required to have an OSH policy while those organizations have more than ten employees will be needed to have a complete management

system for safety. It is the responsibility of company or organization to establish a safety and health management system in workplace (Lestari et al., 2019).

Some companies hire consultancy for safety and health requirements and prevention to workers from hazards on work area which is another way of protection. People suffering in low back ache, deafness, respiratory issues, cancers, and infertility which mostly reported due to work tasks. So, OSH management in Nigeria and Government Legislature body agreed to pass the bill and make the executives body for laws and its implementation from relevant department. To involve Health, Labor, and Environment Ministries to develop a body which make policy according to OSH regulations and execute implementations of these policies? The OSH regulations must be followed by Employers or Company or Organization owners (government and private sector) and share their positive experiences. Another thing is employee's needs to obey OHS regulations and play their responsibilities. Educational institutions and researchers need to arrange training and seminars for awareness regarding health safety. Health and Safety management professionals bring joint adventure with the help of government and launch a campaign about safety measurement. Also highlight drawbacks in failure of implementation of the OHS functions/duties that why Nigeria is failed in fully operating of OHS system either there is no proper regulations and laws in Nigeria. What are the reasons behind failure of such laws implementations, either political interference or any other force involved? (Fernández-Muñiz et al., 2007).

1.2 Background of the Study

According to (NAO, 2013) report 10% to 20% employees of total numbers follow the OSH program for health safety across the globe. The rate of employees and workstations has now decreased rather than increased by entrance of life security in employment. There are many platforms, (e.g., ILO, WHO) and other professional trying to influence people that health safety is very necessary in workplace, but majority did not follow these measurement and laws although resultantly illness and injuries cases increasing day by day and needs solutions. For development of good employment environment in EU presented a signals. To give awareness about health and safety than ensure safety measurements implementations in workplace is main responsibilities of organizations. Organizations are responsible for making policy to control

hazards and arrange seminar and training for workers. Establishing consultancy or monitoring unit about safety elements also require in organization. (Ahlberg et al., 2009).

The health safety has more importance in the EU because every three in half minute one person die due to harmful working zone. Safety management system play vital role in worker health security and safety at their working areas. OSH Act No 5 of 2003 EU is most important Act regarding life security rule and regulations of OSHA which deal with medical clinic for employees in organizations. It is also needed for an employee to care their health and show responsibility about life safety elements which installed for workers in their workplace to secure his/her health. The government of the Tanzania formulated safeguard rules and regulation for workers about safe and sound health environment to protect them from any life hazards in companies and Factories (Machabe & Indermun, 2013).

Occupation Health Services Rules, 1985, Workmen's Compensation Ordinance, 1949 and The plants or place of work rules 2001, OSH Rules 2004, Building and Works 1985 and many others ordinance and rule presented time to time. In Tanzania, 1700 accidents were reported in 2015 and utilized 568 million TSZ for their compensation. As a result, Tanzania government introduced OSHA under Labor and Employment Ministry (MOLE) and give responsibility to ensure safety in working areas. The study shows that organizations were bound by department to improve safety standard and follow rules of health management system for worker's life security, (NAOT, 2016).

1.3 OSHMS Definition

The OHSMS broader concept which is not easy to define in few words. It is doubtful to decide utilization for technical purpose or either used it MS only. Robson (2007) argued that OHS and OHSMS have positive, joined, estimation features and advancement assets. "A set of interrelated or interacting elements to establish OSH policy and objectives and to achieve those objectives" is defined by ILO-OSH 2001. The definition of Occupational Health and Safety Assessment Series (OHSAS) is "Part of an organization's management system used to develop and implement its OH&S policy and manage its OH&S risks". The above definitions show that implementation of safety and health policy make possible to achieve OHSMS goal in company. According to Nielsen (2000) OHSM systems are very confused management systems. It is very difficult to differentiate between OHS activities, OHS management, and OHSM systems. OHSMS introduced in last fifty years and adopted by many sectors like public, private, and Non-Gov't

Organizations. The (2001) ILO-OSH, (2004) BS 8800, and (200) OHSAS 18001 are standard rules which recognized internationally. Which provides opportunity to develop set up according to these guidelines and try to implement it in organization? OHSMS have some factures which make it effective. Safety Policy established to present the principles and administrative promises towards OSH. Employees convinced towards safety system by offering incentives and arranged training for improvement to develop competitions in employees. Poor communications create risk about any issue so its need to share information in detail, planning of prevention and emergency make possible to handle any critical situation. Another feature is control on time critical situation and check of events than improve the system according to observations. Makin and Winder (2008) defined foundation of OHSMS is the identification of hazards and measures to control them. These foundations play role to control the space and elements which pays in the success of the system and any disregard in the base can flop the performance of OHSMS. Research study (Subhani, 2010) reveals that suitable atmosphere facility directly beneficial for employees while indirectly for their families, organizations, customers, and servicers.

1.4 Pakistan safety and health laws

The laws about safety and health were endorsed in the sub-continent in 1934, Factory Act 1934. All provinces formulated rules and regulations under Factory Act 1934 chapter 3 in Pakistan. In 2003 Khyber Pakhtunkhwa endorsed and then Sindh has enacted in 2016. The Hazardous Occupational Act was passed in connections of 1963 Act of Factories. There are numerous acts and laws are following below:

- 1934 Act about Dock Laborers
- 1923 Act of Mines
- 1923 Act for Compensation of Workmen
- 2016 Act of Compensation for Workers in KP
- 1965 Act of employee's social security of Province
- 1969 ordinance for Shops and Establishment West Pakistan
- 1997 Act for Environment of Pakistan
- The Agriculture Pesticides rules, 1971
- West Pakistan Labor Camps Rules, 1960

1.5 About OGDCL

OGDCL is the acronym of "Oil and Gas development company limited" it is public sector company working for exploration and production of oil and gas. It is the Pakistan's leading company in the country; it has been working almost fifty stations across the country. The company has been trading in stock exchange of with the highest capitalization of stocks. At Pakistan Stock Exchange (PSX) as of 30 June 2020: rupees 469 billion -4.301 billion shares; also, since 2006 listed at London Stock Exchange (LSE). By financing in the areas of health, sports, education, water resources, donations, and infrastructure advancement ODGCL sustained with its social welfare programs to raise the living standards of the society. In this respect, the Company under training, CSR and welfare spent 1.447 billion rupees during the fiscal year 2019 to 20. Through donation of employees' two days' salary amounting 52 billion rupees to Prime Minister Relief Fund Oil and Gas Development Company Limited supported the government of Pakistan to control the increasing of pandemic corona virus- 19 and in conversion of hostel building of I-9 into a quarantine Centre during COVID-19. The company also supported the GOP with provision of fully equipped ambulance, PPE kits, masks, sanitizers, medicines, water, and foods at the center of quarantine and the mentioned equipment to the hospital and local around Company's operational sites (Welcome to OGDCL / OGDCL, n.d.).

1.6 Problem Statement

In Pakistan OHS system exercising from more than fifty years, the main focus of safety system on regulation of safety and health in working environment that show possibility of risk in factories and companies' workplaces. It has been noticed, that several working areas including government organizations or public organizations workers do not follow safety measurement on priority. Pakistan will become one of those countries where OSH standard safety guidelines exercising if people's takes safety steps to protect their health in working environment. There are many death casualties reported from production houses of factories, work in field and offices of government. However, there still many organizations that still needs to be properly implemented the OSH policies or rules, therefore, this study has been conducted to explore and evaluate the health and safety program operationalization in OGDCL plants and workplaces, and also the significance of OSH policies after the implementation.

1.7 Research Objectives

- To examine the implementation of safety and health in the OGDCL.
- To evaluate the effective implementation of OSH in the OGDCL.
- To give the way forward and policy recommendations.

1.8 Research Questions

- What is the implementation of safety and health program in the OGDCL?
- How to evaluate the effective implementation of OSH in the OGDCL?
- What would be the way forward and policy recommendations?

1.9 Study Purpose

To analyze the effectiveness of Occupational health and safety (OHS) implementation in the OGDCL and its impact on the employees, staff and overall organization. The study revealed that how much rules and regulation implemented in government offices, workplaces, and industrial zones and especially in OGDCL.

1.10 Study Scope

Numbers of organizations contribute to Pakistan economy and one of them is OGDCL. This study has been contributed to the evaluation of OSH implementation in the public organizations particularly, OGDCL.

1.11 Conceptual Framework



Independent Variables



Explanation of variables

OSH Policies: The policies formulated by the department or organization and those police implementation in the workplace for the improvement of safety of labors and working staff. It explains to deal with tasks and perform duties for worker health protection (Gupta, 2008).

OSH Implementation: It refers to OSH policies implementation and ensures to apply on working staff during work in their working areas.

OSH Evaluation: It means to evaluate the implementation of those policies which are formulated for the safety measures for workers in the organization.

1.12 Theoretical Framework

System theory provides a valuable framework for understanding occupational safety and health. This theory posits that organizations are complex systems made up of multiple interconnected components, and that any changes in one part of the system can have ripple effects throughout the whole organization.

In the context of occupational safety and health, this means that workplace safety is not just the responsibility of individual employees or departments. Rather, it is the result of a complex interplay between factors such as management practices, organizational culture, physical environment, technical processes, and individual behavior.

System theory can help organizations to identify and address potential safety risks across the entire system. For example, a workplace safety program that focuses solely on employee training may not be effective if there are broader systemic issues such as poor communication between managers and workers, inadequate equipment maintenance, or a lack of resources to manage safety risks.

By viewing safety and health as a complex system, organizations can take a more holistic approach to improving workplace safety. This may involve developing policies and procedures that address multiple components of the organization.

Occupational safety and health (OSH) system theory is the foundation for effective implementation of OSH in an organization. The theory provides a framework for identifying and managing workplace hazards and risks, and implementing systems and procedures to prevent or minimize them. The implementation of an effective OSH system involves the integration of policies, goals, procedures, training, and equipment to promote a safe and healthy work environment.

An effective OSH system should include several key elements, including hazard identification and risk assessment, prevention and control, monitoring and evaluation, and continuous improvement. The system should be designed with the participation and collaboration of all stakeholders, including employees, managers, health and safety practitioners, and other relevant parties.

To implement an effective OSH system, an organization should ensure that all relevant OSH policies and standards are communicated and understood by all employees and stakeholders. Employees should be trained on how to identify hazards and risks, and how to follow the correct procedures to prevent or mitigate them. The system should be reviewed periodically to ensure effectiveness of OSH in an organization.

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CHAPTER 2 REVIEW OF LITERATURE

The welfare of all workers related to any profession by physically, mentally and socially comes in Occupational and health safety definition in worldwide. OSH is responsible for health security and arranges safety and health to all professions in jobs environment. It gives force to save from risks and injuries (Folkard & Tucker, 2003). Occupational health is a fundamental branch of precautionary treatment. There was no idea about employee's safety and health care in their workplace in the start on twentieth centuries so most of employees did not follow safety steps another side US citizen have awareness of health and safety problems and they claim rights from owners to provide health security according to safety rules and regulations. OSH is significant problem for ILO from 1919. The ILO expressed resolutions to cover health policies and provide OHS facilities, examine labor workplace and control management for risk and disease. With the collaboration of ILO and WHO, a committee designed to manage problems and achieve goals for which committee established in 1950. A committee purpose was to control physically, mentally and socially welfare of workers of all professions, (Epsu & Lethbridge, 2016).

With passage of time and administrative supervision in construction industries people are getting awareness about life security and health safety. The injuries and death ratio still high although safety measurement more operationalized in construction industries then other sectors, (Sousa, Almeida, & Dias, 2015). Constructions industries are full of risk and OH&S have a significant rule in this sector. Majority death claims and injuries reported from construction sector due to lack of awareness and irresponsible approach towards safety guidelines because they did not follow according to regulation Acts, (Beriha et al., and 2011). Health security is common issue so developed countries have a responsibility to play leading role to overcome this issue and arrange seminar, training, and workshops to educate people about this issue. In many countries education department interconnected with companies, and they monitor worker's environment if there any violations of safety system, directly take notice of issue. Due to lack of knowledge about safety and health security in Pakistan, workers approach towards this subject very passive in the construction company and did not follow guidelines to save themselves from risk. Constructions industries boost up in South Asian but unfortunately lack of awareness about OH&S and poor implementation of safety workers facing lot of problems. Some regulations and laws are not suitable for daily construction activities (Mohamed et al., 2009). Within a certain period, labor productivity is simply defined as the amount of work done by craft workers (Khokhar et al., 2019).

Before the World War I, the general concept about the workers employed in the factories was expendable but change found when they face labor deficiencies after the World War 1. Factories employees' rights identified that time but not considered their working environment. The regulation of occupational safety foundation started from New York City where big incident reported Triangle Shirtwaist's fire on March 25, 1911 and as a result 146 people were lost their lives in this incident because they faced blockage of oxygen, breath issue and fire. Another incident reported from West Virginia where 476 workers died while 1500 disabled during Hawks Nest Tunnel constructions near Gauley Bridge in 1930 due to silica dust. It was American deadliest accident in industrial history. The big incident was Chernobyl disaster which affected 500,000 employees in 1986. OSH laws specifically formulated for health of workers, safety and welfare of working class in community. To regulate and confirm the true implementation of safety laws in many countries under Felon law. These laws bound owners, business men's community to follow safety rules and provide healthy environment otherwise will fine or pay in form of compensation to family on person damage or casualty and OSH laws is regulatory responsibility regarding implementation in true form. Accountability and humanity duties performing OSH laws in many countries and workers avail opportunity of compensation by this law. If such type's cases reported in labor courts, then law provide protection to employees by force and recommend for benefits. Law enforcement department play their role to examine case and give rights to employee who face any damage. After examination penalty suggestion passed from courts in favor of owners. The regulatory authority has role to supervise and enforce the laws in true form.

2.1 Acts and Legislations in the Developed Countries about OSH

OSH Act 1970 introduced by United States for workers and employee's health safety in December 1970. The Act comprised on detail guidelines about safety parameters and appointed administrative body for implementation. Administration will ensure all measure of health safety in factories and will aid training, and education regarding. President Richard Nixon approved the

OS&H Act and this Act becomes federal law in America which will protect workers from hazards after reweaving the statute and standards. After approval of law, administrative body formed to enforce these laws in workplaces. It's compulsory on employer to provide safety and health in workplace because it is the basic needs of employees. It is a key factor to consider employee health and safety and takes steps for his/her health improvement output as it stresses the corporation's performance (Scott et al., 2007). To fulfil standard criteria of safety owners should be educated from their duties. This chapter is based on evaluations of different research studies about OHS administration program and theoretical relevancy. Relationship with health and safety performance and it nature of safety also. In this chapter discussed literature which highlights different aspects of assessment to performance evaluation. The concept expressed in five parts, first part explaining approach towards search issue, second part defining main terms of problem, Malaysia and Australia safety and health issue covered in third part, while theoretical foundation about management of safety consist fourth part and an analyze research studies which related to Occupational & Health Safety system at the end. Climate, security culture and way of supervision have a relationship with H&S performance, organization culture and demographic factors established about safety and health (Awang et al., 2019). Administrative trail evaluation help by OSH Commission and Act provides code of conduct to deal different activities, (Howard & Hearl, 2012). In 1974, UK introduced life security management and authorizes to implement safety elements in workplace. Safety system in UK is comparable same as in US while Australia health safety Act 1984 is responsible for assure safety measurement in work environment and give edification, training, and support. The special person and handicapped people support by Commonwealth Rehabilitation Service (CRS) and give integrity independence in community to provide jobs. The Safety, Rehabilitation and Compensation Commission (SRCC) facilitate judicial trials and appellate review. The Act in Australia is elastic as compared to US where regulation and laws harder because Australian laws give relaxation in this regard. In South Asia region safety laws not operative in real form although a large number force from South Asia due to which facing fatality issues and increase day by day. According to report fatality rates in Afghanistan 19.9, Bangladesh 26.4, India 11.5, Nepal 29.9, Pakistan 20.7, and Sri Lanka are 18.3 respectively (Hämäläinen, P.; Takala, J.; Boon Kiat, 2017). It was initial step from Emirates states to collapse laws for development. The rules and regulations in UAE are not manageable

only labor cases even other issues also. Legislation system different from one state to another state although strong legislative body exists in UAE, (Sun et al., 2014).

There was not any culture of health safety in working areas in different owners' minds in the start of twentieth Century because they found costly to install in organizations, so they avoid such type activities although some of them have management body of health safety on organizations. The US citizens educated and civilized so they know what is better for them therefore they demand from state about life security and health. They claim their rights from state and follow laws also about health and safety, (Francis, 2011). The ILO main issue was health and safety therefore they define concept of occupational of health and safety in 1919 so framed different resolutions about this issue and formulate policies to address safety problems in working environment and reduce life risks for workers. Introduced management body examines safety elements in workplace and provides precaution facility from disease. The committee was framed in 1950 with collaborations of ILO and WHO to control health and safety problems and which goal was providing social, mental and physical security to employee, (ILO, 2009).

It's observed that significant area of research in health issue is safety system which is highly recommended for improvement in Pakistan because there is no proper department of health and safety in industrial zones to monitor and regularize this sector regarding safety. In Pakistan public and private sector neglecting this risk and poor attention towards OSH laws enforcement in working areas. Lack of awareness found in most organizations regarding laws and rules of safety in different sectors and they did not have enough information about employee's health and safety risks and needs to address these issue. A big loss of 250 people faced in Baldia Town Karachi in 2012. There are so many sectors in Pakistan where people facing danger and risks like agriculture, mining, fishing and construction sectors. Employees of this sector play an important role and needs to address their safety and health issues according to standard of OSH laws. Across the globe millions of people die, millions of workers become injured and millions of people face different illness due to accidents in working environment every year reported by ILO. Many sectors like Agriculture, fishing department and others department where workers are helpless regarding safety and health security showed sympathy by The Decent Work Country Program DWCP in (2016-22) to establish a system and OSH laws implementations. This management wants to address health issues and change behavior of people to follow laws and regulation in working area. To provide support in technical side and bring change in workplace

regarding Osh laws, ILO offered to Pakistan government for convention this regard 1995. They offered training program in continuation of technical assistance to increase modern OSH system operators and experts. The experts and ILO training program partners play vital role during Covid-19 and control of pandemic situation in field and working environment to compete with this issue. By interference and establishing implementation approach resultantly to inform and aware about virus and protect workers and employees in field and reduce spread of virus in organizations (Massey, 2020).

It is very necessary for political figures, government and others authorities to play their role in implementing OSH laws and also give awareness and information's about health and safety in Pakistan. The essential step is to establish mutual understanding about these laws and convince people by political figures. There is no knowledge of OSH in people and even business community unaware from this concept. Mostly employees did not know laws of health safety in workplace and if facility available they did not know about utilization and ignoring it. The OSH facility take in way that when people injured or ill they providing first aid so their attitude towards this not positively. Although OSH have key role to provide defensive system for safety and health about risks. The preventive measurement takes for workers by this system. Business community avoid it due to high cost or some think it's for multinational organizations or oil industries while some have not information that much important for them. There is no stress on training of safety of professionals and experts of health management in this field (Chidi Ngwama, 2016).

The OHS courses offering by some varsities and organizations where round about two hundred million populations so why feel OHS need in Nigeria because it has significant role in workplaces. The main reason is nothing worthy then lives of people so not possible to do any job, business or other productive activity without safety mechanism. It is primarily requirement to established health safety system for employees and workers before starting any business. Professional says that first safety then works or activity. By getting right in Nigeria, Africa also getting right so it is means that if Nigeria implement OHS program for citizens it shows that Africa implement it because a big contribution of 200 million populations in Africa is Nigeria. Nigeria having high population has no safety system for employees and workers in business sites/sectors. Occupational and safety system highlighted poor system of safety in Africa and

danger environment for workers. They are working without any management and facing life risks.

Nigeria needs to establish management for health and safety in industrial zones because Nigeria have a big contribution in Africa economy and developing day by day so needs to take actions for worker's safety. Nigeria have huge economy and showed as example in Africa and 1981 they signed on safety laws with other nations who were members of this activity Geneva Convention. In the list of the world top 20 industrial states Nigeria is enlisted and trying to enforce safety measurement in true form to meet with standard of globe which is highly recognized in world and implemented by all 20 countries to provide workers health and safety. In all sectors of owners either they have small or big and formal or informal business has ignorance regarding safety. It's the responsibility of government to provide preventive environment and monitor safety system in workplace because mostly did not have enough education and information about this system and even they don't know about protective assets. (Mohammad fam et al., 2017).

Management system is complete package of interrelated procedure and concluded in few stages like planning for safety, enforcement of laws, capacity and regulation. There are so many deficiencies highlighted in audit report which was held by Indonesian Government Regulation in July 2017 and exposed drawbacks in system. Audit report showed policy making process, examination of feedback, planning of OHS, and different others aspects regarding OHS system. Report revealed security hazards, work load control, labor facility, and other deficiencies, (Maciej Serda, 2013).

According to (ILO) report 2.78 million death casualty occurred due to injuries in working areas every year and suffered in different diseases due to lack of safety facility in workplaces 2.4 million reported yearly while millions of incidents report from different working areas annually. These incidents have big impacts on economy due to loss of worker lives and deficiency of employees in work environment that effect GDP ratio yearly to 3.94%. Developing countries gradually improving their safety mechanism and reducing loss of people lives which occurred due to lack of safety, (ILO, 2020). Increase in GDP ratio and job creation SMEs play very important role in Malaysian economy. Economy has big impact on implementation of OHS system because capital required for enforcement of laws in real form and effectiveness of laws

showed from true implementation. Like developed countries Malaysia enlisted to reduce incidents ratio by introducing health security measurement, (Carbon & Albrecht, 2012).

The nature of safety in organization can improved by OHS system installation and apply rule and regulation recommended by ILO for implementation in workplaces while complete implementation of rule according to health of regulations not possible although it depends upon executive body have key role for enforcement. Management system, leadership and employee's interest and involvement make possible to compete in market of risks. Organization performance for safety can be observed by assessing to health and safety mechanism which is operative in organization, (Kelly & Boucher, 2003). Another aspect of safety effectiveness can measure by consideration of significant role for arranging people and system interaction, (Sousa et al., 2015).

2.2 Exploration & Production Companies OSH practices

First intervention about drilling well of oil started in Miawali District of Punjab, Pakistan 1866 while discovered first thirteen wells in Baluchistan which gives 25000 barrels' production of oil from 1885 to 1892 but commercial adventure done in 1915 at Khuar by Attock Oil Company and continue search of discover oil and drilled 400 wells during 1915 to 1954. In continuation of drilling process discover Potwar Basin oil well by practicing exploration. By discovery of Sui-Northern gas field, Pakistan become first and largest natural gas resources in 1952 and fortune of Pakistan changed with gas discoveries in field of energy. First discovery in field of oil made in 1964 and started production on commercial bases in 1967. At the end of ninetieth century national companies like Oil & Gas Development Company Limited (OGDCL) and Pakistan Petroleum Limited (PPL) and other international companies' also find out resources of oil and gas in Sindh Province. Later on discovered oil and gas resources in KPK by OGDCL and MOL. Mostly areas Pakistan not yet explored regarding oil and gas, for example Baluchistan province not fully explored for oil and gas and Pakistan need to search these areas and want focus to enhance peace process and provide peaceful environment for companies to explore petroleum resources by exploration and Production process.

2.3 1934 Act of Factories

Pakistan was founding partner of WTO and part of 1934 Act of Factories while eliminated quota system and free trade rights awarded to nations that every nation has equal right of trade. With improvement of commerce and global market occupation releases the limitations of trade and strengthens safety system in organization. ILO bounded investor and importer to follow the

safety measurement by WTO Act and will take legal actions against employers who violate it. The laws amended by federal governments according to requirements and introduced health safety laws 1934 Act, 1963 Rules Hazardous Occupation, 1923 Act of Mines and many others laws for worker's health protections. Pakistan government improved their policy about safety issues and passed several Act time to time to address problems but still rules have deficiency in application in workplace and not a comprehensive booklet of regulations about occupational safety and health to cover commercial activities in different sectors. True presentation of safety laws is 1934 Act in Pakistan and chapter 3 of this Act consist rules which cover health and safety issue in Pakistan. The Act bound manufacturer or employers to follow safety rule where working team are ten or more than ten members and ensuring safety of workers and precautionary measurement in workplaces recommend necessary stages. The management system has responsibility to confirm health improvement process, satisfactory environment, instrument for fire control, drainage and sanitary system and other requisite steps for health safety. Moreover, there are set of rule to obey by employers in workplaces and provide standard facility according to ILO rules. Its responsibility of owners to hire experts which control workers and provision of shelter home for employees where they work, (Ahmad et al., 2012). The rule and regulation monitor employee's time of workers and environment provided to worker for jobs. The Act safeguard role for employees to ensure working hours not to be exceeded from forty-eight hours weekly and one-day break in a week is essential and assurance of ten days' vacations in year. It is also providing child labor protection that below twelve years' child not allowed working in plants and bound to give work up to 5 hours per day to under age of fifteen, (Zin & Ismail, 2012). 1934 Act stressed on basic safety and health actions while it play role of regulatory authority to overcome jobs risks and control preventive actions in working set up. There are so many roles in booklet of Act but not true implementation possible in different sectors and also some lack are there in laws to cover danger activity. There is some sector where people work self and not feel bounty under these laws and if they convinced to follow these they ignoring like agriculture sector people work by self in field, construction industry and informal employment of people. Secondly no criteria available for safety and health qualification and professionalism, (Binti Ismail & Shahril Bin Ahmad Razimi, 2018).

2.4 OHSAS-18001

Internationally recognized standard of rule and regulation system is Occupational Health and Safety Assessment Series (OHSAS-18001) which deals with health safety and administration regarding organization jobs risk highlighted by employees faced in field. These laws and regulation in hard form and can change and amended according to jobs description and organizations criteria, (Olaru et al., 2014). The rule makes possible health and safety requirement in working areas and suggests improvement guidelines to occupational management. To decrease institutional risks by facilitation of effective enforcement in field. The OHSAS not play role in specification of guidelines and framework for system administration about health and safety but it is utilized for checking empowerment of system in field and how much effective for worker's safety and beneficial in different sectors. Tam 2010 stated that this system monitor how accurately management working for safety and observe loopholes in legal way and policy improvement. The criteria of this system are to fulfillment standard of rules and regulation which is effective in management process and approved rules by OHSAS-18001 as a result achieve goals. The Act was presented with aim to reduce danger faced by employees in working areas and it increase production power of organization by reducing expense of production, (Tucker et al., 2012). The management was established to cover the gaps which ensure safety measurement and provides international standard regulations and councils by executive body. Its provide certification regarding health and certified 25000 organizations from 82 countries in 2006 which empower organization to highlight gaps in field and try to address these issue according to standard rules and regulations. By mentioning loopholes in organization find possible solutions these issue and provide safe and secure environment to workers that encourage performance and positive impact on organization production. To find gaps which are not acceptable and harmful for organization must be eliminate to better the effectiveness of safety, (Smith, 2008). The act has positive approach to address risk issue and provide exposure about rules in field and system approach to address before happening any incidents reduce hazards in workplace. Measure control points and examine risks behind the scene and provide technical assistance to solve the issue. If required management solution they approach for him if both facility needs also try to provide it. The Act guideline provide opportunity to reduce hazards and address issue by giving technical or administrative and or both facility to control risks and arrange possible answer before occurrence of any accidents. Its basic needs to make a standard passed through any risks or danger which identifies hazards situations.

2.5 Health and Safety Issues Summery

The laws and regulation standard revisited in Australia and Malaysia about health and safety to improve the standard with time and examined incidents occurred in jobs and illness from different reasons in workplaces summarized in Malaysia and Australia. To fulfill legal requirements and satisfactory environment for employees needs to establish safety management and regular betterment in guidelines makes healthy conditions for working peoples. Improvement in safety system increase life security and legal coverage to employers. For health safety many models operationalized in field in which one famous model is European safety model 2002 while study focused on ILO model, NOHSC model and European safety model. The European state present safety model for their member's states to implement in their working areas and provide occupational security to workers. This model identifies 5 points for effective administrative system regarding health safety:

- The OHS initiative- It consist four variables in which administrative compliance and assets, commitment of supervision: responsibility, answerability and power: and contributions of workers.
- Process of OHS preparation and execution. It's further divided into sub sections of process of OHS system. There are OHS aims and purpose, events act, arrangement of organism and improvement, basic estimation and approach to risks and OHS administration manually and dealings. Implementation further four parts, first training, second risks management, third precautionary steps and fourth finding contract.
- Output OHS output have five features, first is achieve aims and purposes, second is to collect data about injuries and illness, third is health and safety conditions of workers, fourth is competence modification, and fifth is performance evaluation of organization generally.
- Feedback OHS By feedback process collect data and maintain record of all documents. Evaluate the data like audit process and self-examination, occurrence report of incidents and medical approach towards accidents. The process of betterment, addition and administrative evaluations.

2.6 ISO 45001:2018

The internationally recognized and passed standard rule is ISO 45001, 2018 which is followed by all departments across the globe and provide protection to workers in field. By this benchmark improvement of rules in safety system play vital role for workforce to establish better environment by employers and implement in any institutions, organization departments, formal/informal and government sectors specially in construction industry and oil & gas sectors. To enhance the life security in workplace its implementation is very essential for worker's safety and health. The aim of this standard was to give preventions from hazards and risks in organizations. The rule explores deficiency of safety measures and highlights those issues. By replacing old standard, in 2018 this standard was introduced, (BS OHSAS 18001) and demolished previous standard. After three years' new standard introduced or improved old one by experts in businesses.

2.7 Global trends of Occupational Safety and Health

Health and safety of workers introduced a new concept and trends in industrial sectors and working zones across globe by changing old trends of safety. Its established rules, regulations, framework, structure and process. Safety mechanism developing convinced by health problems and issues faced by workers in field and overcome these issues. To counter loss of owners which failed to develop safe and healthy workplaces, (Arocena & Núñez, 2010)? Occupational health and safety applied for provision of active safe atmosphere for workers and increase the safety events that cover health issues of employees in work field. The concept of health issue only considered in working environment is old concept and explores risks about problems in working areas but this concept replaced by new trend that safety measurement concerns with all over field in worldwide to give protection health of employees. The advent of new technology like computer and photo state machine etc. which have also risks for employees and need to provide life security in field. These new technologies advanced the material which is harmful and people not aware regarding so its need to address their issues, (LaTourette et al., nod). To provide working environment for disabled person some technological assets installed in workplaces which harmful for peoples and rays of screen very danger for health. There are some items recognized for special person are replaced by new concept which become reason of danger and happening incidents and injuries. The health issues nature changes with working areas and faced different problems in different sectors by workers. To address issues of special persons and

women needs to educate them about problems existing in field and formulate a structure according to workloads. By facing different challenges in field introduced new issues with passage of time and now workers facing terrorist threat which needs to count down these issues. New issues need solution in new way to give protection to workers. The recent wave of terrorist activities emerged new mechanism for protection and feel needs of safety supervisor in field. The role of the safety supervisor to monitor activities in field and ensure safety measurement for workers. Employee's health security is more essential event for employers and approach towards these issues by installations of mechanism of safety. Williams, (2008) argued that workers need education and awareness regarding safety and health issues. To address these issues main agenda of ILO internationally today, (Colligan & Cohen, 2009).

UN established special agency for employee's problems in field and social problems under ILO and this agency purpose to establish management and regularization procedures for worker's field. ILO headquarters founded in Geneva and this responsible for provision of standard and guidelines regarding worker's safety and ensure in workplace. The office which deals with safety program installation and managers internationally is called IL Office and it is run offices in worldwide to maintain administration and laws. ILO staff working in all members' countries for implementation standards and monitor laws activities. To control management system, labor working time, packages, jobs security and different types of workers which are more relevant with OSH. To improve policy and new trends establishment held conferences and conventions in International Labor Standards (ILS). In conventions different aspects discussed and recommendation passed regarding betterment of policies and standards. In Geneva Conventions, member's countries participate regarding different issues and possible solutions discussed in conference to address problems facing workers in countries. The Geneva conferences held annually every year in June and member's countries participate in convention to address their issues on international forum and get helps from member's countries while participants give fruitful suggestions to seek out problems solutions. In conventions different field experts also participate and give their opinion about issues and formulate regulations about problems. Experts give code of conduct for issues in different sectors like agriculture, mining, constructions industries and oil & gas sectors related problems and danger aspects to address it. Government, owners and employees collaborates with ILS and Code of Practice for deliverance safety and

health measurement to ensure OSH policies in working environment, International Labor Standards (Kagawa, 2011).

2.8 Occupational of Health and Safety Policy in Public and Private Sectors

Organization management tries to implement health and safety management system in true form and their laws in every sector for achieving aims and goals. In organization management have responsibility to developed rules for worker's health and needs cooperation of employees, employers and management to implement rules in effective form, Service NL (2014). It's necessary to engage workers in policies formations and needs representative for engaging workers in safety activities in organization. It is international standard that starting business where you have four or more than four employees you are bound to install OSHA system in your work place under section 90 of ILO ordinance which is globally recognized for organization specially agriculture, mining and constructions sectors. Ali (2008), studies highlighted that OHS management system concerned with all organizations to develop safety and health system for employees to secure workers lives and save from any loss. Workers satisfaction regarding safety issue is more important and concerned with organization productive performance and fulfill standard of national and international level satisfactory measure about health and safety. Policies improvement reduce risks and hazards occurrence in workplaces and creates healthy environment for workers to perform well by securing from any incidents and injuries in plants or manufacturing areas. It also needed to educate employees regarding problems and give training, arrange workshops for awareness and developing protection unit in working areas for employee's protections and safety, (Barlow et al., 2015).

The operationalization of safety policies in working environment can be possible with cooperation of employers and employees and commitment towards successful installations. It is very difficult to engage workers in policy development and gets their opinion regarding issues in early stages because they unaware from many problems and don't know how to improve workplace atmosphere. It's very fruitful to formulate policy with cooperation of workers and design rules and regulation in the light of employee's issue which they face in routine work. The implementation possible in true way when nominated representative who is responsible to give information about safety and ensure laws and regulations. The representative can share formulated policies in good way in workers and convinced them to follow preventive steps in field and secure their life from injuries and incidents. ILO and WHO jointly struggling for

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worker's health and safety and also their mental, physical and social welfare maintenance and try to promote these events in different sectors because it is needed to all workers despite any specifications. The main purpose of safety and health management to address all problems faced by workers in workplaces and engage experts and employees to cooperate with one another's about health and safety. The system establishment approached in reducing risks and harmful activities by providing precautionary measurement. This organism approach to assess risks and hazards activities and arrange solutions of problems about incidents. The safety events purpose to eliminate those factors which become reason of any injuries and death casualty although OHS system provides all aspects of safety for workers. The risks and hazards have a large list in different sectors and departments which uncovered by employees and workers time to times formally in constructions industries, agriculture sector, textile industries, petroleum industries and banking system while informal organizations like welding field, pepper grinders, and roadside mechanics etc. which faces injuries and incidents in daily life, (Nurhazirah et al., 2021). The advancement of world, globalization and digitalization has big impact on European public life and it is developing economic, technology and profile of public. Every organization, small or large or medium needs to implement OSH policies and its increase performance of organization because it provides a healthy environment to workers. OSH system was very simple to introduce in organization but it become more difficult with advancement of technology and very critical to ensure in true picture. The success of safety system depends on organization structure; framework and mechanism of installation this system in institution but successful operative system did not give guarantee to change psychological approach of workers. Introduction of preventive unit in all organization is needs of today and necessary elements in organizational structure, (Van Dijk et al., 2015).

People faced risks in different form and there are many risks in field which workers faced in routine including mental, chemical, mechanical, biological and psychological risks. The risks exposed by workers are daily base experience of harmful incidents which they face in field. OHS provide guidelines and regulation to employers regarding health safety and establish safe environment for workers where they can perform very well without any hesitations of danger in field. Safety management not limited to a single aspect but they cover issue from multi aspects and try to address these issues according to situations. The effectiveness of this system can be decided from performance of workers and injuries or incidents reports. While better safety

environment enhances the production of organization by well performance and tasks completions within time. The main focus of management is to sought out loopholes before occurrence of any incidents and create preventive environment in field which cover risks and health safety. It is unpredictable or unexpected to happen any incidents but it is important to take precautionary measurement before happening any accidents or injuries. It is universal phenomena that lives of human being is very important and nothing is costly for protection of worker's health because healthy environment increase production capacity of organization and effective prevention save your wealth and save lives of people which is not costly by installing OHS system in organization. The international laws bound employers to save your workers lives otherwise as a result of any incident will compensate family by all aspects like treatment and financial support also. Secondly assuring safety for workers increase your output and not effect productivity but decrease with poor system of health security and beneficial for both, employees and employees. Occupational health and safety system and ILO regulation ensure all aspects of workers like working hours, age limitations, workloads, wages and health safety etc. in all organization and sectors. The safety examination teams deployed in member's countries and they monitor all sectors regarding safety measurement to create safe and secure environment. For organization betterment and good productions very important that their workers should be healthy because production depends on employee's health and performance. If workplaces not according to standard of international laws and rules and workers not satisfied in environment how can possible to give you required result. Production directly linked with welfare of workforce and to facilitate workers in different aspects will perform better in every field. Due to unhealthy environment spread of diseases cause low productivity and output which decrease productions and loss to owners. Another aspect is shortage of manpower directly linked with loss of organizations. So it compels owners to implement rules regulation of safety and convinced workers to follow these laws by supervision of safety official. An organization success depends on workers' health and welfare of its workers, (Abidinetal. 2021).

The continuous and systematic operationalization of OHS management is very essential in companies and government needs to legislate about safety system because it is highly appreciated and acknowledged by many countries and big achievement by implementing this system in organizations. Initially concept about problems was that it's technical issue but realized with time that problems are very important and needs to address these issues. The issues

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highlighted about health are due to human factors and nature of organization and have importance regarding solutions. With development of management system and advancement of technology compel to address issues and find out solutions of these problems. The management unit is responsible for checking lack of awareness and information then provides facility of safety about health issues. The education and knowledge increased in workers by advancement of management system in organizations which offers better safety structure to employees in field. The OSH management was limited to examine technical aspects of problems but expanded towards organization, human elements and nature of issues. Now it's broader concept to address these issues and finds solutions of these factors and OSH approaches is very important for safety system, (Silverstein, 2008).

Management system defined by ISO is a system of those policies and objectives which established for achieving some sort of goals and aims of safety and health. These elements connected to each other's in organization which developed for securing workers life. The OSH system developed in the light of injuries and incidents occurs in organizations and felt need of management system which control health and safety related issues in workplaces. OSH system consist those policies which prevent workers from injuries and illness in working areas and preventive environment create for workers in field. OSH and MS jointly work for worker's safety and health while organization work as a system and explore risks and dangers in work areas. The organization and their feature interrelated and have important role in safety system, (Sharija Che Shaari et al., 2020).

2.9 **Positive impacts of health and safety activities to the organization performance**

The safest model about health and safety is establishing management system which highlights issues and find their solutions, develop control system and make sure security of workers from happening any incidents by Fulweiler, (1993). Implementation of safety system show that employers is more motivated towards employee's safety and committed to take all those steps in favor of workforce and confirm staff health security. Organization in loss if their employees suffered from any incidents and more expensive for departments that their employees become ill due to workplace environment. The safety measurement is necessary for organization as well OSH recommend health safety of workers. To improve performance of workers needs regular monitoring and assessment towards safety system. By effective management of safety administration give confidence to organization that safe model projecting in real form and will
fruitful result due to health and safety structure and its increase performance of workers. Implementation of safety model in true form address the issues of workers and make high morals of workers that employers have weight of employees and care their health. Its means rewarding to dedication of workers for your organization by providing them safe environment for work and facilitate her/him during incidents or illness of employees and timely respond to their problems and caring of them. If organization provide invest for providing unit which will work for safety of workers and takes preventive measurement for their life, health and security issues. This preventive steps and events build confidence of workers as a result workers showed dedication for organization and increased performance which help in achieving goals easily, (Fulweiler, 1993).

2.10 Negative impacts of health and safety activities in the organization performance

The constitution of ILO bounds owners to provide safe mechanism for employees and takes protective steps against injuries, diseases and incidents which faced by workers in workplace. According to report two million people death occurring as a result of diseases and accidents each year, those who goes from different diseases is approximately 160 million and very critical situation accidents faced by approximately 270 million yearly. This calculation of incidents suffers workers and their families in mental trauma in economic concept, (Jain, 2009). GDP ratio low level due to increase in accidents and diseases annually by ILO report. The increased ratio alarming business community to control on issue because momentum of incidents and illness will create a shortage of workers and organization will face problems regarding professional staff and workers which will costly for employers. Although many reasons can counter by adopting preventive measurement, examination of field, timely report of incidents and true implementations of safety policies, (Jain, 2009).

2.11 OSHMS Implementation

OHSMS stand for occupational health and safety and management system for protection of workers in field and provide safe working environment. This term first section provides information about safety and regulation for workers and second section give way of implementations. The necessity of system is for all organizations those who have some sort of rules in running also needs its implementation and those where this system not exist have more requirements to installation of management system for worker's health care. Its highlight those legal points and rule which can be taken for protection. The risks and hazards faced by workers

in workplaces. The Management system based on BS 8800 (2004) which provide documented guidelines for safety. This rule improving management system continuously. The system updated time to time with exposure of risks and diseases faced by workers in field and ILO presented new rule to address these issues.

OHS Policy

For OHS policies implementation described three guidelines and applied these standards for implementing it. The senior management is responsible for OHS regulation which shows their commitment towards worker's health protection and safety. They are responsible for creating safe environment and reducing risks about illness and injuries in work areas. Secondly guidelines endorsed recommendations of ILO that worker's participation and contributions required for making policy which show that all aspects covered regarding legal matters and others requisite feature needs for organization. ILO appreciates offering volunteer programs. It's essential for organization that keeps in mind all aspects of OHS activities and establishes policy according to organizational requirement, approved from high management; circulate with all concerned, documented form and circulation of copies in all departments for availability. Guidelines show that organizations commitments required for improving safety policy time to time that management system updated with passage of time which meet standard of ILO by continuous improvement. This policy want participation of all business community and organizations every level.

Organizing

After establishing policy needs framework for implementations and organizing comprised responsibilities distribution in organization and management structure in organization. The main responsible body in organization is company or organization executive body or directors of company or high management which control all activities in organizations ensure protection of employee's health safety and secure workers from injuries improve protection system. The executive body is responsible for hold on activities about OHS, convinced employees to follow system, and share effectively among workers and appointment of supervisor for monitoring activities. Its part of Organizing to communicate those guidelines that should be followed by workers, arrangements of volunteer program, identify hazards in work areas and compel workers for participations. Executive body is responsible for ensuring improvement and enforcement of system in real form, nomination of competent person for supervision, evaluation of management

and upgrading OHS administration. Regulations make responsible employees and employers to follow guidelines and rules for achievement of aims and needs awareness about duties. The responsibilities bound workers to have awareness about related and connected people because they can affect from them so employees give information about responsibilities to them. The availability of resources also needed for workers to perform their responsibilities. Organizing section defined responsibilities in documented form and required to share about safety and health issues by ILO. Management system should be documented and maintained for record of health and safety related policies and regulations obtained for OHS standard have detailed information about responsibilities, record and procedures relevant to safety. Updating documents required time to time for record and evaluation on regular basis. Documents availability and accessibility should be smoothly and shared with workers in organization. Documents sharing processes established for internally and externally and sharing of smooth run of information in organizations. Employee's opinion and recommendations regarding safety and health system should have established feedback mechanism which collects reviews of workers experiences.

Planning

This section covers three aspects of safety and health management activities and its implementations in field. Its section has covered OHSAS, BS 2004 and ILO-OSH 2001 in planning that comprised guidelines and standard about health problems to achieve goals, legal coverage and evaluation of risks in field regarding health. The Act show detailed information about prevention from risks and gaining safety instruments. Planning required for issues handling and reducing hazards while management system refer arrangements of all requisites material and stressed on all events of this model under planning. Its needs system arrangements, activities for work and action corrections. As a result of planning achieved all objectives in connection of recommendation of rules and regulations. Organization legal applications and others necessary steps should be taken in the light of safety system to achieve objectives. OHS bound owners to implement guidelines in legal perspectives and improve organization health and safety management. Objectives achieved with the help of planning and programing of proper development of resources while OHS objectives circulated in documented form in organization all workers. Draw a sketch of objectives and evaluate implementation and measurement of action taken for achieving goals. To fulfill legal requirement needs to plan a mechanism which cover those actions or steps for establishment of management system related to OHS and identification

of loopholes in administration. The output of management interrelated with employees or workers how much advocate about issues and aware regarding risks and updated. Planning section identify hazards and risks while provide assessment towards harmful events. This section covers those activities which compiled information about prevention, future control management increase safe moments and reduce happening risks activities in future. Planning covered all factors which involved in organizational activities connected direct or indirect with people attitude and utilization of equipment for this purpose. Risks and hazards can be reduced by controlling, eliminating and exchanging reason of problems and processes of improvement can be accomplished in the light of elimination. Organization needs to asses related hazards and risks by changing in management and procedures implementation. It's defined by ILO-OHS (2001) review required initially and further try to implement and adding more to review needs attention for laws relevant issues and volunteer activities which suggest that calculation of employee's health issues and inspection of organizational status of workers. Labor ordinance cover different risks related problems and provide preventive measurement which equip organization to response in emergency situation and attaining legal procedures to provide safety.

Implementation

Definition of implementation separately discussed from planning section. It's required for complete arrangements of improvement of administration, excavation and retaining of processes for smooth running of activities in organization. This section consist allotment of resources, documents record and disaster matters. The whole responsible is management body to assigning responsibility to competent, committed and skillful employees for such duties make accountable in allotment or distribution of resources and OHS system implementation overall and employees workplaces. The list of responsibilities should be in hard form and shared with workers in organization. A competent, well trained and have knowledge about issues share information about activities which have impact on OHS system. Training should be arranged in organization for relevant needs. Establishment of communication channel for sharing information in organization internally and externally for visitors and contractors. It shows the workers participations and coverage of activities regarding health and safety. OHS policies developed in document form which cover all aspects of management like policy, processes, aims and events which well-maintained and needs feedback system should be updated. The control of operational activities defined by health administration and cover emergency issues as a result of

management. The organization has potential to handle emergency or risks activities and hazards in different times and updated. In different section discussed different processes of problems coverage, (Caraballo-Arias, 2015).

2.12 OSH implementation and practices in Australia

In 2008 government of Australian showed seriousness for implementation of health and safety regulation and legal aspects in working areas. A model was developed for safety in the light of model WHS regulations and Codes of Practice, and a National Compliance and Enforcement Policy. The Act expends towards others states in 2012 and 2013 respectively. This Act was established for those who employed in organization or jobs in departments like worker in manufacturing sector, designer jobs, supplier employment, installation workers and electrician. They show needs of consultancy in field for workers and Act bound them to provide consultant during work. Workers needs to follow safety regulation and rules during work in workplaces and professional and experts appreciate approach of safety and acceptance of OSH practices in field. They have noticed some problems concerned with OHS implementations in work areas and try to address these issues on time, (Mayhew & Peterson, 2012).

2.13 OSH Laws and practices in UK

A big change came in Great Britain with industrial revolutions and faced different diseases in workplaces. In the light of previous experience about diseases inducted several Act in 150 years specifically for health and safety. In Great Britain or United Kingdom, the Health and Safety Act 1974 is the first model for the occupational health and safety in the work areas and this Act called 1974 HSW Act. Its core lawmaking in favor of OSH. The industries and companies convinced for regulation of laws in organization and 400 authorities locally and commercially operationalized under HSE. Act improved in controlling many safety and hazards and improving the occupational hygiene. UK recognized the significance of OSH from last twenty years and uplifting health and safety issues launched a program in 2000 by UK (Harrison, 2012).

2.14 Occupational Safety and Health Laws in Uganda

In 1995 Uganda parliament approves a laws and entered laws in constitution. Article 40 showed that Parliament bounding state to regulate laws which give right to people to perform job, work or employee in satisfactory environment, secure and healthy. This law ensures labor rights by providing working environment, wage control, working hour's timeframe and break a day every week in workplaces. Parliament provided safety to workers and interferes by laws to ensure

workers health and safety measurement and regulate according to standard of ILO and passed many Act for security of workers. It's also provided facility of preventive activities and engaged workers for give information regarding health issue and how can keep safe from these diseases in field. There is procedure of preventive steps which is documented form and maintained a record and distribute in employees for awareness. The owner think establishing management system is costly although give compensation to injure or death casualty is costlier instead of taking preventive measurement before occurring any incidents. The factory Act was much operationalized before 2006 and it's providing rule and regulations about health safety and monitor workplaces. This act was applied for different activities and more beneficial in different sector like construction industries, agriculture and oil & gas sectors which are full of risks and the OSH system main purpose is to provide security from hazards and danger events. In responsibilities of health issues also included high strength, cleaning issues, ventilation problem, and drainage system and sanitation problems. Workforce facing lot of issues during jobs or work and ILO internationally play vital role to provide facilities in all departments and organization that perform very well and increased productive capacity. The main purpose of this Act is to ensure laws implementation in field and precautionary steps for worker's health and safety. They recommend time to time improvement in laws and regulation according to advancement of technology and updated version shared with workers that they aware from new laws. It's the responsibility of top management to appoint competent, equipped and trained person for supervision and monitor all activities in field. OHS addressed all issues one step but needs to update with passage of time and it give information about safety from fire incidents and give stress on worker's awareness about these issues which face by employees in working areas, (Sees et al., 2002).

Another aspects of safety are to cover sanitary issues and adequate employees about this problem and provide facility regarding. By laws a competent and high authority nominated for monitoring activities and ensure standard of safety. Supervisor has responsibility to evaluate loopholes and addressed these issues by taking preventive actions and reduces such types of activities organization. It's also mentioning those points which improve safety system in different sector specifically agriculture, industrial and mining sectors which deals with fire technical assistance and the concept changed that issues due to technical reasons and now cleared that human factors involved in these issues. The main responsibility of executive body to implement laws and developed record in documented form while needs to distribute in employees that they educate regarding issues which face by workers in daily basis. The worker's suggestion and feedback considered in policy making and established policy according to their observation because they facing problems in routine life. The implementation of regulation in true form possible with cooperation of worker engagement and involvement. It is included in responsibilities to give information about risks and danger events in organization to supervisor to reduce harmful activities. The increase in performance depends on worker safety measurement because safe environment allows employees to work with dedications and risks decrease ability of high level performance of workforce. By providing working atmosphere increased duties of employees and they bound to follow laws and research studies show real picture of ILO rules implementation, (Jilcha & Kitaw, 2017).

2.15 Occupational Safety and Health Issues in Uganda

There are many challenges face by Uganda in different sectors and workplaces. The main issues explored in industry of construction and death casualty reported and millions of people faced other diseases faced in field. Construction industry expands rapidly increasing security threats towards health and safety. According to Senyonjo (2005) 40& death reported by accidents due to lack of laws and policy regarding health and safety issues and government have no clear stance to operate construction industry start inspection of those activities which become reason of increase in injuries and death. If government legislate for this purpose needs also implementation in field and did not have appropriate training to deal with issues. Another challenge of safety is use of chemical in agriculture field, (Cohen et al., 2009).

The studies showed that in agriculture field workers use different chemical in field and very danger full for lives and did not follow precautionary measurement for this events. Workers explored different aspects with experiences in field and some suffered in diseases due unaware workers from risks, Omara (2002). The employees get exposure from issues faced in work areas and suffered from bed experience. The workers need and right to provide safe administration and try for improvement of policy with experience. It is the responsibility of workers to recommend their experience and suggest step or improvement for betterment. In agriculture field lot of problems facing by worker because the utilize chemical in field, Omara (2002) Moreover it's very dangerous for employees to use container in home water storage and others activities which empty from pesticide which is chemical and harmful. They irresponsible approach toward health

and safety regulations showed that we did not follow OSH rule in true form. Lack of awareness and not protective wearing of workers cause of hazards in field and no knowledge about pesticides that how much harmful human being health, (Atusingwize et al., 2018).

In this case may be international enterprises not involved in agriculture sector. The occupation safety regulations and laws passed by Uganda government adopted by company management with small changes and implemented in organizations, (Kinyara Sugar works, 2001). There are so many issue like, sanitation, ventilation, inhalation and cleanliness issues face by workers in offices of public sector and needs to address these issues according safety rules. The big loss happened in near past due to fire incident on 14th April 2008 which revealed the poor safety system administration while twenty school girl's death in age of eight and nine reported due to destroyed of hall this big incident was occurred. Same incident may be occurred in other areas if not taken steps to control such events. Likely other accidents reported from different areas which effect economic sectors by workforce and needs to stop this type activity. The safety measurement avoided an industrial sector and they have no management for health and safety of workers in workplaces. There are many industries in Uganda which not follow labor rules and laws like garments industry, textile mills, metal fabrics, beverage and food, wood crafting industry, electrical company, graphics and printing studio, and handcrafting industry did not follow safety regulations in field. Adding to this not avail facility from safety department to visit their office and get guidance and support regarding health issues and implementations in field because 1934 Act of Factories not applied on them therefore they are not bound to adopt safety model and bring regulations and laws for worker's life security administration in workplaces. So proper attention did not pay to adopt safety rules and reduced risks in worker's life by giving them a safe environment for work and this will have increased their production capacity in field and will compete challenges in good way.

Another factor may be inappropriate functional system of safety cause of these issues while poor implementation raised the ratio of problems in this sector and workers face issues in work areas so needed to improvement the standard of laws enforcement in field. There is different other factor which may be create hurdle in application of regulations and survival of risks increased in production and manufacturing field. Some new health issues raised in Uganda which created space of safety in working areas and lot of concern about these issues to address it. New health problems like HIV/AIDS observed in near past and big concern about issue existence in field. These issues threaten country from twenty years and big issue for government to address it. Different sectors established preventive policies regarding this virus to control timely before spreading in large scale and them goal to achieve target by controlling this virus. The policy about this issue strictly implemented in all sectors and guidelines issued to follow regulation regarding this virus and problems. HIV/AIDS related rules and policies enforced in education sectors particularly about health and safety in education institutions.

In the context of Malaysia, the manufacturing SMEs contributes significantly towards national economic development, nevertheless, the increasing number of occupational accidents seems to pose a serious problem (Knur Aqilah & Juliana, 2012). There are a significant number of OSH studies in the areas of management, public health, engineering and psychology in the Malaysian context (Antara et al., n.d.), but short of studies on OSH in manufacturing. Similarly, the literature on Malaysia's OSH legislation is scarce. The previous studies on OSH legislation were mainly concentrating on the issues of establishment and enforcement of the OSHA 1994 (Surienty, 2019).

These studies were purely legal research known as doctrinal studies. These studies deliberated on the evolution of OSH legislation in Malaysia. The OSH legislation was originally very prescriptive through the FMA 1967. It has now evolved to more flexible legislation with the enforcement of OSHA 1994. Unlike FMA 1967 which prescribed for detailed technical provisions, the underlying principle of 1994 OSHA framed in light of self-regulation (Sharija Che Shaari et al., 2020). Rampal and Nizam (2006) pioneered the discussion concerning occupational health hazard. An empirical study on occupational accidents in Malaysia, however, is still lacking and mostly concentrated on the construction sector (Said et al., 1999). An extensive socio-legal (non-doctrinal) study was conducted by Rozanah Ab Rahman, (2004) to determine the application of OSHA 1994 in the construction sector (Karim & Hariyono, 2018). The economy of India growing very speedily and competing developed countries in all aspects of

democratic and superpower aspects also. This country utilized safety system as instrument of development and supports this activity inside country. By globalization this safety terms and culture expands in this all sector and industrial zones of India to provide protection to their employees and workforce in field. Many industries introduced safety system for employee's

health and betterment and bound owners to implement this management in company and department. A big enterprises have safety unit inside field and provide safe and sound environment for work which increased productivity of organization and cheaper than happening incidents and compensate their workers on their injuries or death etc. so needed such measurement which prevent before accident. Company and organization hired a safety supervisor having OHS certificate and experience about safety and field work to control the hazards in workplaces but mostly employee's residency facility in backward areas where did not have a proper safety and security of lives for workers. There are many organizations in both public and private sector has a well management for safety and established a health care unit in organizations. The OHS system available in those organizations which bounded through government while not available in those sectors where government control not implemented. Ministry of Labor deal all these activities and regularization of these laws in organization control by this department and different sectors followed these laws by enforcement of ministry and involvement of authority regarding true implementation for worker's welfare. While authority have no access in unauthorized sector and free from adaptation of safety laws, (Watterson, 2016).

There was not any culture of health safety in working areas in different owners' minds in the start of twentieth Century because they found costly to install in organizations, so they avoid such type activities although some of them have management body of health safety on organizations. The US citizens educated and civilized so they know what is better for them therefore they demand from state about life security and health. They claim their rights from state and follow laws also about health and safety, (Francis, 2011). The ILO main issue was health and safety therefore they define concept of occupational of health and safety in 1919 so framed different resolutions about this issue and formulate policies to address safety problems in working environment and reduce life risks for workers. Introduced management body examines safety elements in workplace and provides precaution facility from disease. The committee was framed in 1950 with collaborations of ILO and WHO to control health and safety problems and which goal was providing social, mental and physical security to employee, (ILO, 2009).

OSH Act 1970 introduced by United States for workers and employee's health safety in December 1970. The Act comprised on detail guidelines about safety parameters and appointed

administrative body for implementation. Administration will ensure all measure of health safety in factories and will aid training, and education regarding. President Richard Nixon approved the OS&H Act and this Act becomes federal law in America which will protect workers from hazards after reweaving the statute and standards. After approval of law, administrative body formed to enforce these laws in workplaces. It's compulsory on employer to provide safety and health in workplace because it is the basic needs of employees. It is a key factor to consider employee health and safety and takes steps for his/her health improvement output as it stresses the corporation's performance (Scott et al., 2007). To fulfil standard criteria of safety owners should be educated from their duties. This chapter is based on evaluations of different research studies about OHS administration program and theoretical relevancy. Relationship with health and safety performance and it nature of safety also. In this chapter discussed literature which highlights different aspects of assessment to performance evaluation. The concept expressed in five parts, first part explaining approach towards search issue, second part defining main terms of problem, Malaysia and Australia safety and health issue covered in third part, while theoretical foundation about management of safety consist fourth part and an analyze research studies which related to Occupational & Health Safety system at the end. Climate, security culture and way of supervision have a relationship with H&S performance, organization culture and demographic factors established about safety and health (Awang et al., 2019). Administrative trail evaluation help by OSH Commission and Act provides code of conduct to deal different activities, (Howard & Hearl, 2012). In 1974, UK introduced life security management and authorizes to implement safety elements in workplace. Safety system in UK is comparable same as in US while Australia health safety Act 1984 is responsible for assure safety measurement in work environment and give edification, training, and support. The special person and handicapped people support by Commonwealth Rehabilitation Service (CRS) and give integrity independence in community to provide jobs. The Safety, Rehabilitation and Compensation Commission (SRCC) facilitate judicial trials and appellate review, Vassie & Lucas, 2001).

The small industries facing lot of problems because they have not capital for installation of system and not education or information about safety system so very difficult for addressing issues of employees according to standard of ILO and have not resources to hire professional for this job. Small organization not only facing issue regarding OHS but other factor involved in implementation of management which show that running their plants and manufacturing section

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without any proper processing system and administration. They working in risky environment without any hesitation which more danger full for employees to work there but no facility available to address these issues and incidents can be happened any due unavailability of safety unit. Research studies showed that risks and hazards ratio higher as compared to large scale manufacturing organization because they have space issues, physical and chemical risks in field.

People faced risks in different form and there are many risks in field which workers faced in routine including mental, chemical, mechanical, biological and psychological risks. The risks exposed by workers are daily base experience of harmful incidents which they face in field. OHS provide guidelines and regulation to employers regarding health safety and establish safe environment for workers where they can perform very well without any hesitations of danger in field. Safety management not limited to a single aspect but they cover issue from multi aspects and try to address these issues according to situations. The effectiveness of this system can be decided from performance of workers and injuries or incidents reports. While better safety environment enhances the production of organization by well performance and tasks completions within time. The main focus of management is to sought out loopholes before occurrence of any incidents and create preventive environment in field which cover risks and health safety. It is unpredictable or unexpected to happen any incidents but it is important to take precautionary measurement before happening any accidents or injuries. It is universal phenomena that lives of human being is very important and nothing is costly for protection of worker's health because healthy environment increase production capacity of organization and effective prevention save your wealth and save lives of people which is not costly by installing OHS system in organization. The international laws bound employers to save your workers lives otherwise as a result of any incident will compensate family by all aspects like treatment and financial support also. Secondly assuring safety for workers increase your output and not effect productivity but decrease with poor system of health security and beneficial for both, employers and employees. Occupational health and safety system and ILO regulation ensure all aspects of workers like working hours, age limitations, workloads, wages and health safety etc. in all organization and sectors. The safety examination teams deployed in member's countries and they monitor all sectors regarding safety measurement to create safe and secure environment. For organization betterment and good productions very important that their workers should be healthy because

production depends on employee's health and performance. If workplaces not according to standard of international laws and rules and workers not satisfied in environment how can possible to give you required result. Production directly linked with welfare of workforce and to facilitate workers in different aspects will perform better in every field. Due to unhealthy environment spread of diseases cause low productivity and output which decrease productions and loss to owners. Another aspect is shortage of manpower directly linked with loss of organizations. So it compels owners to implement rules regulation of safety and convinced workers to follow these laws by supervision of safety official. An organization success depends on workers' health and welfare of its workers, (Abidinetal. 2021).

It's observed that significant area of research in health issue is safety system which is highly recommended for improvement in Pakistan because there is no proper department of health and safety in industrial zones to monitor and regularize this sector regarding safety. In Pakistan public and private sector neglecting this risk and poor attention towards OSH laws enforcement in working areas. Lack of awareness found in most organizations regarding laws and rules of safety in different sectors and they did not have enough information about employee's health and safety risks and needs to address these issue. A big loss of 250 people faced in Baldia Town Karachi in 2012. There are so many sectors in Pakistan where people facing danger and risks like agriculture, mining, fishing and construction sectors. Employees of these sectors play an important role and needs to address their safety and health issues according to standard of OSH laws. Across the globe millions of people die, millions of workers become injured and millions of people face different illness due to accidents in working environment every year reported by ILO. Many sectors like Agriculture, fishing department and others department where workers are helpless regarding safety and health security showed sympathy by The Decent Work Country Program DWCP in (2016-22) to establish a system and OSH laws implementations. This management wants to address health issues and change behavior of people to follow laws and regulation in working area. To provide support in technical side and bring change in workplace regarding Osh laws, ILO offered to Pakistan government for convention this regard 1995. They offered training program in continuation of technical assistance to increase modern OSH system operators and experts. The experts and ILO training program partners play vital role during Covid-19 and control of pandemic situation in field and working environment to compete with this issue. By interference and establishing implementation approach resultantly to inform and

aware about virus and protect workers and employees in field and reduce spread of virus in organizations (Massey, 2020).

2.16 OSH implementation in Philippines Public Sector

The essential elements in organization are OSH system development in both public and private sectors. The government of Philippines showed seriousness for implementation of health and safety regulation and legal aspects in working areas. A model was developed for safety in the light of model WHS regulations and Codes of Practice, and a National Compliance and Enforcement Policy. The Act expends towards others states in 2012 and 2013 respectively. This Act was established for those who employed in organization or jobs in departments like worker in manufacturing sector, designer jobs, supplier employment, installation workers and electrician. They show needs of consultancy in field for workers and Act bound them to provide consultant during work. Workers needs to follow safety regulation and rules during work in workplaces and professional and experts appreciate approach of safety and acceptance of OSH practices in field. They have noticed some problems concerned with OHS implementations in work areas and try to address these issues on time, (Mayhew & Peterson, 2012).

The ILO main issue was health and safety therefore they define concept of occupational of health and safety in 1919 so framed different resolutions about this issue and formulate policies to address safety problems in working environment and reduce life risks for workers. Introduced management body examines safety elements in workplace and provides precaution facility from disease. The committee was framed in 1950 with collaborations of ILO and WHO to control health and safety problems and which goal was providing social, mental and physical security to employee, (ILO, 2009). The labor rights assuring WHO in all sector and provide safety for workers and their program regarding health and security implement working environment, managed safety system and caring unit and all other required facility. It's very beneficial for employees to perform in well managed workplace where they comfortable and increased productivity for organization also. Welfare of workers and employees directly related to output of their performance and elimination of risks in field by controlling hazards in working environment which recommended by OHS rules and regulations for workforce, (Alli, B., O. (2008). The implementation of safety laws and regulation is the responsibility of Philippines labor department for employees and ensuring all required steps adopted by all organization in all sectors, (Deborah Aina-Pelemo et al., 2019). There are numerous laws, rules and regulations on

OSH crafted in the Philippines, among which are: a) paragraph 2, Section 3, Article XIII of the 1987 Constitution; b) Presidential Decree (PD) 442 or the Labor Code of the Philippines or Article 162 - Safety and Health Standards; c) Republic Act 11058 or Act Strengthening Compliance with Occupational Safety and Health Standards and Providing Penalties for Violations Thereof; d) Department Order No. 198, Series of 2018 or the Implementing Rules and Regulations (IRR) of RA 11058; and e) Joint Memorandum Circular No. 1 s. 2020 by the Civil Service Commission, a policy considered as the OSH Standards for public sector employees. Most of the rules on safety and health are applicable to private sectors and not to government employees. What governs government agencies are the CSC rules and regulations? Thus, while OSH policies are well defined in the private sector, concerns of employees in the public sector still need to be addressed. In response, the CSC issued CSC MC No. 33, Series of 1997 or the Policy of Working Conditions at the Workplace that mandates the provision of Health Program for Government Employees, Adequate Office Ventilation and Lighting, Clean and Adequate Comfort Room Facilities, Potable Drinking Water, First-Aid Kit/Facilities, and Hazard Insurance. Further, it was emphasized in the said circular that safety committees that will enforce safety programs for employees must be created and that government offices are declared as nonsmoking areas. Despite the laws on workplace safety and health, there seems to exist a wide gap between policy and its implementation in the public sector (Cuya-Antonio & Gabriel, 2021).

2.17 OSH in the Context of Tanzania

In Tanzania, construction industries facing lot of challenges regarding safety issues and many incidents reported of injuries and deaths from these sectors. A large scale money loss, buildings destructions and spreading diseases from field. The government bounded owners, business community and contractors to adopt safety measurement in workplaces and secure workers lives from any incidents and injuries. In this regards convention, workshops, training and seminars arranged to educate and inform their working community and industrial society in all related sectors, (URT & CRB, 2001). According to statistic data higher scale loss happening in constructions sector and they spent a big amount for compensation of worker's injuries and death incidents annually in Tanzania. Report show that hundred million budget utilized for treatment of injured and compensation of workers suffered in different accidents during jobs in construction field each year by Tanzanian. The Tanzania parliament approves a laws and entered laws in constitution. Article showed that Parliament bounding state to regulate laws which give right to

people to perform job, work or employee in satisfactory environment, secure and healthy. This law ensures labor rights by providing working environment, wage control, working hour's timeframe and break a day every week in workplaces. Parliament provided safety to workers and interferes by laws to ensure workers health and safety measurement and regulate according to standard of ILO and passed many Act for security of workers. It's also provided facility of preventive activities and engaged workers for give information regarding health issue and how can keep safe from these diseases in field. There is procedure of preventive steps which is documented form and maintained a record and distribute in employees for awareness. The owner think establishing management system is costly although give compensation to injure or death casualty is costlier instead of taking preventive measurement before occurring any incidents. The factory Act was much operationalized before 2006 and it's providing rule and regulations about health safety and monitor workplaces. This act was applied for different activities and more beneficial in different sector like construction industries, agriculture and oil & gas sectors which are full of risks and the OSH system main purpose is to provide security from hazards and danger events. In responsibilities of health issues also included high strength, cleaning issues, ventilation problem, and drainage system and sanitation problems. Workforce facing lot of issues during jobs or work and ILO internationally play vital role to provide facilities in all departments and organization that perform very well and increased productive capacity. The main purpose of this Act is to ensure laws implementation in field and precautionary steps for worker's health and safety. They recommend time to time improvement in laws and regulation according to advancement of technology and updated version shared with workers that they aware from new laws. It's the responsibility of top management to appoint competent, equipped and trained person for supervision and monitor all activities in field. OHS addressed all issues one step but needs to update with passage of time and it give information about safety from fire incidents and give stress on worker's awareness about these issues which face by employees in working areas, (Sees et al., 2002).

Another aspects of safety are to cover sanitary issues and adequate employees about this problem and provide facility regarding. By laws a competent and high authority nominated for monitoring activities and ensure standard of safety. Supervisor has responsibility to evaluate loopholes and addressed these issues by taking preventive actions and reduces such types of activities organization. It's also mentioning those points which improve safety system in different sector specifically agriculture, industrial and mining sectors which deals with fire technical assistance and the concept changed that issues due to technical reasons and now cleared that human factors involved in these issues. The main responsibility of executive body to implement laws and developed record in documented form while needs to distribute in employees that they educate regarding issues which face by workers in daily basis. The worker's suggestion and feedback considered in policy making and established policy according to their observation because they facing problems in routine life. The implementation of regulation in true form possible with cooperation of worker engagement and involvement. It is included in responsibilities to give information about risks and danger events in organization to supervisor to reduce harmful activities. The increase in performance depends on worker safety measurement because safe environment allows employees to work with dedications and risks decrease ability of high level performance of workforce. By providing working atmosphere increased duties of employees and they bound to follow laws and research studies show real picture of ILO rules implementation, (Sultana Khan Assistant Professor, 2020).

The safety management approached time to time to addressed issues in field faced by workers and established Board for Registration of Contractors calculated data that 66 % organization did not provide safety elements in 2001 and 63% in 2002 which shows that authority functioning decreased 3% in year. If laws enforced in true form will decrease the ratio more and environment will suitable for workers to perform well. CRB and OSH management jointly developed procedure and agency for implementations of rules and regulation in all sectors and give information, awareness and knowledge about these issues, (Schulte et al., and 2007).

2.18 OSH in South Asia

The OSH management system supported by government of different countries and implemented in their organizations. In Denmark, their regular screening inspections are not conducted while voluntary management system promotion is exempted in the UK. Instead, EU in all other countries has improved their organisms. In USA, OSH-MS implementation in health protection program is a big example of safety. OSH-MS regularization arrangements were established in 1990's to enhance Quality control process, specifically bring according to the standard of ISO 9000 Quality Control Management (Rahman & Kamil, 2022). To manage precautionary measures and health security in working environment utilized Occupational Health and Safety Management System (OHSMS) which is a systematic approach of prevention. As the OHSMS is a broader term, and it has not been defined properly. The definition of OSHA Safety and Health Program Management Manual and ILO-OSH (2001) defines the Occupational Health and Safety Management System as "A set of interrelated or interacting elements to establish and implement OSH policy and practices and to achieve those objectives." Meanwhile, the Occupational Health and Safety Assessment Series (OHSAS, 2007), defines OHSMS as a "part of an organization's management system used to develop and implement its Occupational Health & Safety policy and manage its Occupational Health & Safety risks" (Nurhazirah et al., 2021).

An organization bounds by health and safety program to adopt safety process for workers. To provide protection for employees is the objectives of safety process in working areas. The safety regularization rules Section 4. (1) Specifies the safety criteria to be adopted in a health and safety program while some of these not applicable in all working area. It's necessary for employees to follow safety measurement according to OSH consultancy because health risk present in work areas. After identification of hazards at workplace needs control on risk and give exposure to worker regarding safety.

Details of the required elements of an occupational health and safety program are outlined in the attached regulations. Health and safety policy needs in working areas due to many reasons, including: to ensure employees health and safety system by company managements and business performance depends on employee's safety program. It is also showing the company's commitment and principles of safety for their workers to provide a good environment. The regulation makes company accountable and responsible to provide safe and healthy atmosphere for employees and establish safety measurement according to OSH Act. Followed such practices and procedures which prevent workers from injuries and illnesses in workplace. The safety measurement applicable on all employees will be required to have an OSH policy while those organizations have more than ten employees will be needed to have a complete management system for safety. It is the responsibility of company or organization to establish a safety and health management system in workplace (Lestari et al., 2019).

In India SCORE project worked for implementation of occupational and health safety system which is more effective model for enforcement of regulations and laws. Joint efforts made for awareness and information sharing in peoples regarding safety on different level like macro level, micro level and medium level to address this issue in good way. The Ministry of Labor and

Employment involved with FICCI for promotion of OSH management in all sectors. Commitment towards OSH system increased in government, owners and workers and promoting rule and regulations of this system. ILO giving support in this regard to those countries whose showed interest and implement in better way and significant ration of adaptation of this model, (Kashyap & Nandan, 2015).

The OHSMS broader concept which is not easy to define in few words. It is doubtful to decide utilization for technical purpose or either used it MS only. Robson (2007) argued that OHS and OHSMS have positive, joined, estimation features and advancement assets. "A set of interrelated or interacting elements to establish OSH policy and objectives and to achieve those objectives" is defined by ILO-OSH 2001. The definition of Occupational Health and Safety Assessment Series (OHSAS) is "Part of an organization's management system used to develop and implement its OH&S policy and manage its OH&S risks". The above definitions show that implementation of safety and health policy make possible to achieve OHSMS goal in company. According to Nielsen (2000) OHSM systems are very confused management systems. It is very difficult to differentiate between OHS activities, OHS management, and OHSM systems. OHSMS introduced in last fifty years and adopted by many sectors like public, private, and Non-Gov't Organizations. The (2001) ILO-OSH, (2004) BS 8800, and (200) OHSAS 18001 are standard rules which recognized internationally. Which provides opportunity to develop set up according to these guidelines and try to implement it in organization? OHSMS have some factures which make it effective. Safety Policy established to present the principles and administrative promises towards OSH. Employees convinced towards safety system by offering incentives and arranged training for improvement to develop competitions in employees. Poor communication create risk about any issue so its need to share information in detail. Planning of prevention and emergency make possible to handle any critical situation. Another feature is control on time critical situation and check of events than improve the system according to observations. Makin and Winder (2008) defined foundation of OHSMS is the identification of hazards and measures to control them. These foundations play role to control the space and elements which pays in the success of the system and any disregard in the base can flop the performance of OHSMS. Research study (Subhani, 2010) reveals that suitable atmosphere facility directly beneficial for employees while indirectly for their families, organizations, customers, and servicers.

2.19 Laws and Acts of OSH in Pakistan

The health and safety was enacted in the sub-continent in 1934, Factory Act 1934. In Pakistan, all provinces govern 1934 Act of Factory, under Chapter 3 governs the issues. Sindh has enacted in 2016 and Khyber Pakhtunkhwa has enacted in 2013. The Hazardous Occupational Act was passed in connection of 1963 Act of Factories authority. There are numerous acts and laws are following below:

- 1934 Act Dock Laborers
- 1923 Act of Mines
- Act 1923 Compensation for workmen
- 2016 Act Workers Compensation of KP
- Act 1965 Employees Social Security Ordinance of Province
- 1969 Ordinance Shops and Establishments West Pakistan
- 1997 Act Pakistan Environmental
- The Agriculture Pesticides rules, 1971
- West Pakistan Labor Camps Rules, 1960

After the 18th constitutional Amendment, OSH became provincial subject for legislation. With help of ILO Sindh, Punjab and Khyber Pakhtunkhwa has developed their OSH Act. Sindh has also developed rules for OSH Act during 2021.

Developing environment according to safety and health rules and Act for workers by implementation of Act in true form ensure all process under authority. Federal government approach to organizations and departments to enforce about safety measurement and encourage their efforts for implementation of rules and regulation in workplaces. While try to established relevant materials for education, information and training purpose and research data regarding OHS. Under the Title of Occupational Safety and Health of Pakistan 2018 Act implemented in all departments including ministries, departments, divisions, institutions, organization and those areas which directly under the central government.

2.20 Research Gap

There are many research studies conducted on OSH laws and researcher found that some studies focused on health issues in construction sector. Research studies revealed respondent answered regarding lack of knowledge they faced problems and some respondent share experiences of lack of training also. Research study found about information of Act 2003 safety and health and

respondent replied that deficiency of awareness regarding laws effect work progress and employee's performance in field, (Msaada, 2018). Studies elaborated those regulations and laws implementations of OSH and highlighting loopholes in laws, Peter Msaada (2018). Research studies needs to explore significance of laws, betterment in laws, effectiveness and implementations. The researcher found space in this area that assessment to implementation of regulations, rules and laws about health and safety. Secondly highlight those steps which improve OGDCL performance.

CHAPTER 3 RESEARCH METHODOLOGY

Research Methodology is prime part of research and being conducted to find solution to problems as according to research study and problems. It depends on the researcher study and its nature, that how researcher collects data analyze and interpret it. Research methodology is basically a scientific process by which a researcher tries to find solutions to conducted study. It can be done in different ways. Data collection and its analysis depend upon the nature of research work; it might have qualitative or quantitative nature. And the analysis and its finding will be as according to adopted method which a researcher uses for research work. Research Mythology has different ways to be conducted. It will have specific study process, data collection and its analysis, problem based population, and samples. To find solution to a problem, researcher can use two types of data, primary data and secondary data. (Chinelo Igwenagu, 2016).

3.1 Research Design

The researcher will apply quantitative approach for study data analysis and the study is based on non-experimental design. The researcher has selected the medium of survey, to find possible solution to research problems. To conduct survey can have a purpose to generalize its samples, and it provides statistical analysis of samples and provides numeric description of trends, behavior, attitudes and opinions (Creswell, 2003). According to Polgar and Thomas (2000). Researchers use surveys for different purposes and those purposes can be defined as; 1 to know attitudes, concepts, beliefs of specific population who are concerned to certain issues, 2 to study problem related characteristics of selected population, 3 and to investigate demographic position (age, gender, income, culture, religion, etc.) of concerned population. In this study the researcher will conduct cross-sectional survey to have reasonable solutions to research problems and its second reason is to do it in manageable time period. (García-Rodríguez et al., 2012).

3.2 The Population of the Study

In this study the data will be conducted through survey. The population of whom the researcher will conduct the proposed data is of the employees of the department of OGDCL, Pakistan. The researcher has designed to conduct the proposed survey through questionnaire, to have more reliable solutions. For the researcher it was easy to conduct the survey of the employees of the department of OGDCL and provided opportunity to overview environment of mentioned department.

3.3 Sample Area and Size

In the conducting study, the researcher used understandable and administrative questionnaires for the purpose to have reasonable responses of the targeted employees. In this study the population was in general, as all the employees from administrators to labors of the department were survived, and studied their research related problems from different sides. By this way the researcher had conducted the study and find out solution to research problems.

3.4 Purposive sampling

Samples of certain population can be conducted in different types. But here the researcher had used the most prominent type of sampling, the "Purposive Sampling". It has non-probability sampling nature and in it specific unites of population are selected and those unites are treated and analyzed as representative of selected population. Such samples are used for specific purpose and the purpose of this survey is to know the issues of health and safety practices of the employees (*Babbie, E. (2004*). In this research study the researcher had used the purposive type of samplings to OGDCL employees and had done it with specific characteristic as to share education, material, exposure and provide meaningful application of rules, laws, regulations actions.

3.5 Data Collection

Primary data is considered main source to the solution of any problem. For this study the primary data is conducted through questionnaires. The designed data had been done from 300 respondents. The researcher had used both open and closed ended questions using five Likert scale to make the respondents able to give possible explanation different issues. Along with questionnaires, the interviews conducted from health and safety department two high officials. The secondary data can also be used to support the primary data and provide more satisfactory reasons to analyzing problems. In this research the secondary data was taken from sources which

are; government policy documents of Pakistan, the law book, which have specified certain rules for the employees and conditions for their work. More data collected from relevant online sources, research publications, news reports, and relevant websites.

3.6 Source of data

Sources are providing reason and solution to a problem which a researcher wants to know. As Fischer has defined the term 'source' which means something which provide desired information and that information can be conducted with help of primary and secondary data. In the field of this study the sources of primary data interviews and questionnaires and for further support the secondary can be various documentation. By this way the researcher had gathered the data of the research work.

3.7 Primary Data

As primary means basic or most necessary. In research, primary data is that data without which research remain incomplete, and it is considered the unavoidable data which provide base for research problems. As Hillway had highlighted Primary data as a data which is directly, or we can say face to face, collected from the targeted population. It can be collected in two ways, one is through interviews and the other one is through questionnaires. As to have reliable source and reasons the researcher had used primary. In this research study, the five Likert scales have also been used in the questionnaires consisted of 35 statements. The data had been collected from 300 hundred respondents in time span of thirty days.

3.8 Secondary Data

Secondary data is considered as supportive data which further provide strength to research work. As Hillway had little widen the concept of 'Secondary Data'; information which is taken from other needed research works like research papers, online source, academics libraries, and news reports. To accomplished this study in more conceivable way the researcher had studied more than hundred research papers. To find related information OSH, the researcher had also visited different search site such as Google scholar, Academia, and other websites too.

3.9 The Development of Survey Instruments

To reach to the research objectives in more reliable and possible way the researcher had used survey based questionnaires to get more nearer to the issues related to research problems. Being considered most common technique, survey approach had been used to know OSH practices, implementations, and safety factors.

3.10 Analysis of Data

The Data was collected and arranged according to objectives. For explanation and discussion descriptive analysis technique was used. The author applied and used mean and standard deviation followed the research papers and as per this study requirement. As the questionnaire was adopted from one of the thesis and in that study only mean and standard deviation was used, therefore the author followed that thesis. As a reference the study title is given below.

(A STUDY ON THE EFFECTIVENESS OF LEGAL PROVISIONS ON INTERNAL SAFETY AND HEALTH SYSTEMS AND PRACTICES OF PUBLIC SECTOR ORGANIZATIONS IN UGANDA)

3.11 Ethical Consideration

The respondents who participated in my survey data collection (Questionnaire) were assured that the aim of my study is for academic purpose only and your information would be kept confidential. Further, you are not bound to fill the questionnaire must and if you are not interested you have the liberty to deny from filling the questionnaire. Further, in the whole research study, the researcher has not put any word which has beyond the norms and morals.

Sr. No	Parameters of Research	Details
1.	Research Type	Descriptive study
2.	Research Approach	Quantitative research approach
3.	Population	OGDCL
4.	Strata	Administrative staff, Engineers, IT staff, lower staff
5.	Sample size	300 respondents
6.	Sample Type	Purposive Sampling
7.	Data Collection Methods	Primary data was collected through structured questionnaire
8.	Data Analysis tool	SPSS version 22
9.	Method of Analysis	Descriptive Statistical analysis
10.	Limitations of the study	Study is limited to OGDCL

3.12 Parameters of Research

CHAPTER 4 RESULTS AND DISCUSSION

4.1 Structure of Questionnaire

Questionnaires have an important role in survey based researches. Questionnaires are used as a tool for collection of a required data. And researcher then further analyzes required data and gets results of it. As the main functionary tool of this study is survey based questionnaire to get expected data and to know that how OSH practices are implemented in OGDCL. To find out the primary data to research problems, the researcher has selected the population of the employees, from upper staff to lower staff, department of OGDCL to scrutinize their attitudes and perceptions about OSH practices, whether the particular department keep in progress those practices or not. The researcher has designed questionnaire to have more satisfactory and realistic results. In this study the questionnaire has been divided into four sections; the first is about the demographic evidences and the purpose of it is to know the real life experiences of employees, their ages, environment, and other related information. The second section is about awareness of employees regarding OSH practices, especially the engineering department of the mentioned employees. The third section of the survey is based on to examine that how much the employees are interested those OSH practices and whether they take participation in activities organized by the OSH committee or not. And the four part of the questionnaire is to know opinions and attitudes of employees, to have more realistic information, and it gives them opportunity to share their recommendation about OSH practices.

In this chapter the researcher has analyzed the results of the collected data. The data has been analyzed for the purpose of to present statistical description. The data, which was required for the analysis, was collected through structured questionnaire. The questionnaire, which was designed for the data collection, was split into five point Likert scales, those split sections were named as; 1-strongly disagree, 2-disagree, 3-not certain, 4-agree, 5-strongly agree. As up-to the nature of this study the researcher had used concerned analysis process of the Statistical Package for Social Scientists (SPSS) version 22. This statistical process was used to analyze the data and response and to establish standard deviations. To understand those results more easily, the researcher had presented the data in the form of tables. The statistical analysis results evaluated

the data collected from the OSH practices implemented in the OGDCL. The data was collected from participants to analyze and interpret it.

4.2 Demographics information

The required data had been gathered from all the targeted population of OGDCL. The population which was selected for better understanding of OSH practices was administrative staff, engineers and workers. In this survey the researcher has gathered the data of 300 hundred respondents. Their numbers had been categorized further as according to the numbers of their positions. The percentile of the respondents is different, it can be presented as, the participants from administrative staff were 20%, engineers were 26.66% and at end we have workers whose responses were more necessary were 53.34%. The mentioned ratio presents the demographic position and numbers of the participants and their strength in OGDCL. The demographic data of the respondents was dependent on their age, gender, and occupation. They had been asked about their duration in the department and about the environment of their works. If the number of the participants is analyzed on the bases of their gender then the ratio of the respondents is as the male respondents were 225, which are equal to 75%, and number of female participants is 75, which is equal to 25%. The ages of the respondents were also different, as the majority of them whose ages were between 20 to30 and their strength was 150 which are equal to 50%. There were also those whose ages were between 31to40, and their numbers were 95, which is equal to 31.66%. They were followed by those who were living at the age of above 40; they were 55, equal to 18.34%. If they are categorized on the bases of their education backgrounds, then the diploma holders were in high number, their strength was 175 which is equal to 58.34%. They were followed those who were engineers, their numbers were 70 that is equal to 23.34%. The numbers of administrative staff were 55 which are equal to 18.34%. At the end it is deduced that the ratio of the respondents was 100%.

Description		Frequency	Percentage
Age	20-30	150	50%
	31-40	95	31.66%
	41 and Above	55	18.34%
Gender	Male	225	75%

Table 1: Demographic Information

	Female	75	25%
Designation	Administrative Staff	60	20%
	Engineers	80	26.66%
	Workers	160	53.34%
Education level	Bachelors	55	18.34%
	Engineers	70	23.34%
	Diploma Holders	175	58.34%

4.3 Presentation and Analysis of Findings

The following tables discuss the second part of the questionnaire. For interpretation of the quantitative research data, the methods of mean and standard deviation were used and the analyzed data has been presented in the form of tables.

And the findings which were extracted from the analysis were guided through various statements, which are presented below, as:

Statements	Mean	Std. Dev.
Participation of employees about safety policies	2.87	.742
Written OSH policy of Government	2.15	.803
safety rules or procedures in written form	2.83	.681
Risk assessments or safety examination	3.01	.789
Training regarding safety and	3.34	.653
Activities of promotion about safety and health	2.41	.870

Table 2: Assessment of Pakistan's law's addressing employs safety and health at workplace

As above, the results were analyzed which clearly indicates that government has devised vocational safety and health programs. The mean analysis result of 2.87 hardly supports the provided safety and health measures. The mean analysis of 2.15 also provides information that the involvement of employees in safety committee was negligible. Despite this, government has in place written safety rules/procedures (mean 2.83), safety inspections/hazard assessments (mean 3.01) safety and health training (mean 3.34). It is noticed that health promotion activities at workplaces were also not followed.

Statements	Mean	Std. Dev.
OGDCL conducts safety and health training to Top management	3.32	.841
OGDCL conducts safety and health training to Clerical staff	2.71	.667
OGDCL conducts safety and health training Engineers	2.34	.9920
OGDCL conducts training on accident investigation	2.43	.999
OGDCL conducts training on personal protective gear	2.41	.871
OGDCL conducts training on hazard communication	2.76	.895
OGDCL conducts training on electrical safety	2.42	.1040
OGDCL conducts training on office safety	3.06	.705
OGDCL conducts training on respiratory protection	2.45	.1031
OGDCL conducts training on first aid	3.17	.872

 Table 3: the below statements are related with the effectiveness of laws and regulations on

 health and safety by the OGDCL

It is understood from the above table that government has taken it seriously to arrange various type of safety and health training concerned with managers (mean 3.32), supervisors (mean 2.71), and employees (mean 2.34). When this study was being conducted during that government was not conducting any protective training concord with accident investigation (mean 2.43) and personal protective gear (mean 2.41). Anyway, it has been pointed out with the help of mean analysis that government conduct possible training on office safety (mean 3.07) and hazard communication (mean 2.76), but it has been noticed that training on respiratory protection and electrical safety are provided inadequately which is proved by mean analyses of 2 42. The mean analysis of 3.17 has revealed that government also arranges training on first aid and emergency response procedure (mean 3.06). The results have been presented in the table.

Table 4: Statements regarding Emergency health and safety aspects

Statements	Mean	Std. Dev.
It Provides personal protective gear where required	2.92	.988
The organization uses engineering controls like ventilation	2.87	.570
systems to prevent workplace injuries		

The organization uses administrative controls like job rotation to	2.96	.860
prevent workplace injuries		
The organization uses safety communication materials to promote	3.21	.674
health and safety at work		
Safety and health aspects are considered when purchasing new	2.80	.740
equipment, devices and products		
All employees know how to respond to an safety emergencies	2.46	.1040
All workplace injuries and illnesses are reported and investigated	2.87	.975
The organization has an Emergency Response Plan	2.43	.740

From this table, it has been understood from studying organizations like OGDCL that governments do not provide them protective equipment (mean 2.92). From the 2.87 result it has been revealed that most ministers and organization keep their environment safe with the help of engineering tool such ventilation system to reduce injuries in sites. Safety and health security keep mandatory during the time when equipment, concerned to worker protection, are purchased. However, considering the mean of 2.87 has brought to our knowledge that not all incidents are reported but some them are reported and investigated. Some of organization has only emergency planning to provide first aid and other necessary treatment to their employees. It was also noted that Ministries, Departments, use administrative controls like job rotation to minimize work place injuries (mean 2.98). Communication materials for promotion of health and safety at work place were available (mean 3.23). The mean analysis on government, institutional and/or department inspection and concern on safety and health facilities and aspects was also carried out. The results are presented in table.

Statements	Mean	Std. Dev.
The organization reviews all serious accidents and safety threats	1.97	.671
The organization regularly makes safety inspection/planned safety	2.22	.980
observation		
The organization recognizes outstanding safety performance	2.87	.742
The organization budgets for accident prevention activities	2.15	.801
The organization follows all established safety rules and	2.80	.688
procedures		

Table 5: OGDCL inspection and	concern on health and	safety aspects
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OGDCL conduct formal safety and health inspections of employee	2.17	.865
work areas		
OGDCL conduct formal safety and health inspections of	2.86	.372
ventilation systems		
OGDCL conduct formal safety and health inspections of electrical	3.01	.654
panels/wiring		
OGDCL conduct formal safety and health inspections of fire	3.45	.731
extinguishers		
OGDCL conduct formal safety and health inspections of parking	3.90	.754
lots/sidewalks		

The followed analysis shows that government authorities do not take care of safety and health related issues and also not allocate good amount of budget for safety measures (mean 2.14); their weakness is that they not inspect serious incidents (mean 1.98) which later create tragic environment not only for the organization but for the country too. But in contrast, government undertakes safety and health performance (mean 2.86), the government institutions follow the recognized safety rules and procedures (mean 2.84). It is got from the analysis that employees had reported the unsafe and risky conditions to their supervisor and the negligence of such situations by supervisor can lead to life threatening incidents. The study has made it clear that government just do inspection on formality basis. As government conducts formal safety and health inspections on employee work areas (mean 3.35), on parking lots/sidewalks (mean 3.07), on ventilation systems (mean 3.21), on electrical panels/wiring (mean 2.95), on fire extinguishers (mean 2.81) and on ladders or stairs (mean 2.84).

4.4 Discussion and Analysis

To lower down the hurdles in performing OSH practices, Neale and Waters 2012 had suggested some safety and health related practices which need direct involvement of employees to have more effective results. According to their statement, employees should have direct involvement in planning and implementing safe and decent work and their equipment should be as according to their vocational environment. In the conducted study it is observed that the respondents, whose number is 78 (69.6%), claimed that they were not well trained to keep themselves safe during threatening situations. But at the other hand, 34, (30.4%), respondents had been trained to have understanding of work related difficulties and keeping themselves safe during time which creates threats to their life. Instead, there is another method, too, which also play important role in keeping lives of employees safe. It had suggested that in the working areas there should be alarming system, to keep worker active during hazard situations. Both to provide basic training to employees, which make them able to keep themselves safe during time which can lead them into tragic results and installation of tools which keep them active during accidents, are good for the lives of employees.

As, for the purpose to understand the legal provision of safety and health related systems and practices of organization in Pakistan, the researcher has utilized qualitative approach and presented the findings in narrative rather than statistical form. In Pakistan, the act, which promote and make it mandatory for organizations to keep their employees safe and healthy, was enacted as Pakistan Occupational safety and health Act, 2018. During this study it has been found that due government policies for occasional safety measures, public sector organizations has equipped their places with necessary tools and mandatory approaches which make the lives of employees safe and healthy and has introduced penalties for violators. As an employee from ministry of works and transport had strongly supported the policies of government and said; "the health standards regarding cleanliness, ventilation, drainage, health and safety of machinery and equipment are clearly defined and regulated".

The challenges related to health and safety were also acclaimed by Obua & Okimait and had claimed that occupational organizations have health and safety concerned problems because of their inappropriate health training and research, limited staff, inadequate funding. Due this, respondents from OGDCL said "workers are protected by KCC because it has in place a law protecting workers' safety and health, which are clearly stipulated in the Constitution of the Republic of Pakistan and the Local Government Act". From it can easily understood that the laws related to safety and health are workable and have practical results too.

There was another respondent who had reported that; "employee safety and health was protected by the Occupational Health and Safety Act as stipulated by the Constitution of Pakistan". The statement of the employee was endorsing the responses of Ministry of Water and Environment and his statement was also supported by another respondent and said; "the law regarding workers' compensation and the occupational safety and health Act are more appropriate for workers in the Ministry of Works." These endorsing statement indicate it clearly that government ministries and organizations are utilizing laws related to safety and health of employees. An answer to a question regarding sufficiency and appropriateness of workplace safety and health laws in the public service had made it clear that the laws related to occupational safety are sufficient and appropriate. Among employees from OGDCL, one had suggested; "the laws would be sufficient; however, they are not efficiently and appropriately implemented. Imagine a worker maimed by a machine in the construction or quarrying process, it takes years for a worker to get compensated or even not considered".

Another from the OGDCL said; "the laws are satisfactory and adequate but government does not bring it into workable way. As it had been observed the laws provide for civil and criminal penalties, many employees fear or just ignore to sue government for reasons that it will take them years to be compensated or even not"

For a reason, a director from the OGDCL had suggested that negligence in public sectors is due their not knowing of appropriate knowledge of safety and health. He said; "the laws are appropriate and adequate as according to the public sector services, but, if the employees had the knowledge of safety and health care then they would easily thwart dangers.

This has also been revealed that government has made several laws for safety and health insurance of employees but their emphasis on implementation of the laws is not part of ground reality. It can be noticed that employees from different government ministries and departments had proved it and among them one has said; "public sector organizations are willing to comply with the requirements for the workers' safety and health laws. However, government seems to be so reluctant toward their implementation"

There is another employee from OGDCL who said; "public organizations are making it mandatory to provide training concern to the safety and health issues of employees such accidents, terrorism and office safety."

Education, related to safety and health plays important role in keeping the lives employees safe and workable. As William (2008) has also claimed it that it is education which make employees understandable that they would make their lives safe and workable. She had also added that accidents are part of life and it were happening and will happen but thein purpose of employees training and their education is to keep them safe and can make them to avoid such accidents. The Ministry of Public Service has the work to supervise government organizations. It can be suggested that due their presence. It has also been shared by employees that their organizations were giving training to their employees on emergency, injury and personal safety.

Another Senior Manager from OGDCL also shared his opinion and said; "organizations have programs, which have aim of to promote state safety and insure to have health environmental. They have been engaged in different training time to time to keep them active especially of security threats, their training about how to keep them safe in insecure situations was initiated when our country had experienced several terrorist attacks."

During this study it has also been noticed that few government institutions had granted budget for the provision of safety and health insurance.

Lastly, according to Omara (2002), workers more especially agricultural workers use or are exposed to a wide variety of toxic and often persistent and bio-cumulative synthetic chemical pesticides, herbicides, insecticides, and fungicides. However, some respondents in the Ministry of Agriculture, Animal Industry, and Fisheries had pointed out that their government institutions that do not keep workable laws concerned with handling of chemicals, including those used in regular fumigation of work premises. This probably could have hidden health effects that may be experienced by workers after a long period of time.

The conducted study at selected research problem areas had revealed that the implementation and practices of OSH in working areas was difficult due to lack of a safety culture. The environment of working places related to occupational works was found in an inappropriate manner and lack of safety measure which were needing further development of workplace cultures and addressing to be different than workplaces which had faced safety problems. Along with scientific and technological issues, health and safety of employees are also associated with witchcraft. Without proper knowledge of problems concerned to occupational works and their solutions could lead to other reasonable problems. With this study it has been revealed that many employees were facing blame due to their not knowing of self-protection and negligence of prescribed process designed by government. As it has been understood that culture has also deep influence over worker and the impact of environment over worker performance can make the influence of OSH on their behavior difficult. Mostly employees would have witnessed and faced fire at workplaces but few of them know use of gadget, to keep themselves and their workplace safe. But it is also possible that there would be such employees who would not even bother the absence of equipment concerned safety. This applies to emergency exits, sanitary conveniences and supply of clean water which by the way were demands of the rules and regulation itself. Apart from the above it has been observed that domestic environment creates deep influence on employees' life than those of workplaces. Thinking in the line of safety culture we are agree Gallegher (2001) who similarly argues that occupational health and safety discussion should support to include health practice factors; psychological and a link to the public which in summation have an insightful result on employee's health. It has also been observed that employees, on large number, are proven to be easily accommodated to risky behaviors. The study of the environment has pointed out that if any one among the employees knows little bit about safety would demand further modification of safety and health keeping process. In a nutshell it has been concluded, if employees are facing different problems related to safety and health at workplaces then they would also face pains back-pain, lung-cancer, etc. in domestic environment too.

CHAPTER 5 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

It would not be wrong if we considered safety and health mandatory and endorse every organization to provide occupational safety and health security and make it the most necessary priority of their organization. In developing countries, it is also necessary that organization have sustainable buildings and apart from that they must insure provision of health and safety rules and regulation and also devised necessary laws which keep those rules workable. Whenever new organizations and projects are initiated, it must be invested that either occupational safety or health measures are workable or not, and in case if there is no such system which provide safety and health security then they must not be authorized to take any forward step. In Pakistan most of organization do not keep safety and health measures and considered it not essential and unnecessary burden on organization. It has also been noticed that many organization and companies do not considered occupational safety and health adequate and believe that its provision is wasting of time and resources and does not provide any benefit to organization. It is also mandatory for OGDCL to have information of organization about their occupational safety and health security and in case of not presence; it should be made to keep concerned laws and mandatory possible.

For good organization and also for a good environment where one can live comfortably, it is must that organization must not do compromise on any step which is related to safety and health security. It would more effective and would have long outcome if organizations keep their sites equipped with safety and health securities. Also, by making consistent examination in all zones of building by concerning contractors bodies in teamwork with the inspectorate directorate of the ministry to include the cost item for presence of health and safety issues and other occupational services in amongst all features to be measured by the government in order to make sure the OGDCL fulfill the work-related health and safety instructions because the health and safety issues is the an essential measure of the means obligatory to be deliberated at the workplace.

5.2 **Recommendations**

- The government of Pakistan should keep its duty to make committees of employees and employers that will provide opportunities for them to provide safety and health security for their fellow employees.
- The OGDCL should deliver suitable training to their employees' particularly unpremeditated workers who spend much time building places.
- Government should organize safety and persuasive health events in public institutions. This will make employees feel a sense of belonging and participation.
- Government should ponder over directing training on personal defensive apparatus, calamity examination, electrical protection, and respiratory safety for its employees. This will empower them to know how to response to emergency safety and health aspects and incidents in the working environment.
- Government should also organize great stress on providing individual defensive gear to its employees arranged in incident-prone sites. This will encourage employees to their health and safety, contributing to job contentment and efficiency.
- Employees should also try to report all workplace injuries and illnesses. Such reports will only make meaning if supervisors examine and respond to all informed injuries and diseases. This will help to encourage employees and work with efficiency.
- Government should endeavor to review all serious accidents and safety threats and regularly inspections of the workplaces. This will help its departments to ensure employees safety and health in the future.
- Existing work-related and health-related laws and services must be extended to laborers in the disorderly sector with direct execution and periodic review for improvement.
- Additional development of institutions and organization of work-related health, with parallel training of experts in the field.
- There is a strict necessity for modern work-related health and protection law, suitable execution machinery, and the provision of medicines should be ensured.
- All investors need to increase awareness about the concept of work-related health nursing, along with staffing and skilled professional health nurses for applying basic work-related health facilities.
- The national policy on workplace safety, health, and environment (2009) wants implementation immediately in full swing with a thorough five-year evaluation.

REFERENCES

- Abidin, A. U., Nurmaya, E. M., Hariyono, W., & Sutomo, A. H. (2021). Implementation of occupational safety and health management system (OSHMS) on work-related accident rate in the manufacturing industry, Indonesia. *IOP Conference Series: Earth and Environmental Science*, 933(1). https://doi.org/10.1088/1755-1315/933/1/012037
- Ahlberg, K., Dwyer, T. P. D., Souza, J. de, Blomqvist, M., Broms, G., Lotfy, B., Petersson, N., & Elgstrand, K. (2009). OSH for development : occupational safety and health for development
- https://www.academia.edu/32045221/OSH_for_development_occupational_safety_and_h ealth_for_development
- Ahmad, I., Qadir, S., Muhammad, Yasir, M., Irfanullah, M., Khan, M. A., Aslam, S. Z., Alam, J., Iqbal, J., Sikander, I., & Waqas, M. (2012). Knowledge, attitude and practice related to occupational health and safety among textile mills workers in Dera Ismail Khan. *Gomal Journal of Medical Sciences*, 10(2), 222–226.
- Alli, B., O. (2008). Fundamentals Principles of Occupational Health and Safety, 2nd (ed.), ILO publications, Geneva, P 3. (n.d.). Retrieved July 23, 2022, from http://www.sciepub.com/reference/226529
- Antara, H., Tugas, F., Keselamatan, D. P., Pekerjaan, K., & Percetakan Mohd Nasir Selamat, I. (n.d.). *The Relationship between Task Factors and Occupational Safety and Health (OSH) Performance in the Printing Industry*. https://doi.org/10.17576/akad-2018-8803-06
- Arocena, P., & Núñez, I. (2010). An empirical analysis of the effectiveness of occupational health and safety management systems in SMEs. *International Small Business Journal*, 28(4), 398–419. https://doi.org/10.1177/0266242610363521
- Atusingwize, E., Musinguzi, G., Ndejjo, R., Buregyeya, E., Kayongo, B., Mubeezi, R., Mugambe, R. K., Ali Halage, A., Sekimpi, D. K., Bazeyo, W., Wang, J. S., & Ssempebwa, J. C. (2018). Occupational safety and health regulations and implementation challenges in Uganda. *Https://Doi.Org/10.1080/19338244.2018.1492895*, 74(1–2), 58– 65. https://doi.org/10.1080/19338244.2018.1492895
- 9. Awang, N., Rafee Baharudin, M., & Saliluddin, S. M. (2019). Occupational safety and

health management system (oshms): perception and safety satisfaction among employees in certified organisations in klang valley. *International journal of education and research*, 7(7). Www.ijern.com

- Babbie, E. (2004). The practice of social research. Belmont, CA Wadsworth Publishing Company. - References - Scientific Research Publishing. (n.d.). Retrieved July 23, 2022, fromhttps://www.scirp.org/(S(351jmbntvnsjt1aadkposzje))/reference/ReferencesPapers.a spx?ReferenceID=164370
- Barlow, S. M., Sullivan, F. M., & Miller, R. K. (2015). Occupational, industrial and environmental agents. *Drugs During Pregnancy and Lactation: Treatment Options and Risk Assessment: Third Edition*, 599–638. https://doi.org/10.1016/B978-0-12-408078-2.00024-X
- Beriha, G. S., Patnaik, B., & Mahapatra, S. S. (2011). Safety performance evaluation of Indian organizations using data envelopment analysis. *Benchmarking*, 18(2), 197–220. https://doi.org/10.1108/14635771111121676/FULL/PDF
- Binti Ismail, A., & Shahril Bin Ahmad Razimi, M. (2018). my 2 Occupational Safety And Health (Osh) From Islamic Perspective: A Conceptual Study. *IKONOMIKA: Journal of Islamic Economics and Business*, 3(1). https://ejournal.radenintan.ac.id/index.php/ikonomika
- 14. Burton, J. (2007). The Business Case for a Healthy Workplace. www.iapa.ca.
- 15. Cagno, E., Micheli, G. J. L., Jacinto, C., & Masi, D. (2011). Occupational Safety & Health (OSH) performance of SMEs: A structured framework. *IEEE International Conference on Industrial Engineering and Engineering Management*, 985–989. https://doi.org/10.1109/IEEM.2011.6118063
- Caraballo-Arias, Y. (2015). Occupational Safety and Health in Venezuela. Annals of Global Health, 81(4), 512–521. https://doi.org/10.1016/J.AOGH.2015.08.022
- Carbon, C. C., & Albrecht, S. (2012). Bartlett's schema theory: The unreplicated "portrait d'homme" series from 1932. *Quarterly Journal of Experimental Psychology*, 65(11), 2258–2270. https://doi.org/10.1080/17470218.2012.696121
- Chew, A., & Abdullah, B. (2010). Occupational Health and Safety Management Perceptions in Malaysian Public Hospitals: Implications for the Implementation of Standardized Management Systems.

- Chidi Ngwama, J. (2016). Framework for Occupational Health and Safety in Nigeria: The Implication for the Trade Union Movement. *Journal of Economics and Sustainable Development Www.Iiste.Org ISSN*, 7(11). www.iiste.org
- 20. Chinelo Igwenagu. (2016). Fundamentals of Research Methodology and Data Collection. LAP Lambert Academic Publishing, 4–5. https://www.researchgate.net/publication/303381524_Fundamentals_of_research_method ology_and_data_collection#:~:text=1.1 Methodology is the systematic, a branch of knowledge.
- 21. Cohen, A., Colligan, M. J., Sinclair, R., Newman, J., & Schuler, R. (1998). Assessing occupational safety and health training : a literature review. https://stacks.cdc.gov/view/cdc/11254
- 22. Colligan, M. J., & Cohen, A. (2009). The role of training in promoting workplace safety and health. *The Psychology of Workplace Safety.*, 223–248. https://doi.org/10.1037/10662-011
- 23. Cuya-Antonio, O. C. M., & Gabriel, A. G. (2021). Analysis of the Occupational Safety and Health Practices of Public Organization in the Philippines. *International Journal of Management*, 12(1), 175–190. https://doi.org/10.34218/IJM.12.1.2021.015
- 24. Deborah Aina-Pelemo, A., Mehanathan, M. C., Pradeep, K., & Aina, I. T. (2019). Sexual Harassment in the Workplace: Case Study of the Nigerian Legal Sector. 86. https://doi.org/10.7176/JLPG
- 25. Dugolli, M. (2021). Occupational, health and safety situation at small and medium enterprises in Kosovo, contextual factors, barriers, drivers and intervention process. *International Review of Applied Sciences and Engineering*, 12(1), 19–28. https://doi.org/10.1556/1848.2020.00110
- 26. Epsu, C. /, & Lethbridge, J. (2016). New forms of service delivery for municipalities, the contribution of social dialogue and good practice for well-being at work' Contribution of social dialogue to support well-being and health and safety at work in local public services. www.psiru.org
- 27. Fakhri, M., Fakhri, M., Pradana, M., Gilang, A., & Ekaristi, H. A. (2018). Occupational Health and Safety and Practical Code of Safety at An Indonesian Agrochemical Company. *MIMBAR : Jurnal Sosial Dan Pembangunan*, 34(2), 341–350.

https://doi.org/10.29313/mimbar.v34i2.3638

- 28. Fernández-Muñiz, B., Montes-Peón, J. M., & Vázquez-Ordás, C. J. (2007). Safety culture: analysis of the causal relationships between its key dimensions. *Journal of Safety Research*, 38(6), 627–641. https://doi.org/10.1016/J.JSR.2007.09.001
- 29. Fischer, F. (2003). Reframing Public Policy: Discursive Politics and Deliberative Practices. *Reframing Public Policy: Discursive Politics and Deliberative Practices*. https://digitalcommons.usu.edu/unf_research/46
- Folkard, S., & Tucker, P. (2003). Shift work, safety and productivity. *Occupational Medicine*, 53(2), 95–101. https://doi.org/10.1093/OCCMED/KQG047
- 31. Francis, J. R. (2011). A Framework for Understanding and Researching Audit Quality. AUDITING: A Journal of Practice & Theory, 30(2), 125–152. https://doi.org/10.2308/AJPT-50006
- García-Rodríguez, F. J., Gil-Soto, E., & Ruiz-Rosa, I. (2012). New Methods in University Entrepreneurship Education: A Multidisciplinary Teams Approach. *Creative Education*, 03(06), 878–883. https://doi.org/10.4236/CE.2012.326132
- 33. Hämäläinen, P.; Takala, J.; Boon Kiat, T. (2017). Global Estimates of Occupational Accidents and Workrelated Illnesses. *Journal of Occupational and Environmental Hygiene*, (XXI). https://doi.org/10.13140/2.1.2864.0647
- 34. Harrison, J. (n.d.). Occupational Safety and Health in The United Kingdom: Securing Future Workplace Health and Wellbeing.
- 35. Haupt, T. C. (2001). THE PERFORMANCE APPROACH TO CONSTRUCTION WORKER SAFETY AND HEALTH.
- 36. Howard, J., & Hearl, F. (2012). Occupational safety and health in the USA: Now and the future. *Industrial Health*, 50(2), 80–83. https://doi.org/10.2486/INDHEALTH.MS1356
- Jilcha, K., & Kitaw, D. (2017). Industrial occupational safety and health innovation for sustainable development. *Engineering Science and Technology, an International Journal*, 20(1), 372–380. https://doi.org/10.1016/J.JESTCH.2016.10.011
- 38. Kagawa, P. (2011). a Study on the Effectiveness of Legal Provisions on Internal Safety and Health Systems and Practices of Public Sector Organizations in Uganda.
- 39. Karim, M. A., & Hariyono, W. (2018). IMPLEMENTATION OF OCCUPATIONAL SAFETY AND HEALTH (OSH) AT UNIVERSITAS GADJAH MADA INDONESIA.

IJAEDU-International E-Journal of Advances in Education, IV. http://ijaedu.ocerintjournals.orghttp//ijaedu.ocerintjournals.org

- 40. Kashyap, U., & Nandan, A. (2015). Implementation of Occupational Health and Safety Assessment Series 18001: 2007 in an Indian University. *Research Journal of Engineering* and Technology, 6(3), 343. https://doi.org/10.5958/2321-581X.2015.00054.9
- Khokhar, M., Hou, Y., Sethar, I., Amin, W., & Shakib, M. (2019). Occupational health & safety implementation framework for pakistani construction industry in Sindh province. *3C Tecnología_Glosas de Innovación Aplicadas a La Pyme, November*, 253–285. https://doi.org/10.17993/3ctecno.2019.specialissue3.253-285
- 42. Kim, Y., Park, J., & Park, M. (2016). Creating a Culture of Prevention in Occupational Safety and Health Practice. *Safety and Health at Work*, 7(2), 89–96. https://doi.org/10.1016/J.SHAW.2016.02.002
- 43. LaTourrette, T., Loughran, D. S., & Seabury, S. A. (n.d.). Occupational Safety and Health for Public Safety Employees: Assessing the Evidence and the Implications for Public Policy. Retrieved September 14, 2022, from www.rand.org
- 44. Lestari, F., Bowolaksono, A., Yuniautami, S., Wulandari, T. R., & Andani, S. (2019). Evaluation of the implementation of occupational health, safety, and environment management systems in higher education laboratories. *Journal of Chemical Health & Safety*, 26(4), 14. https://doi.org/10.1016/J.JCHAS.2018.12.006
- 45. Lindholm, M., Reiman, A., & Väyrynen, S. (2014). On future occupational safety and health challenges in industrialized countries A systematic literature review International Journal of Occupational and Environmental Safety On future occupational safety and health challenges in industrialized countries-a systematic literature review Article History. 4, 108–127. https://doi.org/10.24840/2184-0954_004.001.0009
- 46. Machabe, A. P., & Indermun, V. (2013). An Overview Of The Occupational Health And Safety Act: A Theoretical And Practical Global Perspective. *Arabian Journal of Business* and Management Review (OMAN Chapter, 3(5).
- Maciej Serda. (2013). Synteza i aktywność biologiczna nowych analogów tiosemikarbazonowych chelatorów żelaza. Uniwersytet Śląski, 343–354. https://doi.org/10.2/JQUERY.MIN.JS
- 48. Massey, A. (2020). Workplace Health and Well-Being. 800-810.

https://doi.org/10.1007/978-3-319-95681-7_17

- 49. Mayhew, C., & Peterson, C. (1999). Occupational health and safety in australia. *Australian Journal of Primary Health - Interchange*, 5(1), 84–87. https://doi.org/10.1071/PY99010
- 50. Mohamed, S., Ali, T. H., & Tam, W. Y. V. (2009). National culture and safe work behaviour of construction workers in Pakistan. *Safety Science*, 47(1), 29–35. https://doi.org/10.1016/J.SSCI.2008.01.003
- 51. Mohammadfam, I., Kamalinia, M., Momeni, M., Golmohammadi, R., Hamidi, Y., & Soltanian, A. (2017). Evaluation of the Quality of Occupational Health and Safety Management Systems Based on Key Performance Indicators in Certified Organizations. *Safety and Health at Work*, 8(2), 156–161. https://doi.org/10.1016/J.SHAW.2016.09.001
- 52. Mrema, E. J., Ngowi, A. V., & Mamuya, S. H. D. (2015). Status of Occupational Health and Safety and Related Challenges in Expanding Economy of Tanzania. *Annals of Global Health*, 81(4), 538–547. https://doi.org/10.1016/J.AOGH.2015.08.021
- 53. Muzammil, S. (2020). Occupational health in Pakistan: challenges and future needs. Occupational and Environmental Medicine, 77(1), 56–56. https://doi.org/10.1136/OEMED-2019-106106
- 54. Nur Aqilah, M. Y., & Juliana, J. (2012). Association between occupational stress and respiratory symptoms among lecturers in Universiti Putra Malaysia. *Global Journal of Health Science*, 4(6), 160–169. https://doi.org/10.5539/GJHS.V4N6P160
- 55. Nurhazirah, W., Harun, W., & Harun, R. (2021). Original Article Evaluation of Occupational Health and Safety Management System (OHSMS) Performance and Awareness among the Employees in the Faculty of Engineering, Universiti Putra Malaysia (UPM). 18(1).
- 56. Occupational safety and health country profile: Pakistan (Occupational Safety and Health). (n.d.).
- 57. Okeke, U. K., Nwaichi, E. O., & Ugbebor, J. N. (2021). Occupational Health and Safety Management System and Organizational Performance in Selected Industries in Cross River State, Nigeria. *Journal of Engineering Research and Reports*, 1, 1–11. https://doi.org/10.9734/JERR/2021/V20I717336
- 58. Olaru, M., Maier, D., Nicoară, D., & Maier, A. (2014). Establishing the basis for

Development of an Organization by Adopting the Integrated Management Systems: Comparative Study of Various Models and Concepts of Integration. *Procedia - Social and Behavioral Sciences*, *109*, 693–697. https://doi.org/10.1016/J.SBSPRO.2013.12.531

- 59. Pingle, S. (n.d.). Occupational Safety and Health in India: Now and the Future.
- 60. Pingle, S. (2012). Occupational Safety and Health in India: Now and the Future. *Industrial Health*, *50*(3), 167–171. https://doi.org/10.2486/INDHEALTH.MS1366
- Rahman, N. H. A., & Kamil, N. L. M. (2022). Strengthening Occupational Safety and Health Policy in Malaysia: Exploring the Awareness of Civil Servants. *Public Policy and Administration*, 21(1), 38–54. https://doi.org/10.5755/j01.ppaa.21.1.28201
- Raymond, J., Rakariyatham, N., & Azanza, J. L. (1993). Purification and some properties of polyphenoloxidase from sunflower seeds. *Phytochemistry*, *34*(4), 927–931. https://doi.org/10.1016/S0031-9422(00)90689-7
- 63. Said, S. M., Said, F., & Halim, Z. A. (1999). The determinants of industrial accidents in the Malaysian manufacturing sector. *African Journal of Business Management*, 6(5). https://doi.org/10.5897/AJBM11.2439
- 64. Schulte, P. A., & Chun, H. K. (2009). Climate Change and Occupational Safety and Health: Establishing a Preliminary Framework. *Https://Doi.Org/10.1080/15459620903066008*, 6(9), 542–554. https://doi.org/10.1080/15459620903066008
- 65. Schulte, P. A., Wagner, G. R., Ostry, A., Blanciforti, L. A., Cutlip, R. G., Krajnak, K. M., Luster, M., Munson, A. E., O'Callaghan, J. P., Parks, C. G., Simeonova, P. P., & Miller, D. B. (2007). Work, obesity, and occupational safety and health. *American Journal of Public Health*, *97*(3), 428–436. https://doi.org/10.2105/AJPH.2006.086900
- 66. Scott, L. D., Munson, M. R., McMillen, J. C., & Snowden, L. R. (2007). Predisposition to seek mental health care among Black males transitioning from foster care. *Children and Youth Services Review*, 29(7), 870–882.

https://doi.org/10.1016/J.CHILDYOUTH.2007.01.003

67. Sekaran, U. (2003) Research Methods for Business A Skill-Building Approach. 4th Edition, John Wiley & Sons, New York. - References - Scientific Research Publishing. (n.d.). Retrieved July 23, 2022, from https://www.scirp.org/%28S%28lz5mqp453edsnp55rrgjct55%29%29/reference/reference spapers.aspx?referenceid=1906678

- Sesé, A., Palmer, A. L., Cajal, B., Montaño, J. J., Jiménez, R., & Llorens, N. (2002). Occupational safety and health in Spain. *Journal of Safety Research*, 33(4), 511–525. https://doi.org/10.1016/S0022-4375(02)00054-3
- 69. Sharija Che Shaari, Nik Ahmad Kamal Nik Mahmod, & Farheen Baig Sardar Baig.
 (2020). A Non-Doctrinal Study on the Implementation of Occupational Safety and Health
 (OSH) Legislation in Manufacturing Small and Medium Enterprises (SMEs) of Sabah.
 Asian Journal of Entrepreneurship, 1(4), 11–26.
 https://scholar.google.com/citations?user=pwbyRNQAAAAJ&hl=en#d=gs_md_citad&u=%2Fcitations%3Fview_op%3Dview_citation%26hl%3Den%26user%3DpwbyRNQ
 AAAAJ%26citation_for_view%3DpwbyRNQAAAAJ%3AqjMakFHDy7sC%26tzom%3
 D-480
- 70. Silverstein, M. (2008). Getting Home Safe and Sound: Occupational Safety and Health Administration at 38. American Journal of Public Health, 98(3), 416. https://doi.org/10.2105/AJPH.2007.117382
- 71. singh, sam. (n.d.). Research Methodology III. Retrieved September 16, 2022, from https://www.academia.edu/36550270/Research_Methodology_III
- Sousa, V., Almeida, N. M., & Dias, L. A. (2015). Risk-based management of occupational safety and health in the construction industry - Part 2: Quantitative model. *Safety Science*, 74, 184–194. https://doi.org/10.1016/J.SSCI.2015.01.003
- 73. Suárez Sánchez, F. A., Carvajal Peláez, G. I., & Catalá Alís, J. (2017). Occupational safety and health in construction: a review of applications and trends. *Industrial Health*, 55(3), 210–218. https://doi.org/10.2486/INDHEALTH.2016-0108
- 74. Subhani, M. G. (2010). Program: Logistics and Innovation Management Examiner: Kaisu Sammalisto Supervisors: Kaisu Sammalisto and Rose-Marie Löf FACULTY OF ENGINEERING AND SUSTAINABLE DEVELOPMENT Study of Occupational Health & Safety Management System (OHSMS) in Universities' Context and Possibilities for its Implementation A case study of University of Gavle.
- 75. Sultana Khan Assistant Professor, R. (2020). AN EVALUATION OF OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT IN THE APPAREL INDUSTRIES OF BANGLADESH. Global Journal of Human Resource Management, 8(4), 14–23.

- 76. Sun, Y., Xu, L., Shao, H., & Wang, H. (2014). China's laws, rights, and administrative structures in occupational safety and health: A comparison with the United States. *Journal of Public Health Policy*, 35(4), 455–469. https://doi.org/10.1057/JPHP.2014.12
- Surienty, L. (2019). OSH Implementation in SMEs in Malaysia: The Role of Management Practices and Legislation. *Advances in Intelligent Systems and Computing*, 819, 650–671. https://doi.org/10.1007/978-3-319-96089-0_72
- 78. Tadesse, T., & Admassu, M. (2006). *LECTURE NOTES For Environmental and Occupational Health Students Occupational Health and Safety.*
- 79. Tam, V. W. Y., Tam, L., & Zeng, S. X. (2010). Cost effectiveness and tradeoff on the use of rainwater tanks: an empirical study in Australian residential decision-making. *Faculty* of Commerce - Papers (Archive), 54(3), 178–186. https://doi.org/10.1016/j.resconrec.2009.07.014
- Tetrick, L. E., & Peiró, J. M. (2012). Occupational Safety and Health. *The Oxford Handbook of Organizational Psychology*, 2. https://doi.org/10.1093/OXFORDHB/9780199928286.013.0036
- 81. Tucker, P., Folkard, S., & International Labour Office. (2012). Working time, health and safety : a research synthesis paper. 60.
- Van Dijk, F. J., Bubas, M., & Smits, P. B. (2015). Evaluation Studies on Education in Occupational Safety and Health: Inspiration for Developing Economies. *Annals of Global Health*, 81(4), 548–560. https://doi.org/10.1016/j.aogh.2015.08.023
- Vassie, L. H., & Lucas, W. R. (2001). An assessment of health and safety management within working groups in the UK manufacturing sector. *Journal of Safety Research*, 32(4), 479–490. https://doi.org/10.1016/S0022-4375(01)00064-0
- 84. Watterson, A. (2016). Occupational safety and related impacts on health and the environment. *International Journal of Environmental Research and Public Health*, 13(10). https://doi.org/10.3390/IJERPH13100988
- 85. *Welcome to OGDCL / OGDCL*. (n.d.). Retrieved July 3, 2022, from https://www.ogdcl.com/
- Williams, J. H. (2008). Employee Engagement Improving Participation In Safety. Undefined.
- 87. Zin, S. M., & Ismail, F. (2012). Employers' Behavioural Safety Compliance Factors

toward Occupational, Safety and Health Improvement in the Construction Industryreview under responsibility of Centre for Environment-Behaviour Studies (cE-Bs), Faculty of Architecture, Planning & Surveying, Universiti Teknologi MARA, Malaysia. *Procedia-Social and Behavioral Sciences*, *36*, 15–17. https://doi.org/10.1016/j.sbspro.2012.03.081