ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
MASTER OF BUSINESS ADMINSTRATION PROGRAM

OCCUPATIONAL HEALTH & SAFETY PRACTICES IN ETHIOPIA'S CONSTRUCTION SECTOR: THE CASE STUDY OF MIDROC CONSTRUCTION PLC.

BY:

HABTOM EBUY

June, 2024

ADDIS ABABA, ETHIOPIA

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APPROVED BY BOARD OF EXAMINERS

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Internal Examiner	Signature	Date

DEDICATION

To my mother Belcha Gebremedhin

Acknowledgment

I am deeply grateful to all the individuals and institutions that have supported and contributed to the completion of this research project.

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Abstract

The study aims to assess the current state of occupational health & safety (OHS) practices, identify prevalent safety challenges, and propose measures for improvement. Through a mixed-methods approach, incorporating both qualitative interviews and quantitative surveys with employees, this research identifies the prevalent safety challenges and evaluates the effectiveness of current OHS measures. Key findings reveal a substantial gap between policy and practice, with deficiencies in safety training, personal protective equipment (PPE) usage, and hazard communication. The study highlights the need for robust safety management systems, improved regulatory enforcement, and a cultural shift towards prioritizing worker safety. Recommendations include enhancing training programs, implementing stricter supervision protocols, and fostering a proactive safety culture. This case study aims to contribute to the broader discourse on improving workplace safety standards in Ethiopia's burgeoning construction sector.

Key words: Occupational health & safety, safety management system

List of Acronym

EBCS	Ethiopian Building Codes & Standards
GDP	Gross Domestic Product
LFS	Labor Force Survey
WHO	World Health Organization
OSH	Occupational Health & Safety
PLC	Private Limited Company
ILO	International Labor Organization
EU	European Union
GNP	Gross National product
PPE	Personal Protective Equipment

Table of Contents

LIST OF TABLES

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The Ethiopian construction sector stands as a pivotal component of the nation's economy, playing a crucial role in infrastructure development and economic growth. It also makes significant contributions to the socio-economic development process of a country as well. Over the past decade, Ethiopia has witnessed substantial investments in construction projects, ranging from residential and commercial buildings to extensive transportation networks and hydroelectric dams. This rapid expansion has positioned the construction industry as a significant employer and contributor to the country's Gross Domestic Product (GDP). The construction industry employs large unskilled labor. Throughout the developing world, the majority of employees in the industry are unskilled. The construction industry has important contributions to the Ethiopian economy, as demonstrated by its share in the GDP. For instance, the share of the sector in the total GDP averaged at about 5.2 percent in the period 2002/03- 2006/07. (Report on Ethiopian Economy volume 1, 2006/07, Ethiopia Economic Association.)

The role of the construction industry in terms of creating employment opportunities especially in urban areas is becoming visible. According to the 1999 Labour Force Survey (LFS), of the total employed persons in the country which was estimated at around 25 million, 0.9 percent was estimated to be in the construction industry. The contribution of the industry in terms of creating employment has slightly improved over the years. For instance, according to the 2005 LFS, of the total employed population in the country (31.4 million), 1.4 percent was estimated to be in the construction industry. (Report on Ethiopian Economy volume 1, 2006/07, Ethiopia Economic Association.)

While the growth of the construction sector is commendable as it provides employment opportunity and is a contributor to the generation of revenue for the government, it is accompanied by inherent risks and safety challenges for the workforce. Due to hazardous nature of the sector there may be a lot of accidents and occupational diseases that will occur. (Ministry of labor and social affairs, occupational safety and health profile for Ethiopia). Construction

work is known for its multifaceted hazards, including falls from heights, exposure to hazardous materials, electrical accidents, and machinery-related incidents. These dangers underscore the critical importance of prioritizing and implementing robust Occupational Safety and Health practices within construction sites. The World Health Organization defines occupational injury as an epidemic problem in the field of public health in developing countries (Karvonen M. Epidemiology in the context of occupational health, Hamalainen P. The effect of globalization on occupational accidents. Saf Sci. 2009). The human suffering caused by the injuries is hurtful to the employee, the employer and society (Larsson TJ, Field B. The distribution of occupational injury risks in the Victorian construction industry. Saf Sci. 2002).

According to the International Labor Organization there are 270 million occupational accidents causing 2 million deaths annually (http://www.nieuwsbank.nl/en/2002/05/24/ K016.htm. Accessed March 20 2015). In the United States the cost of occupational injuries was $177.2 billion, and 35 million working days were lost annually (Larsson TJ, Field B. The distribution of occupational injury risks in the Victorian construction industry. Saf Sci. 2002;40(5):43911). The construction industry is responsible for more than half of all occupational injuries and deaths worldwide (Lopez-valcarcel A. Occupational safety and health in the construction work. Afr Newsl Occup Health Safety. 2001;11:4–7)

The impact of occupational health and safety hazards faced by construction workers in developing countries is 10 to 20 times higher than those in industrial countries (Dong X. Long work hours, work scheduling and work-related injuries among construction workers in the United States. Scand J Work Environ Health. 2005; 31:329–35.8). Within the context of Ethiopia, the construction sector faces distinct challenges related to OSH. Literature suggests that despite the existence of regulatory frameworks and labor laws aimed at safeguarding worker safety, enforcement and compliance often encounter hurdles. Factors such as inadequate training, resource limitations, and variations in safety standards across construction sites contribute to a complex landscape where ensuring optimal OSH practices becomes a significant endeavor.

Generally speaking, to date Ethiopian has no single and comprehensive OSH laws. Rather, next to FDRE constitution, its OSH law is scattered in different primary, secondary and tertiary legislations. Thus, through analyzing these parliamentary legislations, one could understand that Ethiopian OSH law is scattered in different legislations and shows Ethiopia’s commitment to

ingrain OSH rule in Ethiopia. (Appraising legal and institutional framework to implement osh rule in Ethiopian construction industry: prospects and constraints, Fesseha Negash Fantaye).

Ethiopian labor laws and regulations, including those specifically addressing OSH in the construction sector such as Ethiopian Building Proclamation No. 624/2009, Council of Ministers Building Regulation no.243-2011, EBCS (Ethiopian Building Codes & Standards) volume 14, Health and Safety provides a legal foundation for ensuring worker safety. Entities such as the Ministry of Labor and Social Affairs oversee compliance with OSH standards. However, the effectiveness of these regulations in actual practice and their implementation across diverse construction projects warrants closer examination.

Given the growth trajectory of the Ethiopian construction sector and its concomitant challenges regarding OSH, this study aims to delve deeply into the landscape of OSH practices within this context. By focusing on understanding the existing frameworks, analyzing the practical implementations, and scrutinizing key stakeholders' roles (such as major construction companies like MIDROC Construction PLC), this research seeks to provide valuable insights and recommendations for improving OSH practices in Ethiopian construction.

1.2 Statement of the Problem

The Ethiopian construction sector stands as a pivotal industry driving economic growth and infrastructure development in the country. However, amidst its rapid expansion and significance, the sector faces persistent challenges concerning Occupational Safety and Health (OSH) practices. Despite the existence of regulatory frameworks and labor laws aimed at ensuring worker safety, the practical implementation and effectiveness of these measures within the Ethiopian construction context remain questionable.

Challenges in OSH Implementation

1. **Inadequate Enforcement and Compliance:** While regulatory bodies exist to oversee OSH standards, there are concerns regarding the enforcement of these regulations across construction sites, leading to potential lapses in compliance.

2. **Variability in Safety Standards:** The construction sector comprises diverse projects with varying safety standards, leading to inconsistencies in OSH practices and potentially jeopardizing worker well-being.

3. **Limited Resources and Training:** Resource constraints, coupled with insufficient training programs, pose significant challenges in equipping construction workers with the necessary skills and knowledge to mitigate occupational hazards effectively.

The lack of robust OSH practices directly impacts the safety and well-being of the construction workforce. Incidents of workplace accidents, injuries, and even fatalities persist within the industry, indicating an urgent need for comprehensive and sustainable safety measures.

As a key player in the Ethiopian construction sector, MIDROC Construction PLC's approach to OSH practices merits specific scrutiny. Understanding the company's OSH policies, their alignment with national regulations, and their practical implementation could offer insights into broader challenges and potential solutions within the sector.

The identified challenges and discrepancies in implementing effective OSH practices in the Ethiopian construction sector underscore the critical need for an in-depth investigation. This research aims to thoroughly examine the existing frameworks, identify gaps in implementation, and propose viable recommendations to enhance OSH practices, not only within MIDROC Construction PLC but also across the broader construction industry in Ethiopia.

1.3 Objectives of the Research Paper

1.3.1 General Objective

The general objective of this study is to examine the Occupational Safety & Health Practices in Ethiopian Construction Sector: The Case of MIDROC Construction Company.

1.3.2 Specific objectives

The specific objective of the study

- To Assess the Current Landscape of OSH Regulations and Frameworks:
- To Identify Challenges and Discrepancies in OSH Implementation:
- To Evaluate OSH Practices within MIDROC Construction PLC:

- To Investigate the Impact of OSH Practices on Worker Safety:
- To Propose Recommendations for Enhancing OSH Practices:
- To Contribute to Policy Development and Industry Best Practices:

1.4 Research Question:

This study attempt to answer the following research questions:

1. What is the Current Landscape of OSH Regulations and Frameworks?
2. What are the Challenges and Discrepancies in OSH Implementation?
3. What are the key challenges and opportunities for improving Occupational Safety and Health (OSH) practices within the Ethiopian construction sector, particularly focusing on MIDROC Construction PLC?
4. How can effective OSH strategies be developed to enhance worker safety and well-being?

1.5 Significance of the Study

As a research to be conducted on the emerging Ethiopian construction industry, the study holds paramount significance in prioritizing the safety and well-being of workers within the Ethiopian construction sector. By identifying challenges and proposing improvements in OSH practices, the research aims to contribute to a safer working environment, reducing workplace accidents, injuries, and fatalities.

Enhancing Occupational Safety and Health practices directly correlates with sustainable economic development. A safer work environment not only protects workers but also ensures the continuity and efficiency of construction projects, thereby positively impacting Ethiopia's infrastructure development and economic growth.

This study aims to contribute to the construction industry's repository of best practices by identifying effective strategies for implementing and standardizing OSH measures. It provides a platform for sharing insights and knowledge, fostering advancements in safety practices.

The findings of this study can serve as a crucial foundation for policymakers and regulatory bodies involved in shaping OSH regulations within the Ethiopian construction sector.

Recommendations derived from the research can inform policy development, fostering stronger regulatory frameworks for improved safety standards.

Ethiopia's construction sector is not isolated; it intersects with global standards and practices. Insights derived from this study can facilitate comparisons with international benchmarks, allowing for a broader understanding of global OSH practices and potential adaptability to local contexts.

For companies like MIDROC Construction PLC and other stakeholders in the construction sector, prioritizing Occupational Safety and Health is not just a legal obligation but also an ethical responsibility. The study's recommendations can guide these entities in fulfilling their ethical commitments to safeguard their workforce.

The study contributes to academic scholarship by providing empirical data and analysis within the context of Ethiopian construction OSH practices. It sets a foundation for further research, encouraging continuous exploration and advancement in this field.

1.6 Scope of the Study

The study primarily focuses on the Ethiopian construction sector, with specific attention to MIDROC Construction PLC's operations within the country. It encompasses various construction projects undertaken by MIDROC, including but not limited to infrastructure, commercial, residential, and industrial projects.

The research delves into the existing regulatory framework governing Occupational Safety and Health (OSH) practices within the Ethiopian construction sector. It compares national OSH standards and regulations with international benchmarks, identifying gaps and areas for alignment or improvement.

The study provides a comprehensive overview of MIDROC Construction PLC, including its history, scale of operations, and significance in the Ethiopian construction industry. It scrutinizes MIDROC's existing OSH policies, procedures, and their practical implementation across its various construction projects.

The research assesses historical incident data (if available) within MIDROC's projects to understand the frequency and nature of workplace accidents. It explores the impact of OSH practices on worker safety, well-being, and productivity within MIDROC's construction sites.

Interviews or surveys with stakeholders, including workers, management, regulatory bodies, and industry experts, may be conducted to gather diverse viewpoints on OSH practices. Based on the findings, the study aims to formulate actionable recommendations to enhance OSH practices within MIDROC and potentially inform improvements across the Ethiopian construction sector.

The study acknowledges potential limitations regarding access to comprehensive data, time constraints for fieldwork, and resource availability for extensive surveys or interviews. While the findings may offer insights into the Ethiopian construction sector, the direct applicability to other companies or regions may vary due to contextual differences.

1.7 Limitations of the Study

Availability and access to comprehensive historical incident data within MIDROC Construction PLC's projects is the main constraint. Incomplete or unavailable data limit the depth of the incident analysis and impact the comprehensiveness of safety assessments.

Resource limitations, including time and budget constraints, restrict the scope of the study. Comprehensive data collection, extensive interviews, or broader surveys involving a larger sample size is not be feasible within the allocated timeframe and resources.

Obtaining participation and cooperation from all levels of stakeholders within MIDROC, including top management, safety officers, and frontline workers, present a critical challenge. Limited access to certain key personnel impacted the depth of insights gathered.

The findings and recommendations derived from the study, while applicable within the context of MIDROC Construction PLC, might not be entirely generalizable to all construction companies or the entire Ethiopian construction sector. Differences in company policies, practices, and scale of operations could limit generalizability. Thematic analysis of qualitative data (interviews, focus groups) is susceptible to subjective interpretation. Despite efforts to ensure rigor, different interpretations of qualitative data by researchers could introduce bias.

The study's focus primarily on MIDROC Construction PLC's internal OSH practices might limit the exploration of external factors (e.g., socio-economic conditions, governmental policies) that could also impact OSH practices within the construction sector.

Due to the complexity and multi-faceted nature of Occupational Safety and Health practices, the study might not comprehensively cover every aspect or dimension of OSH within MIDROC, potentially leaving certain aspects underexplored.

Ensuring confidentiality and anonymity of participants while maintaining ethical standards might pose challenges, potentially limiting the depth of information shared by stakeholders, particularly concerning sensitive issues.

1.8 Organization of the Study

The study is organized into five chapters:

Chapter One: Incorporated Introduction part and focuses on: Background of the Research, Statement of the Problem, Research question, Research Objectives, Research Hypothesis, Significance of the Study, Scope and Limitations of the Study, and Organization of the Study.

Chapter Two: Incorporated Review of Literature part and focuses on: Theoretical review of occupational safety & health and Empirical review pertinent to this study.

Chapter Three: Incorporated Methodology part and focuses on**:** Description of the Study Area, Research Design, Data type and Source, Sampling Design and Sample Determination, Methods of Data Collection, Methods of Data Analysis and Definition and Operationalization of Variables.

Chapter Four: will incorporate the Analysis, Interpretation and discussion of the findings of study.

Chapter Five: will incorporate summary of the Findings, Conclusions, Recommendations and Suggestions for future researchers.

CHAPTER TWO

REVIEW OF RELATED LITRATURE

2.1 Introduction

This literature review aims to analyze the varied publications on occupational safety and health practices in Ethiopia's construction sector. The discussion also points out gaps that have been left by other researchers working on comparable studies. This study, on the other hand, aims to address those gaps so that the paper can contribute to a new body of knowledge in academia. The literature is repackaged and evaluated in this review in order to provide new insights into the subject under consideration.

This theoretical literature review outlines key scholarly works that contextualize OSH practices globally, within Ethiopia's construction sector, and specifically in relation to MIDROC Construction PLC. It sets the groundwork for examining and analyzing OSH practices within MIDROC, providing a theoretical framework for further empirical investigation. Adjustments can be made based on specific areas of emphasis in your research.

2.2 Conceptualizing and Definitions of terms

This subsection provides definitions of key concepts such as occupational safety & health from various sources.

2.2.1 Occupational Safety & Health

The ILO/WHO definition of occupational health is "The promotion and maintenance of the highest degree of physical, mental social well- being of workers in all occupation" and the WHO considers occupational health service to be responsible for the total of worker and, if possible, his or her family. Occupational Health is a diverse science applied by occupational health professionals, engineers, environmental health practitioners, chemists, toxicologists, doctors, nurses, safety professionals and others who have an interest in the protection of the health of workers in the workplace. (Ethiopian public health training institute, training manual).

According to WHO (1995), occupational safety and health can be defined as a multidisciplinary activity aiming at Protection and promotion of the health of workers by eliminating occupational

factors and conditions hazardous to health and safety at work. It also works for the Enhancement of physical, mental and social well-being of workers and support for the development and maintenance of their working capacity, as well as professional and social development at work. Development and promotion of sustainable work environments and work organizations is also part of occupational health and safety's activities.

2.3 Occupational Safety and Health in Construction Industries Globally

Globally, the construction industry faces persistent challenges in ensuring adequate occupational safety and health measures. Literature by authors such as Hinze and Gambatese (2003) and Haslam et al. (2005) emphasizes the prevalence of hazards in construction sites, including falls, electrical accidents, and exposure to hazardous materials. These risks underscore the need for robust OSH practices to safeguard the well-being of construction workers.

With the rapidly increasing construction projects in the last few decades, the challenges of occupational safety and health in the construction industry have become even greater. The safety record of the construction industry is always bad, it remains one of the most dangerous industries to work. the magnitude of the risk of accidents that occur depends also on the number of risks or hazards identified. Factors that influence include task complexity, organizational factors such as giving incentives or bonuses, personal factors such as fatigue, work environment such as work pressure, and external factors such as weather (Hallowell and Gambatese, 2009). However, the most recognized occupation safety and health hazards on construction sites have been working at height, working underground, working in confined spaces and proximity to falling materials, handling load manually, handling hazardous substances, noises, dusts, using plant and equipment, fire, exposure to live cables, poor housekeeping and ergonomics (Okoye, 2018).

Recent data from the ILO and from the World Health Organization (WHO) indicate that overall occupational accident and disease rates are slowly declining in most industrialized countries (ILO, 2003a) but are level or increasing in developing and industrializing countries.

According to the European Statistics on Accidents at Work (ESAW), every year in the 15 Member States of the European Union (EU) before the enlargements of 2004 and 2007 about 5,000 workers were killed in accidents at work and about 5 million workers were victims of accidents at work leading to more than three days' absence from work (EU, 2004).

In India and China, the rates of occupational fatalities and accidents are similar at, respectively, 10.4 and 10.5 per 100,000 for fatalities, 8,700 and 8,028 for accidents.

In sub-Saharan Africa, the fatality rate per 100,000 workers is 21 and the accident rate 16,000. This means that each year 54,000 workers die and 42 million work-related accidents take place that cause at least three days' absence from work.

In Latin America and the Caribbean, about 30,000 fatalities occur each year and 22.6 million occupational accidents cause at least three days' absence from work. (Fundamental principles of occupational health and safety)

The economic costs of these injuries and deaths are colossal, at the enterprise, national and global levels. Taking into account compensation, lost working time, interruption of production, training and retraining, medical expenses, and so on, estimates of these losses are routinely put at roughly 4 per cent of global GNP every year, and possibly much more. If property losses from accidents, and more specifically major industrial accidents, are included, recent studies suggest that insured losses are in the vicinity of US$5 billion annually and are on the increase (Mitchell, 1996).

2.4 Key Principles in Occupational Safety & Health

According to Alli (2008), there are certain principles that enhance occupational safety and health. These principles, along with international labor standards, aim to ensure that work is conducted in a safe and healthy environment. The objective is to establish policies, implement national programs, focus on prevention and protection, and emphasize the importance of education and training in creating safe working procedures.

He further explains that Occupational safety and health is a multidisciplinary field that encompasses various scientific areas such as medicine, physiology, toxicology, ergonomics, physics, and chemistry. It also involves aspects of technology, economics, law, and industry-specific considerations. Despite the diverse range of concerns, there are certain fundamental principles that can be identified in this field, including the establishment of safety policies, the formulation of national programs, a focus on prevention and protection, and the importance of education and training for creating safe working environments.

Despite this variety of concerns and interests, certain basic principles can be identified, including the following:

- Occupational safety and health policies must be established. Such policies must be implemented at both the national (governmental) and enterprise levels. They must be effectively communicated to all parties concerned;

- A national program on occupational safety and health must be formulated: once formulated, it must be implemented, monitored, evaluated and periodically reviewed;

- Occupational safety and health programs and policies must aim at both prevention and protection: efforts must be focused above all on primary prevention at the workplace level. Workplaces and working environments should be planned and designed to be safe and healthy; and

- Education and training are vital components of safe, healthy working environments: workers and employers must be made aware of the importance of establishing safe working procedures and of how to do so. Trainers must be trained in areas of special relevance to particular industries, so that they can address the specific occupational safety and health concerns.

Bezawit Abebe (May 2013) argues that some overlap exists among these general principles. For example, the gathering and dissemination of information on various facts of occupational safety and health underlies all the activities described. She further explains that the gathering and dissemination of information is crucial for occupational safety and health. This information is necessary for preventing and treating workplace injuries and diseases, developing effective policies, and providing education and training. It is important to note that these principles are not exhaustive, and specialized areas may have their own corresponding principles. Additionally, ethical considerations, such as individuals' rights to privacy, should be taken into account when formulating policies.

2.5 Contextualizing OSH in the Ethiopian Construction Sector

The Ethiopian construction industry exhibits unique characteristics and challenges that impact OSH practices. Research by Ayele and Tesfaye (2018) highlights the growth trajectory of the sector and its significance in the country's economy. However, this growth has been

accompanied by concerns regarding safety standards and regulatory enforcement, as noted by Kebede et al. (2019).

The Ethiopian construction sector represents a pivotal industry contributing significantly to the nation's economic growth and infrastructure development. However, within this dynamic sector, occupational safety and health (OSH) remain critical concerns due to the inherent risks associated with construction work. This literature review aims to synthesize existing knowledge, research, and scholarly discussions regarding OSH practices in the Ethiopian construction sector, highlighting key insights and areas for improvement.

2.5.1 Regulatory Framework and Compliance in Ethiopia

The legal system in Ethiopia is vital for enforcing regulations that ensure workplace safety through Occupational Safety and Health (OSH) rules. Ethiopia has incorporated international standards, such as the Occupational Safety and Health Convention, 1981 (No. 155) from the International Labor Organization, as a foundation for creating laws and regulations that focus on maintaining a safe work environment for employees. These legal frameworks guide the development of policies and requirements that employers must follow to safeguard the health and safety of workers in the country.

In Ethiopia, Occupational Safety and Health (OSH) laws are not consolidated into a single comprehensive legislation but are spread across various primary, secondary, and tertiary laws alongside the Federal Democratic Republic of Ethiopia (FDRE) constitution. This decentralized legal framework means that OSH regulations are addressed in different laws at different levels, rather than being unified under a single statute, posing challenges for enforcement and compliance in the country's construction industry. (Appraising legal and institutional framework to implement OSH rule in Ethiopian construction industry: prospects and constraints, Fesseha Negash Fantaye)

Fesseha further iterates that to the importance of evaluating Ethiopian Building Proclamation No. 624/2009 and related laws concerning Occupational Safety and Health (OSH) regulations. This proclamation aims to establish the minimum national standards for constructing, modifying, or changing the use of buildings to ensure public health and safety in Ethiopia's construction

industry. By assessing these laws from an OSH perspective, the goal is to enforce regulations that prioritize the well-being of individuals working in or around buildings.

In the context of the Ethiopian construction industry, a building officer, appointed by urban administrations, enforces Proclamation No. 624/2009 to ensure public health and safety. This officer, also known as a construction safety officer, is responsible for implementing safety regulations at construction sites and ensuring compliance. Proclamation No. 624/2009 grants the building officer the authority to inspect new building plans and exempted structures built before 2009 to uphold safety standards.

The Ethiopian Labor Standard Proclamation and Labor Proclamation have been revised to conform with global Occupational Safety and Health (OSH) standards. These legal frameworks establish specific rules and expectations for employers to safeguard the well-being of their employees. Furthermore, the Ministry of Labor and Social Affairs is actively engaged in formulating OSH policies tailored to the evolving needs of emerging industries in Ethiopia.

It is also to be noted that despite having robust legal regulations for Occupational Safety and Health (OSH), challenges persist in their implementation in Ethiopia. These challenges include employers' lack of understanding of OSH laws, insufficient training for OSH inspectors, and limited access to hazard measuring equipment. However, the legal framework serves as a basis for enhancing workplace safety by establishing standards and guidelines to ensure a secure working environment for all employees.

2.6 EBCS for betterment of health & safety

The Proclamation No 691/2010 and Ethiopian Building Proclamation No 624/2009 grant authority to the Ministry of Urban Development, Housing and Construction in Ethiopia to develop the Building Code for the country, establish design and construction standards, and oversee their implementation. This empowers the ministry to regulate and ensure the proper practices, safety, and quality of construction projects in Ethiopia.

Ethiopian standard called "OCCUPATIONAL HEALTH AND SAFETY - EBCS 14:2014." Is a standard code of practice that aims to align the Ethiopian Construction Standard with global advancements and ensure the harmonization of professional practices, workmanship, safety, and

quality in construction work. It was prepared by a Technical Committee on Occupational Health and Safety, and it is intended to be used alongside other related standards for designing buildings and civil engineering works.

2.6.1 The objective of code of practice

"OCCUPATIONAL HEALTH AND SAFETY - EBCS 14:2014," which is the official English version. This standard has been newly included to align the Ethiopian Construction Standard with current technological advancements and global trends. Its application aims to harmonize professional practices, ensure proper workmanship, safety levels, and construction quality.

2.6.2 Scope of the code of practice

The code applies to various activities related to building construction, maintenance, renovation, and demolition. It covers health and safety precautions for common construction activities, and if a special construction method is used, additional precautionary measures need to be developed. The code sets minimum requirements for occupational health and safety, but alternative approaches that are proven to be equivalent or better are also acceptable.

2.7 Empirical Review of the Study

The article “Assessment of the Implementation of Workers’ Occupational Safety and Health Standards in Building Construction: The Case of West Shoa Zone” by Abdata Sefara which was published in “East African Journal of Social Science and Humanities” in 2019 explores the implementation of occupational safety and health (OSH) standards in the building construction industry in West Shoa Zone, Ethiopia. The study focuses on the effectiveness of OSH laws in the country and examines the involvement of various stakeholders in the implementation of these standards.

The research adopts a socio-legal research approach, using qualitative data collected through a review of government policies and legislation, secondary materials, personal observations, and interviews with key informants. The study specifically targets the building construction sector in the West Shoa Zone.

The article highlights several challenges faced in the implementation of Occupational Safety and Health (OSH) standards in the building construction industry of West Shoa Zone, Ethiopia. These challenges include:

- Lack of comprehensive OSH laws: The relevant laws on OSH in Ethiopia are less developed, less comprehensive, and scattered across different pieces of legislation.
- Low awareness and limited concern for OSH: Employers in the building construction sector show low concern for OSH, and there is limited awareness among both employers and workers
- Insufficient safety tools and protective equipment: On-site workers often lack basic safety tools and personal protective equipment, such as hard hats, gloves, and safety goggles. Workers are not provided with the necessary protective clothing, and the reasons cited include lack of provision by employers and discomfort of the clothing].
- Inadequate enforcement and inspection services: There is a lack of sufficient health and safety training, inadequate provision of safety equipment, and inadequate enforcement of minimum standards by the concerned governmental authorities. Additionally, there is a shortage of labor inspectors, which hampers the work of labor inspection.
- Low importance given to OSH by employers: Construction companies often consider the implementation of OSH as unnecessary and expensive, leading to a lack of enforcement and concern for OSH.
- Lack of skilled and trained workforce: Workers in the building construction sector are often unskilled, temporary workers with low wages and high job insecurity. This lack of skilled workforce contributes to the low enforcement and concern for OSH .

The findings of the research highlight several significant issues. Firstly, the relevant OSH laws in Ethiopia are not well-developed, comprehensive, or centralized, and are scattered across different legislative pieces. This poses a challenge to the effective implementation of OSH in the building construction sector.

The article emphasizes the low level of implementation of OSH in building construction, with concerns raised about employer attitudes, limited awareness among workers, and inadequate

provision of safety equipment. Occupational injuries were found to be prevalent on construction sites, and workers often lacked basic safety tools and protective equipment.

The study also examines the legislative framework for OSH in Ethiopia, including the Labour Proclamation and the Safety, Health and Working Environment Protection Directive 2008. It identifies key stakeholders involved in the implementation of OSH, such as employers, workers, and client companies overseeing OSH on construction sites.

Based on the research findings, the authors recommend that stakeholders take action to effectively implement OSH laws in the building construction sector. They suggest the development of a system for recording and analyzing occupational injuries in the workplace, to identify risky occupations and provide appropriate policy and legal solutions.

the article highlights the need for improved implementation of OSH standards in the building construction industry in the West Shoa Zone of Ethiopia. It identifies shortcomings in the existing legislative framework and emphasizes the importance of stakeholder involvement in ensuring the safety and health of workers in construction sites.

Another article written by Lucy Feleke titled “Evaluation of Health and Safety Practice in Building Construction: A case study in Addis Ababa which was published in October 2016 on international journal of scientific and engineering research points out that the construction industry is considered hazardous due to its poor health and safety performance compared to other industries worldwide. This research focuses on evaluating health and safety issues in building construction projects in Addis Ababa, Ethiopia. The study examines the roles of clients, consultants, and contractors in considering health and safety during project implementation, identifies factors affecting the performance of laborers, and proposes recommendations to improve safety and health in construction projects.

The article states that the health and safety situation in building construction projects in Addis Ababa, Ethiopia is evaluated as low to medium. The top three factors affecting health and safety performance are the non-availability of a clear company health and safety policy, inadequate enforcement of building rules and regulations, and the safety awareness of the company’s top management. These challenges contribute to the poor health and safety performance record in the construction industry. To address these challenges, the researchers propose several

recommendations including the implementation of safety policies for each project, the inclusion of safety as a pay item in contract documents, and the allocation of budget and time frames for health and safety.

A thesis submitted to the school of graduates' studies, Jimma University by Gezahagn Belay in September 2020 titled "A comparative Study on Occupational Health & Safety Practices between Domestic & Foreign Contractors. (A Case of Addis Ababa City Public Construction Projects) "Argues that the construction industry plays a significant role in the economy of many countries, including Ethiopia, where it contributes 18% to the GDP. With millions of dollars invested in social housing, both domestic and foreign contractors are involved in construction projects, making it the largest employer in the country. However, due to the hazardous nature of construction work, ensuring health and safety practices is crucial. This study aimed to evaluate the current health and safety management practices of domestic and foreign contractors in public construction projects in Addis Ababa city.

His study used both qualitative and quantitative methods to collect data from primary and secondary sources, which were then analyzed using Microsoft Excel. The findings indicate that foreign contractors demonstrate better management of health and safety compared to domestic contractors. However, despite having specific codes of practice, the lack of enforcement by the government and regulatory bodies is evident. The researcher recommends collaborative efforts among industry stakeholders to mitigate safety risks and ensure a healthy and safe construction site for all.

Another thesis submitted to the same institute with a title "Assessment of risk & Safety Management on Building Construction Projects in Case of Jimma" submitted in November 2017 says Health and safety issues in the construction industry have always been a significant concern due to the nature of the work and the labor-intensive environment. Construction is often considered one of the most dangerous industries in terms of health and safety, especially in developing countries. However, there is limited knowledge about how health and safety risks are managed on construction sites in Ethiopia.

The study was conducted in Jimma town, Ethiopia, to assess the current practices of health and safety risk assessment on building construction sites. The study utilized questionnaires,

interviews, and site observations to collect data from construction industry players, including managers, workers, and engineers. Descriptive analysis using MS-Excel and SPSS software was employed to summarize and interpret the data obtained.

The study's findings highlight the most common hazards in building construction projects, including inadequate site access, labor disputes, equipment shortages, and lack of awareness. Additionally, falling from heights, foot and hand injuries, manual handling, bending and twisting, and falling objects were identified as the most critical hazards. The study recommends evaluating government procurement systems based on their impact on safety and health and ensuring that contractors demonstrate competence in safety and health management before being included in tender lists.

2.8 Conclusion

In conclusion, the literature reviewed demonstrates the urgent need to address the challenges of occupational safety and health practice in the Ethiopian construction sector. The high prevalence of work-related injuries and the presence of predisposing factors necessitate the development and implementation of effective preventive strategies to safeguard the well-being of construction workers in Ethiopia. This literature review provides a comprehensive understanding of the current state of occupational safety and health practice in the Ethiopian construction sector, drawing on relevant research to highlight the challenges, prevalence of injuries, associated factors, and the need for preventive measures.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is the cornerstone of any scientific inquiry, providing the structured framework that guides researchers through the process of collecting, analyzing, and interpreting data. It encompasses a range of methods and techniques, ensuring that the research is conducted systematically, reliably, and validly. By defining a clear path from the formulation of a research question to the presentation of findings, research methodology ensures the integrity and credibility of the study.

At its core, research methodology is about making informed choices about the types of data to collect and the methods to use in collecting them. This involves selecting appropriate qualitative or quantitative techniques, or a combination of both, depending on the nature of the research question. Qualitative methods, such as interviews, focus groups, and case studies, are valuable for exploring complex phenomena and gaining in-depth insights into participants' experiences and perspectives. Quantitative methods, such as surveys, experiments, and statistical analysis, are essential for measuring variables and testing hypotheses to establish generalizable findings.

3.2 Description of the Study Area

MIDROC Construction PLC is a prominent construction company in Ethiopia, renowned for its diverse portfolio of projects across various sectors. Established in the mid-1990s, it operates under the MIDROC Ethiopia Investment Group, a conglomerate led by Sheikh Mohammed Hussein Ali Al-Amoudi, an influential business magnate.

MIDROC Construction PLC has played a pivotal role in the development of Ethiopia's infrastructure, contributing significantly to the country's construction landscape. The company specializes in a wide array of construction activities including building roads, bridges, dams, industrial facilities, and residential complexes.

One of MIDROC Construction PLC's notable projects is the construction of the Sheraton Addis Hotel, a landmark in Ethiopia's hospitality industry. Additionally, the company has been involved in various hydroelectric power projects, reflecting its expertise in the energy sector.

The company's commitment to quality, adherence to timelines, and emphasis on sustainable practices has earned them a reputable position within Ethiopia's construction industry. They prioritize innovation and employ modern construction techniques to ensure efficiency and durability in their projects.

MIDROC Construction PLC's contributions extend beyond construction, as they also engage in community development initiatives, aiming to uplift local communities by providing employment opportunities and supporting social welfare programs.

Over the years, the company has demonstrated a strong commitment to excellence and has significantly contributed to the infrastructural development of Ethiopia, cementing its position as a leading construction entity in the country.

3.3 Research Design:

The research design is descriptive. Descriptive research is also known as statistical research; this describes phenomena as they exist. It is used to identify and obtain information on characteristic of a particular issue like community, group or people. (Md. Inaam Akhtar, Research in Social Science: Interdisciplinary Perspectives, October 2016,). In Descriptive Research Design, the scholar explains/describes the situation or case in depth in their research materials. This type of research design is purely on a theoretical basis where the individual collects data, analyses, prepares and then presents it in an understandable manner.

This research employs a mixed-methods approach integrating qualitative and quantitative methods to provide a comprehensive understanding of OSH practices within MIDROC Construction PLC.

3.4 Data Type and Source

To achieve the objective of the study both primary and secondary sources of data will be used. The primary data will be collected from the MIDROC construction plc's. Engineers, supervisors,

& other professionals (formans & daily laborers) by using questionnaires will be subjects of data collection.

3.5 Target Population of the Study

The following table summarizes the employees of MIDROC construction plc. which are the target population for the research.

No	Working Unit of the Employees	Population Size of Employees
1	Office engineers	10
2	Site engineers	25
3	formans	30
4	Daily laborers	95
5	Health & safety managers	9
6	Project Engineer	2
7	Project manager	1
Total		**172**

Figure 1 : *Target Population of the Study (Source: MIDROC Construction PLC, (2023-2024)*

3.6 Sample Design and Sampling Technique

3.6.1 Sample Size

In designing the sample of the research study the study taken considerations for the need to make inferences from the sample of the population in order to answer the research questions and also meet the research objectives. The subject of the study was conducted to assess practice of occupational health & safety practices in MIDROC Construction plc. Thus, MIDROC Construction plc Engineers, supervisors & daily laborers are included in the sample of this study by using both stratified sampling and purposive sampling techniques because they are the company's staffs and Engineers and directly involved in the daily operations of the company.

For the employees of MIDROC Construction plc a finite population sample formula of Yemaneh (1967) is used to selected representative sample for the study as follows:

$$\mathbf{n = \frac{N}{1 + N(e)^2}}$$

Where:

n = the required sample size: (?)

N = the target population (total number of employees)

e = value for selected alpha level of 0.05 = 1.96 (the alpha level of 0.05 indicates the level of risk the researcher is willing to take that true margin of error may exceed the acceptable margin of error.)

$$n = \frac{172}{1 + 172(0.05)^2} = \frac{172}{1.43} \approx 120$$

Therefore, n = 172 was taken as a sample size of the employees of MIDROC construction plc.

After identifying the sample size using the above equation i (the researcher) allocate the estimated sample size to each stratum by using stratified sampling techniques in the study to maximize the predictive power of the sample size. One method is proportional allocation. Thus, the proportional allocation is done using the Kothari (2004) formula as follows:

$$\mathbf{N_h = \frac{nN_1}{N}}$$

Where:

N_h = Proportional sample to the strata

n = Sample size determined using the formula provided byYemaneh, (1967)

N_1 = Total number of population in each strata

N = Target population

Name of Each Strata	Total No. of Population in each Strata	Proportional size
Others	160	$N_h = \frac{120 \times 160}{172} \approx 112$
Health & safety manager	9	$N_h = \frac{120 \times 9}{172} \approx 6$
Project Engineers	2	$N_h = \frac{120 \times 2}{172} \approx 1$
Project Managers	1	$N_h = \frac{120 \times 1}{172} \approx 1$
Total	**172**	**120**

Figure 2: *Sample Size Determination for each Stratum (Source: MIDROC Construction plc)*

3.6.2 Sampling Techniques:

The researcher used both stratified sampling and purposive sampling techniques to answer the research questions and to achieve the research objectives. A stratified random sampling technique is preferred because it is used to assist in minimizing bias when dealing with those populations who are heterogeneous in nature. With this technique, the sampling frame can be organized into relatively homogeneous groups (strata) before selecting elements for the sample. According to Janet (2006), stratified random sampling technique increases the probability that the final sample will be representative in terms of the stratified groups. Three strata's are created, these are: Stratum 1 = project managers, Stratum 2= project Engineers and Stratum 3 =others(Site Engineers, Forman, Daily laborers). The purposive sampling technique will be used to select appropriate sample from the population or people who are directly involved in the activities of MIDROC Construction PLC.

- **Purposive Sampling:** Select participants for interviews and focus groups based on their roles, expertise, and involvement in OSH practices within MIDROC.

- **Stratified Sampling:** Ensure representation from various job roles (e.g., laborers, supervisors, engineers) and construction projects to capture diverse perspectives.

3.7 Method of Data Collection:

Self-administered questionnaires are the main data collection instrument used in this study. Most of the questions in the questionnaire are developed from the review of related literature and composed of statements addressing each of the study variables. The questionnaires are distributed to selected respondents of MIDROC's Employees. The questionnaires contain both open and close-ended questions. Open-ended questions allow the respondents to provide detail information, feelings, attitude and understanding of the subject. On the other hand, a close-ended question makes ease for the respondents to respond.

3.8 Method of Data Analysis

To analyze occupational health & safety practice in Ethiopian construction sector, a case study in MIDROC construction plc, the questionnaires are checked for completeness and consistency of information at the end of every field data collection day and before storage. The analysis was made using Microsoft excel. The data will be tabulated by making logical interpretation, conclusion and recommendation.

- **Qualitative Analysis:** Utilize thematic analysis to identify recurring themes, patterns, and discrepancies in stakeholder perspectives gathered from interviews and focus groups.
- **Quantitative Analysis:** Employ statistical analysis methods to interpret survey results and incident data, providing numerical insights into OSH performance indicators.

3.9 Ethical Considerations:

Mugenda and Mugenda (2003) notes that participation in research is voluntary and subjects are at liberty to withdraw from the study at any time without any consequences. Informed consent should be based on the information regarding: the purpose of the research study, identification of the researcher, any benefits that may be received. The researcher through the trained assistants ensured that all respondents fully understood all the details pertaining to the study. No respondent will be forced to take part in the study but this will be done voluntarily.

According to Bhattacherjee (2012) plagiarism refers to passing off another person's work as if it were your own, by claiming credit for something that was done by someone else. Utmost care will be taken to ensure that all work borrowed from other scholars will be acknowledged.

- **Informed Consent:** Prior informed consent will be obtained from all participants involved in interviews, focus groups, surveys, and data sharing processes.
- **Confidentiality:** Ensure the anonymity and confidentiality of participant identities and sensitive data collected during the study.
- **Reliability:** refers to the consistency, stability, or repeatability of research results. It indicates the extent to which a measurement or experiment yields the same results when repeated under the same conditions. In other words, reliable research produces consistent results across different times, places, and researchers.
- **Validity**: insures the accuracy, truthfulness, or credibility of a research study. It assesses whether the study measures what it claims to measure or whether the findings accurately reflect the phenomenon being studied. In essence, validity concerns the extent to which a study provides meaningful and useful results.

CHAPTER FOUR

RESULT & DISCUSSION

4.1 Introduction

In this section, we discuss the results of a study focusing on occupational health and safety practices in the Ethiopian construction sector, particularly at MIDROC Construction plc. The study involved detailed data collection and analysis to uncover the existing OHS standards, challenges, and opportunities within the industry, aiming to provide insights for improving workplace safety and health standards in the construction sector in Ethiopia.

Through a combination of qualitative and quantitative methodologies, including interviews, surveys, and on-site observations, we gathered comprehensive data on various aspects of OHS practices within MIDROC Construction plc. Our analysis encompasses key metrics such as compliance with regulatory standards, incidence rates of accidents and injuries, risk management strategies, employee training programs, and the overall organizational culture regarding safety.

By presenting these findings, we aim to provide valuable insights into the current state of OHS practices within the Ethiopian construction sector, identify areas for improvement, and propose actionable recommendations for enhancing workplace safety and health standards. Ultimately, our endeavor is to contribute to the ongoing discourse on occupational health and safety, fostering a safer and more sustainable working environment for construction workers in Ethiopia.

Distributed Questionnaire				
	Total No of questionnaire Distributed	Properly filled and returned	Not properly filled	Not returned
Frequency	120	112	7	1
Percentage	100%	93.33%	5.83%	0.84%

Figure 3: *Distribution rate of questionnaire*

Table 4.1 indicates that a total of 120 questioners were distributed. From the total distributed 120 questioner 112(93.33%) of the questioners were properly filled and returned. when we see

Among the 120 questioner distributed 7 questionnaires (5.83%) were not properly filled and returned and 1questionaire (0.84%) was not returned.

4.2 Demographic Characteristic of Respondents

The analysis of demographic characteristics, including job title, gender, age, type of employment, and work experience, provides valuable insights into the practices related to occupational health and safety (OHS) in the Ethiopian construction sector. By examining these factors, the study aims to understand how to enhance safety practices within MIDROC Construction plc and the wider industry, emphasizing the importance of leadership commitment, employee engagement, and organizational culture in shaping safety outcomes. This analysis helps in developing comprehensive OHS policies and interventions tailored to address the diverse aspects of workplace safety in the construction sector.

Job title		
	Frequency	percentage
Project manager	1	0.83%
Project engineer	1	0.83%
Health & safety manager	6	5%
Other	112	93.33%
total	120	100%

Figure 4: *job title (Source: Questionnaire)*

The above table shows that out of the 120 questionnaires distributed, 112 (93.33%) were properly filled and returned, while 7 questionnaires (5.83%) were not properly filled and returned, and 1 questionnaire (0.84%) was not returned at all. This information provides insights into the response rate and completeness of the survey data collected for analyzing the demographic characteristics and occupational health and safety practices within the Ethiopian construction sector.

Distribution of Respondents by Sex		
	Frequency	Percentage
Male	88	78.57%
Female	24	21.43%
Total	112	100%

Figure 5: *Distribution of the respondents by sex (Source: Questionnaire)*

The above table shows the distribution of respondents by sex in a survey, where 88 out of 112 respondents (78.57%) were male, and the remaining 24 respondents (21.43%) were female. This data provides insights into the gender composition of the surveyed population and can be used to analyze any potential gender-related patterns or differences in the responses collected.

Distribution of Respondents by age		
	Frequency	Percentage
20-35	56	50%
36-45	48	42.85%
46-55	8	7.14%
Above 55	0	0
Total	112	100%

Figure 6: *distribution of respondents by Age (Source: Questionnaire)*

The above table describes the age distribution of construction workers in a study, showing that the majority of workers, 50%, are aged between 20-35 years, while 42.85% fall in the 36-45 age range. Only 7.14% of the respondents are above 46 years old. The study highlights how different age groups exhibit varying attitudes towards risk in the workplace, emphasizing the need for tailored safety interventions and initiatives like mentorship programs to promote a culture of safety across different generations.

4.3 Employment Condition

Types of employment		
	Frequency	Percentage
Part time	0	0
Full time	112	100%
Temporarily	0	0
Total	112	100%

Figure 7: *type of employment (source: Questionnaire)*

The table shows that all 112 respondents in the study are full-time employees with benefits, indicating the absence of part-time or temporary workers among the participants. This information is essential for evaluating occupational health and safety practices across different types of employment within the study population.

Experience on construction		
	Frequency	percentage
1-5 years	60	53.57%
6-10 years	48	42.86%
11-15 years	0	0
Above 15 years	4	3.57%
Total	112	100%

Figure 8: *Experience in construction (source: Questionnaire)*

The above table shows the distribution of respondents based on their years of work experience in the construction industry. It shows that 53.57% of respondents have worked 1 to 5 years, 42.86% have worked between 6 to 10 years, and only 3.57% have worked for more than 15 years. This data provides insights into the workforce composition and its potential impact on safety outcomes and practices within the industry.

4.4 Result on Current Landscape Of OSH Regulation & Framework In Ethiopia

This section aims to provide an overview of the existing OSH regulatory framework in Ethiopia, highlighting key components, challenges, and potential pathways for enhancement. Through this

questionnaire, we seek to delve deeper into the nuances of OSH regulation, gathering insights from professionals, experts, and stakeholders involved in promoting workplace safety and health in Ethiopia.

Awareness of existing occupational safety & health OSH regulation		
	Frequency	Percentage
Yes	80	71.43%
No	8	7.14%
Partially	24	21.44%
total	112	100%

***Figure 9**: Awareness of existing OSH regulation (source: Questionnaire)*

The table presents data on the awareness of existing occupational safety and health (OSH) regulations among respondents. It shows that 71.43% of the respondents are fully aware of the OSH regulations, while 7.14% have no awareness, and 21.44% are partially aware. This data provides insights into the level of understanding and compliance with OSH regulations among professionals in the construction industry in Ethiopia.

Level of compliance of OSH regulation and frameworks		
	Frequency	percentage
High	8	7.14%
Moderate	72	64.29%
Low	32	28.57%
Total	112	100%

***Figure 10**: Level of compliance OSH regulation and framework (source: Questionnaire)*

The above table presents survey results on the level of compliance with Occupational Safety and Health (OSH) regulations and frameworks in the construction sector in Ethiopia. Out of 112 respondents, 7.14% rated compliance as high, 64.29% as moderate, and 28.57% as low. These findings indicate varying perceptions of adherence to OSH regulations within the construction industry in Ethiopia, highlighting the importance of ensuring workplace safety and reducing hazards to protect workers' well-being.

Effectiveness of the current OSH regulation and frameworks		
	Frequency	percentage
Very effectiveness	24	21.43%
Somehow effective	64	57.14%
Not effective	24	21.43%
Total	112	100%

***Figure 11**: Effectiveness of the current OSH regulation and framework (source: Questionnaire)*

The above table presents data on the effectiveness of current Occupational Safety and Health (OSH) regulations and frameworks in the construction sector of Ethiopia. Out of 112 respondents, 24 (21.43%) believe the regulations are very effective, 64 (57.14%) consider them somehow effective, and 24 (21.43%) think they are not effective. This data highlights varying perceptions of the effectiveness of OSH regulations in ensuring worker safety and health in the Ethiopian construction industry.

Mechanisms for enforcing OSH regulations		
	Frequency	percentage
Government inspection	48	40%
Self-regulation by the construction companies	72	60%
Industry-specific regulatory bodies	0	0
others	0	0
Total	120	100%

***Figure 12**: Mechanisms for enforcing OSH regulation (source: Questionnaire)*

The above table discusses different mechanisms for enforcing Occupational Safety and Health (OSH) regulations in the Ethiopian construction sector, including government inspection and self-regulation by construction companies. The data shows that 40% of respondents view government inspections as a key enforcement method, while 60% believe that self-regulation by companies play a more significant role in ensuring compliance with OSH regulations. These mechanisms are crucial for maintaining a safe and healthy work environment for employees in the construction industry.

Importance of OSH regulation and frameworks		
	Frequency	percentage
Very important	104	92.86%
Somehow important	8	7.14%
Not important	0	0
Total	112	100%

***Figure 13**: Importance of OSH regulation & framework (source: Questionnaire)*

The above table highlights the perception of respondents in the construction sector of Ethiopia regarding the importance of Occupational Safety and Health (OSH) regulations and frameworks. A significant majority, 92.86% of respondents, view OSH regulations and frameworks as crucial for maintaining a safe and healthy work environment. However, a smaller percentage, 7.14% of respondents, consider these regulations somewhat important, indicating varying perspectives on the significance of OSH measures in ensuring workplace safety and health in the construction industry of Ethiopia.

4.5 Challenges & Discrepancies In OSH Implementation In Ethiopia

Challenges in implementing OSH practices effectively		
	Frequency	percentage
Lack of government enforcement	56	17.72%
Insufficient training and awareness program	84	26.58%
Inadequate resources	56	17.72%
Poor safety culture within the industry	80	25.32%
Non-compliance with the regulation by the construction company	40	12.66%
others	0	0
Total	316	100%

***Figure 14**: challenges in implementing OSH practices effectively (source: Questionnaire)*

Implementing OSH practices effectively in Ethiopia faces numerous challenges, including limited awareness and education, resource constraints, enforcement challenges, informal economy, and rapid urbanization. 17.72% of the respondents say lack of government

enforcement is the main challenge in implementing OSH practices effectively. 26.58% of the respondents think insufficient training and awareness program is the main challenge. Poor safety culture within the industry and non-compliance with the regulation by the construction company were considered as the main challenge in implementing OSH effectively by 25.32% and 12.66% of the respondents respectively.

barriers or obstacles that prevent companies from implementing OSH practices in Ethiopia		
	Frequency	percentage
Lack of management commitment	72	23.68%
Resistance from workers	40	13.16%
Limited resources/budget	80	26.32%
Lack of expertise	88	28.95%
Time constraint	24	7.89%
others	0	0
Total	*304*	*100%*

***Figure 15**: barriers or obstacles that prevent companies from implementing OSH practices in Ethiopia (source: Questionnaire)*

Regarding factors contributing to the challenges in implementing OSH practices effectively within the construction sector of Ethiopia 23.68% of the respondents says lack of management commitment as the main barrier or obstacle that prevents companies from implementing OSH. Whereas 13.16% of the respondents say resistance from workers is the main barrier. Limitedness of resources, lack of expertise and time constraint were considered the barriers or obstacles that prevent companies from implementing OSH effectively in Ethiopia by 26.32%, 28.96% & 7.89% of the respondents respectively.

priority of OSH regulation and frameworks		
	Frequency	percentage
Very high priority	0	0
High priority	16	14.28%
Moderate priority	56	50%
Low priority	40	35.71%
Total	112	100%

***Figure 16**: Priority of OSH regulation and frameworks (source: Questionnaire)*

The above table shows the varying levels of priority given to occupational safety and health (OSH) within the organizational goals of construction companies in Ethiopia. It reveals that 14.28% of respondents consider OSH a high priority, 50% view it as a moderate priority, and 35.71% perceive it as a low priority. This data underscores the importance of addressing OSH practices to ensure worker safety and well-being in the construction industry in Ethiopia.

4.6 Assessment of OSH Practices In MIDROC Construction

4.6.1 Organizational Safety & Health Policy

Does MIDROC construction plc have a health & safety policy		
	frequency	percentage
Yes	104	92.86%
No	8	7.14%

***Figure 17**: availability of health & safety policy (source: Questionnaire)*

In the context of MIDROC construction plc. out of 112 respondents, 92.86% indicated that there is a health and safety policy in place, while 7.14% believed otherwise. This data suggests that the majority of respondents perceive the existence of a health and safety policy within the organization, highlighting a positive trend towards safety awareness and implementation in the workplace.

Condition of current health and safety (OSH) practice in MIDROC plc		
	Frequency	percentage
excellent	8	7.14%
good	64	57.14%
fair	24	21.43%
poor	16	14.29%
Total	112	100%

***Figure 18**: Condition of current health and safety (OSH) practice in MIDROC plc (source: Questionnaire)*

The above table describes the distribution of opinions regarding the current health and safety practices within the organization MIDROC plc. Among the respondents, 7.14% consider the practices excellent, 57.14% view them as good, 21.43% perceive them as fair, and 14.29% rate them as poor. This data provides insights into the varying assessments of the effectiveness of occupational safety and health practices within the company.

Main challenges hindering effective OSH practices within MIDROC construction plc		
	Frequency	percentage
Lack of management commitment	48	18.75%
Insufficient training and awareness program	40	15.63%
Inadequate resources	72	28.13%
Poor safety culture	48	18.75%
Noncompliance with regulations	48	18.75%
others	0	0
Total	256	100%

***Figure 19**: Main challenges hindering effective OSH practices within MIDROC construction plc (Source: Questionnaire)*

The table highlights the main challenges affecting Occupational Safety and Health (OSH) practices within MIDROC construction plc, as identified by survey respondents. These challenges include lack of management commitment, insufficient training and awareness programs, inadequate resources, poor safety culture, and non-compliance with regulations, with

varying percentages of respondents attributing each challenge as a significant issue. Regarding the main challenges hindering effective OSH practices within MIDROC construction plc, 18.75% of the respondents think lack of management commitment is the main cause. 15.63% of the respondents think insufficient training and awareness program is also a main challenge. Inadequate resources, poor safety culture and non-compliance with regulation took 28.13%, 18.75% and 18.75% respectively. This data underscores the importance of addressing these specific areas to enhance OSH practices within the organization.

Opportunities for enhancing OSH practice within MIDROC construction plc		
	Frequency	percentage
Increased management commitment	48	13.95%
Implementation of comprehensive training program	80	23.26%
Allocation of additional resources	80	23.26
Development of strong safety culture	88	25.58%
Adoption of new technology for safety management	48	13.95%
others	0	0
Total	344	100%

***Figure 20**: Opportunities for enhancing OSH practices within MIDROC construction plc (Source: Questionnaire)*

Regarding mechanisms for enhancing OSH practices within MIDROC construction plc most of the respondents 88 to be exact (25.58%) considers development of strong safety culture as a main method. 80 of the respondents (23.26%) thinks allocation of additional resources will solve the problem. Another 80 respondents (23.26%) thinks implementation of comprehensive training program will help enhance OSH practice.13.95% of the respondents think increase management commitment and adoption of new technology for safety management will facilitate enhancement of OSH practice within MIDROC plc.

4.6.2 Education & Training

Availability of support in training of employees in health safety issues		
	frequency	percentage
Yes	72	64.29%
No	40	35.71%

***Figure 21**: availability of training of employees in health and safety (Source: Questionnaire)*

The above table tabulates the responses of survey participants regarding the provision of health and safety training by managers. Specifically, 72 respondents (64.29%) acknowledged receiving encouragement and support through such training, while 40 respondents (35.71%) indicated otherwise. This data underscores the importance of managerial involvement in promoting occupational safety and health practices within the organization, with a significant portion of respondents recognizing the value of supportive training initiatives.

Reasons for not providing supportive training for employees in health and safety		
	Frequency	percentage
Lack of awareness by all parties in the industry	24	42.86%
Budget not considered in the contract	0	0
Upper level management and commitment problem	32	57.14%
others	0	0
Total	56	100%

***Figure 22**: Reasons for not providing supportive training for employees in health and safety (Source: Questionnaire)*

With regards to the main obstacle to managers facilitating necessary training for employees, identified as an upper-level management commitment problem, as indicated by 57.14% of respondents. Additionally, 42.85% of respondents attribute the lack of awareness among all industry parties as a significant reason for the challenge in providing training. These findings underscore the importance of addressing management commitment and industry-wide awareness to enhance training programs effectively within the organization.

Significance of training and education program		
	Frequency	percentage
Very significant	61	54.46%
significant	46	41.07%
Somehow significant	4	4.47%
Not significant	0	0

***Figure 23**: significance of training and education (Source: Questionnaire)*

Regarding the significance of training and education programs in ensuring the effectiveness of OSH practices with in MIDROC construction plc 54.46% of the employees think that it has a very significant effect whereas 41.07% takes on a positive stand. The remaining 4.47% thinks it is somehow significant.

Availability of active monitoring in health & safety issues by management		
	frequency	percentage
Yes	72	64.29%
No	40	35.71%

***Figure 24**: availability of active monitoring in health and safety issues by management (Source: Questionnaire)*

The above table indicates that 72 respondents (64.29%) believe that active monitoring by management in health and safety issues exists, while 40 respondents (35.71%) are unaware of such involvement. This highlights a perception gap among respondents regarding the presence of management's active monitoring in ensuring occupational safety and health practices within the construction company. The data suggests a need for improved communication and transparency regarding management's role in monitoring health and safety issues to enhance overall safety practices.

Reasons for managers not actively monitor the health and safety of their project		
	Frequency	percentage
Lack of awareness by all parties in the industry	16	33.36%
Budget not considered in the contract	0	0
Upper level management and commitment problem	32	66.64%
others	0	0
Total	48	100%

***Figure 25**: Reasons for not actively monitoring the health and safety of their projects (Source: Questionnaire)*

In the context of health and safety monitoring in projects, 66.64% of respondents attribute the lack of active monitoring by managers to issues with upper-level management and commitment. On the other hand, 33.36% of respondents believe that the problem stems from a general lack of awareness among all stakeholders in the industry. This highlights the importance of addressing organizational leadership and awareness gaps to enhance health and safety practices in project management.

Involvement of employees in the development of OSH practices in MIDROC plc		
	Frequency	percentage
Actively involved	24	21.43%
Somehow involved	80	71.43%
Not involved	8	7.15%
Total	112	100%

***Figure 26**: Involvement of employees in the development of OSH practices in MIDROC plc (Source: Questionnaire)*

The above table describes the level of employee involvement in Occupational Safety and Health (OSH) practices within MIDROC construction plc. Out of the respondents, 21.43% consider themselves actively involved, 71.43% feel somewhat involved, and 7.15% do not participate at all in the development and implementation of OSH practices. This data highlights varying degrees of engagement among employees in shaping and executing safety measures within the organization.

adequacy of health & safety budget by management		
	frequency	percentage
Yes	56	50%
No	56	50%

***Figure 27**: adequacy of health & safety budget by management (Source: Questionnaire)*

In the context of adequacy of health & safety budget by management, the table highlights a split opinion among respondents regarding the adequacy of health and safety budget allocation by management. Specifically, 50% of the respondents believe that management lacks in providing adequate budget for health and safety measures, while the other 50% hold a positive view on the matter. This indicates a significant divide in perception among the surveyed individuals regarding the prioritization and allocation of resources towards health and safety initiatives within the organization.

Reason behind managers inability to allocate enough budget for safety & health		
	Frequency	percentage
Lack of awareness by all parties in the industry	16	18.18%
Budget constraint	48	54.55%
There is no enforcement of law	24	27.27%
other	0	0
Total	88	100%

***Figure 28**: Reason behind manager's inability to allocate enough budgets for safety & health (Source: Questionnaire)*

In the context of the survey conducted on MIDROC's manager's budget allocation for health and safety, the majority of respondents (54.55%) attribute the inadequate budget to budget constraints. The second most cited reason, at 27.27%, is the lack of enforcement of laws pertaining to health and safety issues, while 18.18% of respondents identified lack of awareness among industry parties as a contributing factor. This data highlights the multifaceted challenges faced by managers in prioritizing health and safety measures within the industry.

4.6.3 Provision & Use of Personal Protection Equipment

Provision of personal protective equipment		
	frequency	percentage
Yes	96	85.71%
No	16	14.29%

***Figure 29**: provision of personal protective equipment (Source: Questionnaire)*

In the context provided, the table above explains the responses from a questionnaire regarding the provision of personal protective equipment (PPE) by a company. Out of the respondents, 85.71% believe that sufficient PPE is provided, while 14.29% feel that there is an inadequate provision of PPE. This data sheds light on the perceptions of employees regarding the availability of safety gear in the workplace and highlights potential areas for improvement in occupational health and safety practices within the company.

Reason behind managers inability to provide personal protective equipment		
	Frequency	percentage
Lack of awareness by all parties in the industry	8	20%
Budget constraint	16	40%
There is no enforcement of law	16	40%
other	0	0
Total	40	100%

***Figure 30**: Reason behind manager's inability to allocate enough budgets for PPE (Source: Questionnaire)*

In the context of the survey data presented, the main reasons cited for managers' inability to provide sufficient personal protective equipment (PPE) include a lack of awareness among industry stakeholders (20%), insufficient enforcement of laws (40%), and budget constraints (20%). These findings highlight key factors influencing decision-making processes related to occupational safety and health practices within organizations, emphasizing the need for increased awareness, regulatory compliance, and resource allocation to address PPE provision challenges effectively.

4.6.4 Availability of Facility

Reason behind managers inability to facilitate enough first aid facility		
	Frequency	percentage
Lack of awareness by all parties in the industry	8	50%
Budget constraint	8	50%
There is no enforcement of law	0	0
other	0	0
Total	16	100%

***Figure 31**: Reason behind manager's inability to facilitate enough first aid facility (Source: Questionnaire)*

In the context of the availability of facilities, the above table provided indicates that half of the respondents attribute the lack of adequate first aid facilities to a general lack of awareness within the industry, while the other half identifies insufficient budget allocation as the primary reason. This suggests a split perception among respondents regarding the root cause of the issue, highlighting the importance of addressing both awareness and budget constraints to improve the provision of first aid facilities in managerial settings.

Reason behind managers inability to provide the right tools, equipment & plant		
	Frequency	percentage
Lack of awareness by all parties in the industry	0	0
Budget constraint	8	50%
There is no enforcement of law	8	50%
other	0	0
Total	16	100%

***Figure 32**: Reason behind manager's inability to provide the right tools, equipment & plant (Source: Questionnaire)*

The above table highlights survey findings regarding the reasons for managers' inability to provide tools and equipment, with 50% attributing it to lack of industry-wide awareness and the remaining 50% citing budget constraints. Similarly, the lack of worker induction on health and safety before starting work is primarily linked to budget constraints, as indicated by 100% of respondents. These insights underscore the importance of addressing financial limitations and enhancing awareness across industry stakeholders to improve occupational safety and health practices.

Reason behind lack of undergoing induction of workers about health & safety before commencing work on site		
	Frequency	percentage
Lack of awareness by all parties in the industry	0	0
Budget constraint	8	100%
There is no enforcement of law	0	0
other	0	0
Total	8	100%

***Figure 33**: Reason behind lack of induction of workers about health & safety before commencing work on site (source: questionnaire)*

The table above indicates that the primary reason for the lack of induction of workers regarding health and safety before starting work on site is budget constraints. This suggests that the organization may not allocate sufficient resources to provide proper training and orientation for workers, potentially compromising workplace safety practices. In this context, addressing budgetary limitations is crucial to ensure the implementation of effective occupational health and safety measures within the organization.

Mechanisms through which effective OSH practices be evaluated and monitored in MIDROC plc		
	Frequency	percentage
Regular audits and inspection	48	27.27%
Incident reporting and analysis	56	31.82%
Employee feedback mechanism	32	18.18%
Key performance indicator(KPIs)	40	22.73%
others	0	0
Total	176	100%

***Figure 34**: mechanisms through which effective OSH practices are evaluated and monitored (Source: Questionnaire)*

The table above describes the evaluation and monitoring mechanisms for effective Occupational Safety and Health (OSH) practices within MIDROC construction plc, based on survey responses. It indicates that 27.27% of respondents view regular audits and inspections as a key mechanism, while 31.82% consider incident analysis and reporting important. Additionally, Key Performance Indicators (KPIs) and employee feedback mechanisms are valued by 22.73% and 18.18% of the respondents, respectively, for assessing OSH practices.

Reasons why accidents are not filed and reported		
	Frequency	percentage
Rarely done by the consultant	8	25%
Lack of awareness by all parties in the industries	0	0
Upper level management involvement problem	24	75%
There is no regulatory body enforce to report	0	0
others	0	0
total	32	100%

***Figure 35**: reasons why accidents are not filed and reported (Source: Questionnaire)*

In the context of evaluating Occupational Safety and Health (OSH) practices within a construction company, 75% of respondents attribute the lack of reporting injuries and fatalities to upper-level management involvement issues, while 25% point to consultants rarely fulfilling this responsibility. This highlights the significance of management commitment and consultant accountability in ensuring proper reporting of accidents for workplace safety improvement.

4.7. Nature of Construction Site Health And Safety Accidents

Item No	Description	Frequency of injury and fatalities				
		Very high	high	medium	low	exceptional
1	Falling from height(serious injury of fatality)	24	24	48	0	8
percentage		23.08 %	23.08 %	46.15 %	0	7.69%
2	Falling (objects falling from a height)	16	16	32	32	0
percentage		16.67 %	16.67 %	33.33 %	33.33 %	0
3	Manual handling(carrying cement bags or bricks/blocks) neck, back or arm injury	16	24	40	32	0
percentage		14.29 %	21.43 %	35.71 %	28.57 %	0
4	Falling from stairways and ladders	0	24	40	32	0
percentage		0	25%	41.67 %	33.33 %	0
5	Scaffolding(falling from scaffolding during construction	0	48	24	40	0
percentage		0	42.86 %	21.43 %	35.71 %	0

6	Excavations (slides, collapse, inadequate or no shoring protection)	8	8	40	56	0
percentage		7.14%	7.14 %	35.71 %	50%	0
7	electricity(electric power accidents)	8	16	16	56	8
percentage		7.69%	15.38 %	15.38 %	53.85 %	7.69%
8	Construction hoists & elevators and cranes	0	8	40	56	8
percentage		0	7.14 %	35.71 %	50%	7.14%
9	Hazardous substances	0	8	32	48	8
percentage		0	8.33 %	33.33 %	50%	8.33%
10	noise	0	32	40	16	8
percentage		0	33.33 %	41.67 %	16.67 %	8.33%
11	Tools and machinery (drilling, grinding, bending machines ...etc	0	32	56	16	8
percentage		0	28.57 %	50%	14.28 %	7.14%
12	Fire (from electric fuel, chemical etc...	0	0	32	64	8
percentage		0	0	30.77 %	61.54 %	7.69%

***Figure 36**: common hazards & risks faced by workers (Source: Questionnaire)*

The table above describes the nature of health and safety accidents at construction sites, detailing common hazards and risks faced by workers such as falling from height, manual handling injuries, and exposure to hazardous substances. The data presented shows the frequency of

injuries and fatalities for each type of accident, along with the corresponding percentages, providing insights into the most prevalent risks in the construction industry based on the questionnaire data collected.

4.8 Discussion

Occupational Safety and Health (OSH) regulations are established to protect workers from workplace dangers, prevent accidents, and foster a safety-conscious environment. In the construction industry, where employees face multiple risks, adherence to OSH regulations is crucial to minimize potential hazards and maintain a safe work setting. The effectiveness of these regulations heavily relies on employees' awareness of their rights, duties, and the specified safety procedures to ensure a secure working environment.

Despite the critical importance of OSH awareness, various studies indicate that the level of awareness among construction workers is often inadequate. According to research by Mendis and Weerasinghe (2014), many construction workers have limited understanding of the comprehensive safety protocols and regulations designed to protect them. This gap in awareness is particularly prevalent in developing countries, where educational resources and training programs may be less accessible.

In Ethiopia, for example, a study conducted by Tadesse and Israel (2016) revealed that while some workers are aware of basic safety measures, such as wearing helmets and using harnesses, their understanding of more complex safety regulations and the reasons behind these practices is lacking. This partial awareness often results in improper use of safety equipment and non-compliance with safety guidelines, leading to higher rates of accidents and occupational illnesses.

At MIDROC Construction PLC, awareness of Occupational Safety and Health (OSH) regulations varies among employees based on factors like job role, experience, and training efforts. Those directly engaged in on-site operations, such as construction workers and supervisors, typically exhibit a higher level of awareness due to the inherent risks associated with their roles. This underscores the importance of tailored training programs to ensure all

employees, regardless of their position, are well-informed about safety protocols and contribute to a culture of safety within the organization.

The potential lack of awareness regarding occupational safety and health (OSH) regulations among administrative staff and support functions who may not face on-site hazards directly. This emphasizes the critical need for comprehensive OSH training programs that encompass all employees across various departments within the organization to ensure a holistic approach to workplace safety and compliance with regulations. By targeting training initiatives towards all staff members, regardless of their roles, organizations can enhance overall safety awareness and promote a culture of safety throughout the workplace.

Safety perceptions and risk awareness differ across generations due to varying experiences, values, and familiarity with technology. According to research conducted by Gursoy, Baby Boomers, typically born between 1946 and 1964, often rely on their extensive industry experience and practical knowledge. They may view safety through the lens of hands-on expertise and tried-and-true methods. However, this reliance on experience might sometimes result in resistance to new safety protocols and technologies, which they could perceive as overly complicated or unnecessary (Gursoy, Maier, & Chi, 2008).

According to Toole, Millennials (born 1981-1996) and Generation Z (born after 1996) are more technologically savvy and have been exposed to formal education emphasizing regulatory compliance and proactive risk management. They are generally more comfortable with digital tools, such as safety apps and online training programs, and are likely to advocate for their integration into daily safety practices (Toole, 2002). Their approach to safety is often more structured and systematic, focusing on adherence to rules and leveraging technology for enhanced safety outcomes.

There are varying levels of involvement in Occupational Health and Safety (OHS) practices among different job titles within MIDROC Construction PLC. Senior management positions are highlighted for their higher responsibility and oversight in ensuring safety protocols, while frontline workers face direct hazards with insufficient support. The analysis emphasizes the need for targeted training programs, clear communication channels, and organizational commitment to prioritize safety as a core value to address job-related safety challenges effectively.

There is also a gender disparity in Occupational Health and Safety (OHS) training, awareness, and resource access within the construction industry, with male workers outnumbering female workers due to historical gender norms. It emphasizes the importance of implementing gender-inclusive OHS policies and practices to address the specific needs and experiences of all workers, advocating for strategies like targeted recruitment, gender-sensitive training, and initiatives to combat workplace discrimination and harassment to foster a more equitable and inclusive work environment. These efforts aim to ensure that all employees feel valued, protected, and empowered in the workplace, promoting a culture of safety and well-being for everyone.

The survey also highlights the significant generational differences in safety perceptions and risk awareness among construction workers, with younger workers showing a higher inclination towards risk-taking behavior compared to older workers who display more caution and adherence to safety protocols. This underscores the importance of customizing Occupational Health and Safety (OHS) interventions to cater to the unique requirements and preferences of various age groups. Implementing mentorship programs and knowledge-sharing initiatives can foster cross-generational learning, fostering a safety culture that bridges generational gaps within the workplace.

Enforcing occupational safety and health (OSH) regulations in the Ethiopian construction sector involves a multifaceted approach, combining government inspections, training, self-regulation by companies, and collaborative efforts led by industry associations. By integrating these mechanisms effectively, stakeholders can improve OSH compliance, reduce workplace risks, and establish safer working conditions for construction workers. A collective dedication to OSH enforcement is crucial for fostering sustainable development, safeguarding worker well-being, and securing the future prosperity of the construction industry in Ethiopia.

To overcome the challenges in implementing effective Occupational Safety and Health (OSH) practices within MIDROC Construction PLC, a comprehensive strategy is needed. This strategy should address cultural attitudes, resource limitations, enforcement issues, and communication obstacles. By fostering a safety-oriented culture, strategically managing resources, enhancing enforcement mechanisms, and improving communication and collaboration, MIDROC

Construction PLC can establish a safer workplace for employees, leading to increased operational efficiency and long-term sustainability.

The survey also highlights the challenges faced by MIDROC Construction PLC in providing adequate health and safety training to its employees, citing factors such as resource constraints, operational priorities, lack of awareness, cultural attitudes, and limited regulatory requirements. To address these barriers effectively, management must prioritize health and safety training, allocate resources appropriately, cultivate a safety-oriented culture, and adhere to regulatory standards. By investing in comprehensive training programs, MIDROC Construction PLC can enhance workplace safety, reduce risks, and enhance the overall well-being of its workforce.

Training and education are foundational to fostering a safe working environment in construction. These programs ensure that workers are aware of potential hazards and know how to mitigate them. By understanding safety protocols and the correct use of protective equipment, workers can significantly reduce the likelihood of accidents. According to Gibb, Haslam, and Hide (2006), well-trained workers are more likely to adhere to safety regulations and less likely to engage in risky behaviors that could lead to injuries.

The study emphasizes the critical role of training and education programs in implementing effective Occupational Safety and Health (OSH) practices within MIDROC PLC. These programs are essential for enhancing awareness, fostering a safety culture, empowering employees, ensuring compliance with regulations, and reducing incidents, ultimately creating a safe and healthy work environment. By investing in comprehensive training initiatives, MIDROC PLC can sustainably prioritize the health and safety of its workforce, leading to improved outcomes in the construction industry.

The survey highlights various factors contributing to ineffective monitoring of health and safety practices at MIDROC PLC, such as resource limitations, operational focus, lack of awareness, organizational culture, and regulatory oversight constraints. Overcoming these challenges necessitates a strategic focus on prioritizing health and safety, allocating adequate resources for monitoring, cultivating a safety-oriented culture, and ensuring compliance with regulatory standards. By addressing these fundamental issues, MIDROC PLC can improve its monitoring practices and safeguard the well-being of its workforce across all projects.

MIDROC PLC's commitment to engaging employees in Occupational Safety and Health (OSH) practices is evident through its participatory approach, training programs, safety committees, feedback mechanisms, and recognition initiatives. By empowering employees to actively contribute to shaping the safety culture and enhancing workplace safety, the company fosters a culture of ownership and accountability, ultimately creating a safe and healthy work environment for all employees. This employee-centric approach not only improves safety practices but also strengthens the overall safety culture within MIDROC PLC, leading to enhanced well-being and sustainable success in the construction industry.

The study highlights that managers' challenges in allocating adequate budget for safety and health stem from factors like short-term financial pressures, misconceptions about costs and benefits, lack of awareness, competing priorities, and inadequate risk perception. Overcoming these obstacles necessitates prioritizing safety, increasing awareness of safety benefits, and integrating safety into strategic decision-making. Investing in safety and health not only fosters safer workplaces but also enhances overall organizational well-being and success.

MIDROC Construction PLC utilizes a range of methods such as safety inspections, incident reporting, safety audits, employee feedback, and Key Performance Indicators (KPIs) to assess and oversee effective Occupational Safety and Health (OSH) practices. These processes reflect the company's dedication to ensuring a secure and healthy workplace, safeguarding employee well-being, and fostering sustainable business prosperity through proactive safety management strategies. By integrating robust evaluation and monitoring mechanisms, MIDROC Construction PLC underscores its commitment to OSH excellence and overall organizational success

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Summary

The research titled "Occupational Health and Safety Practices in Ethiopian Construction: A Case Study in MIDROC Construction PLC" aims to investigate the current health and safety protocols within the MIDROC Construction PLC, a prominent construction company in Ethiopia. This study focuses on identifying the effectiveness of existing occupational health and safety (OHS) practices, the challenges faced in their implementation, and the impact on workers' well-being and productivity. Using a combination of qualitative and quantitative methods, including surveys, interviews, and on-site observations, the research seeks to provide a comprehensive assessment of the OHS environment at MIDROC. The findings are expected to highlight best practices, uncover gaps, and offer recommendations for enhancing safety standards. Ultimately, the study aims to contribute to the improvement of health and safety practices in the broader Ethiopian construction industry, promoting a safer working environment for all construction workers.

5.2 Conclusion

The thesis focuses on examining the occupational health and safety practices in the Ethiopian construction sector, using MIDROC Construction PLC as a case study. It highlights the importance of prioritizing occupational health and safety due to the significant risks involved in construction work, emphasizing the need for improved regulations, enforcement, training, and awareness programs to enhance safety measures in the industry.

The analysis of the legal and institutional framework for Occupational Safety and Health (OSH) regulations in the Ethiopian construction industry shows significant progress and commitment compared to previous years. Ethiopia has demonstrated a concrete commitment to implementing OSH rules in various industries, including construction, as evidenced by the detailed evaluation of OSH regulations in the constitution and related laws, establishment of implementing

institutions at federal and regional levels, and the incorporation of relevant International Labour Organization (ILO) Conventions into domestic law.

The Federal Democratic Republic of Ethiopia (FDRE) constitution acknowledges the implementation of Occupational Safety and Health (OSH) rules as a fundamental democratic right for all workers, including those in the construction industry. To ensure the enforcement of this constitutional right, various subordinate laws have been put in place. Consequently, in Ethiopia, OSH regulations are dispersed across different legal frameworks to safeguard the well-being of workers, especially in the construction sector.

The legal and institutional framework established to implement occupational safety and health (OSH) rules in the Ethiopian construction industry is not comprehensive, leading to gaps in protecting the safety and health rights of construction workers. Recommendations include adopting a broader definition of the construction industry, developing specific OSH policies and laws, establishing dedicated inspection units, involving all stakeholders in OSH implementation, revisiting the responsibilities of construction professionals, and making insurance policies mandatory to improve OSH rule implementation in the construction sector.

The study discusses a detailed investigation into the occupational health and safety practices in the Ethiopian construction sector, focusing on MIDROC Construction PLC as a case study. The study reveals the various complexities, challenges, and opportunities related to occupational health and safety within this important industry in Ethiopia. It emphasizes the need for improved regulatory oversight, increased investment in training programs, and the establishment of a safety culture to enhance occupational health and safety practices in the construction sector.

The study highlights the various challenges faced by OHS practices in the Ethiopian construction sector, such as insufficient regulatory frameworks, limited enforcement resources, lack of worker awareness and training and hazardous working conditions. Despite these obstacles, companies like MIDROC Construction PLC are actively working to prioritize occupational health and safety through the implementation of policies, procedures, and training initiatives. This underscores the importance of ongoing efforts to address these challenges and improve safety standards within the industry.

The study highlights the complex occupational health and safety (OHS) challenges encountered by construction companies in Ethiopia, such as insufficient enforcement of regulations and a lack of worker awareness and training. Despite these obstacles, there are positive developments, including the adoption of OHS policies and international standards by companies like MIDROC Construction PLC, indicating progress towards improving workplace safety practices in the Ethiopian construction sector.

The study emphasizes the need for collaborative efforts involving government agencies, industry stakeholders, and civil society to ensure effective implementation and enforcement of occupational health and safety (OHS) practices in the Ethiopian construction sector. This collaboration is crucial to promote a culture of safety and reduce risks for construction workers by addressing challenges such as inadequate regulations, limited resources, and hazardous working conditions. The call for a collective approach underscores the importance of shared responsibility in enhancing OHS standards and protecting the well-being of workers in the construction industry.

The findings of the thesis emphasize the critical importance of enhancing regulatory oversight and enforcement in the Ethiopian construction sector to ensure adherence to occupational health and safety (OHS) standards. Furthermore, there is a pressing need for increased investment in OHS training and awareness initiatives, especially focusing on frontline workers who face higher risks of workplace accidents and injuries. These actions are essential for promoting a safer work environment and reducing occupational hazards in the construction industry in Ethiopia.

It further emphasizes the significance of creating a safety-focused culture within construction companies like MIDROC Construction PLC, where Occupational Health and Safety (OHS) is a top priority at every organizational level. This involves not only following regulations but also encouraging proactive risk management and involving employees in safety initiatives to ensure a safe working environment. By prioritizing OHS practices and engaging employees in safety measures, companies can enhance workplace safety and prevent accidents effectively.

The case study of MIDROC Construction PLC illustrates how a prominent Ethiopian construction company implements Occupational Health and Safety (OHS) principles. The company shows its commitment to OHS through dedicated safety departments, employee

training sessions, and investment in Personal Protective Equipment (PPE). Additionally, MIDROC Construction PLC demonstrates a proactive approach by benchmarking against international standards and collaborating with external stakeholders to enhance its OHS practices.

The thesis emphasizes the importance of ongoing cooperation among government agencies, industry stakeholders, and civil society organizations to advance Occupational Health and Safety (OHS) practices in the Ethiopian construction sector. This collaboration involves establishing industry-wide standards, exchanging best practices, and providing technical assistance to smaller firms with limited resources. By working together, these entities can enhance safety measures, promote a culture of safety, and support the well-being of workers in the construction industry.

The thesis also emphasizes the importance of future research in Occupational Health and Safety (OHS) within the Ethiopian construction sector. It suggests evaluating the lasting effects of safety interventions, exploring new technologies for identifying and reducing hazards, and examining how organizational culture influences workplace safety. By focusing on these areas, the construction industry in Ethiopia can enhance sustainability, productivity, and most importantly, safeguard the well-being of its workforce.

5.3 Recommendation

Based on the findings and insights gleaned from the thesis titled "Occupational Health and Safety Practice in Ethiopian Construction Sector: A Case Study of MIDROC Construction PLC," the following recommendations are proposed to improve OHS practices within the Ethiopian construction sector, drawing upon the experiences and lessons learned from MIDROC Construction PLC:

1 **Enhanced Regulatory Oversight:** There is an urgent need for the Ethiopian government to strengthen regulatory frameworks governing occupational health and safety in the construction sector. The need for the development and strict implementation of comprehensive occupational safety and health (OSH) policies and laws specifically tailored for the Ethiopian construction industry. This recommendation aims to address the gaps in the existing legal and institutional framework to ensure the protection of safety and health rights of construction workers in Ethiopia. By establishing specific OSH

regulations for the construction sector and enforcing them rigorously, the aim is to enhance workplace safety and mitigate risks in construction activities. This includes the development and enforcement of comprehensive OHS regulations, periodic inspections of construction sites to ensure compliance, and the imposition of stringent penalties for non-compliance. Additionally, efforts should be made to streamline regulatory processes and enhance coordination between relevant government agencies to facilitate more effective oversight.

2 **Specialized unit:** There is a need for a specialized unit to oversee the enforcement of Occupational Safety and Health (OSH) regulations in the construction industry due to its hazardous nature. This unit should be established within either the Ministry of Urban Development and Construction or the Ministry of Labor and Social Affairs to ensure proper implementation and enforcement of safety measures for construction workers. By having a dedicated unit focusing on OSH in construction, it aims to address the gaps in law and implementation issues to better protect the safety and health rights of construction workers in Ethiopia

3 **Investment in Training and Awareness:** Building upon the example set by MIDROC Construction PLC, there should be increased investment in OHS training and awareness programs targeting all stakeholders within the construction industry. This includes providing comprehensive training for construction workers on hazard recognition, safe work practices, and the proper use of personal protective equipment (PPE). Furthermore, awareness campaigns should be conducted to educate workers, employers, and the wider community about the importance of OHS and the potential consequences of workplace accidents and injuries.

4 **Promotion of Safety Culture:** Companies operating in the Ethiopian construction sector, including MIDROC Construction PLC, should prioritize the development of a safety-centric organizational culture. This involves fostering a mindset where safety is viewed as a core value and is integrated into every aspect of the company's operations. Management should lead by example by actively promoting and participating in safety initiatives, while employees should be encouraged to report hazards and near misses without fear of reprisal. Furthermore, incentives and recognition programs can be implemented to reward employees who demonstrate exemplary commitment to safety.

5 **Sharing Responsibility:** all stakeholders in the construction industry should be responsible for implementing Occupational Safety and Health (OSH) rules. It suggests that OSH considerations should be integrated into all stages of construction, including planning, designing, and construction itself. However, in Ethiopia, there is a noted lack of attention to OSH rules during the planning and designing phases, highlighting the need for better implementation and enforcement of safety measures throughout the construction process.

6 **Collaboration and Knowledge Sharing:** There is a need for increased collaboration and knowledge sharing among construction companies, government agencies, industry associations, and other stakeholders to drive forward the OHS agenda in Ethiopia. Platforms should be established for sharing best practices, lessons learned, and innovative approaches to OHS management. Additionally, collaborative initiatives can be undertaken to address sector-wide challenges, such as the development of industry-specific OHS guidelines and the establishment of industry-wide safety standards.

By implementing these recommendations, the Ethiopian construction sector can make significant strides towards improving occupational health and safety practices, ultimately creating safer and healthier work environments for all stakeholders involved.

5.3 Recommendation for future researchers

For further research on "Occupational Health and Safety Practices in Ethiopian Construction: A Case Study in MIDROC Construction PLC," several avenues can be explored to deepen understanding and address potential gaps in knowledge. Here are some recommendations for further researchers:

1. **Comparative Analysis**: Conduct a comparative study between MIDROC Construction PLC and other construction companies operating in Ethiopia or similar contexts. This could provide insights into how occupational health and safety practices vary across different organizations within the same industry and identify best practices that can be adopted or adapted.

2. **Longitudinal Study**: Undertake a longitudinal study to track changes and improvements in occupational health and safety practices within MIDROC Construction PLC over time. This would involve conducting multiple rounds of data collection at different intervals to assess the effectiveness of interventions, policy changes, or training programs implemented by the company.
3. **Stakeholder Engagement**: Engage with various stakeholders involved in occupational health and safety within the construction industry, including government agencies, trade unions, non-governmental organizations (NGOs), and industry associations. Investigate their roles, contributions, and perspectives on improving safety practices and fostering collaboration between stakeholders to enhance safety outcomes.
4. **Technology Integration**: Investigate the role of technology in enhancing occupational health and safety practices within construction companies like MIDROC Construction PLC. Research could focus on the adoption of digital tools, wearable devices, or sensor technologies to monitor workplace hazards, track worker movements, and provide real-time feedback on safety performance.
5. **Cultural Factors**: Explore the influence of cultural factors on occupational health and safety practices within Ethiopian construction companies. Research could examine how cultural norms, beliefs, and values shape attitudes towards safety, communication styles, and risk perception among workers and managers.
6. **Policy Analysis**: Analyze existing occupational health and safety policies and regulations in Ethiopia, particularly those relevant to the construction industry. Assess their effectiveness, enforcement mechanisms, and alignment with international standards and best practices. Identify potential areas for policy reform or enhancement to improve safety outcomes.

References:

1. Deribew A, Tessema GA, Deribe K, et al. (2016). Occupational injuries among building construction workers in Addis Ababa, Ethiopia. Journal of Occupational Medicine and Toxicology.
2. Tesfaye T, Alemu K, Tadesse T, et al. (2021). Prevalence of Work-Related Injury and Its Determinants among Construction Workers in Ethiopia: A Systematic Review and Meta-Analysis.
3. Alemu W, Addis A, Mekonnen T, et al. (2019). Workplace injury and associated factors among construction workers in Gondar town, Northwest Ethiopia. BMC Musculoskeletal Disorders.
4. Tadesse S, Israel D, Kumie A, et al. (2017). Occupational Health and Safety in Ethiopia: A review of Situational Analysis and Needs Assessment.
5. Report on Ethiopian Economy volume 1, 2006/07, Ethiopia Economic Association.
6. Ministry of labor and social affairs, occupational safety and health profile for Ethiopia
7. Karvonen M. Epidemiology in the context of occupational health, Hamalainen P. The effect of globalization on occupational accidents. Saf Sci. 2009)
8. Larsson TJ, Field B. The distribution of occupational injury risks in the Victorian construction industry. Saf Sci. 2002
9. http://www.nieuwsbank.nl/en/2002/05/24/ K016.htm. Accessed March 20 2023).
10. Lopez-valcarcel A. Occupational safety and health in the construction work. Afr Newsl Occup Health Safety. 2001;11:4–7
11. Dong X. Long work hours, work scheduling and work-related injuries among construction workers in the United States. Scand J Work Environ Health. 2005;31:329–35.8
12. Appraising legal and institutional framework to implement osh rule in Ethiopian construction industry: prospects and constraints, Fesseha Negash Fantaye.

13. Ethiopian public health training institute, training manual

14. Mendis, D.P., & Weerasinghe, M.P. (2014). Awareness and Implementation of Occupational Health and Safety Regulations Among Construction Workers. *Journal of Construction Engineering and Management*, 140(2), 04013045.
15. Tadesse, S., & Israel, D. (2016). Occupational Health and Safety in Construction Sites in Addis Ababa, Ethiopia. *Journal of Environmental and Public Health*, 2016, 1-8.
16. Gursoy, D., Maier, T. A., & Chi, C. G. (2008). Generational differences: An examination of work values and generational gaps in the hospitality workforce. *International Journal of Hospitality Management*, 27(3), 448-458.
17. Toole, T. M. (2002). Construction site safety roles. *Journal of Construction Engineering and Management*, 128(3), 203-210.
18. Gibb, A. G., Haslam, R. A., & Hide, S. (2006). What causes accidents? *Proceedings of the Institution of Civil Engineers - Civil Engineering*, 159(6), 46-50.
19. Huang, X., & Hinze, J. (2003). Analysis of Construction Worker Fall Accidents. *Journal of Construction Engineering and Management*, 129(3), 262-271.
20. European Agency for Safety and Health at Work. (2018). *Risk assessment for construction workers: Online interactive tool.* Retrieved from https://osha.europa.eu/en/tools-and-publications/interactive-tools/risk-assessment-for-construction-workers
21. Occupational Safety and Health Administration. (n.d.). *Construction.* Retrieved from https://www.osha.gov/construction
22. European Agency for Safety and Health at Work. (2020). *Occupational safety and health in the COVID-19 pandemic: A guide to returning to the workplace.* Retrieved from https://osha.europa.eu/en/themes/covid-19-resources-and-information-0
23. Occupational Safety and Health Administration. (n.d.). *Construction.* Retrieved from https://www.osha.gov/construction
24. European Agency for Safety and Health at Work. (2018). *Risk assessment for construction workers: Online interactive tool.* Retrieved from https://osha.europa.eu/en/tools-and-publications/interactive-tools/risk-assessment-for-construction-workers

25. European Agency for Safety and Health at Work. (2020). *Occupational safety and health in the COVID-19 pandemic: A guide to returning to the workplace.* Retrieved from https://osha.europa.eu/en/themes/covid-19-resources-and-information-0
26. Occupational Safety and Health Administration. (n.d.). *Construction.* Retrieved from https://www.osha.gov/construction
27. Occupational Safety and Health Administration. (2020). *Safety and health program management guidelines.* Retrieved from https://www.osha.gov/safety-management-resources/safety-health-program-management-guidelines
28. Bezawit Abebe, Occupational safety and health practices in the ethiopian floriculture sub-sector (the case of seven flower farms)(May 2013)
29. Gezahagn Belay Tafese, A comparative study on occupational health and safety practices betweeen domestic and foreign contractors. (a case of addis ababa city public construction projects) (Sep,2020)
30. Manaye Mosiye, Assessment of Risk and Safety Management on Building Construction Project in Case of Jimma (Nov,2017)
31. Abdata Sefara, Assessment of the Implementation of Workers' Occupational Safety and Health Standards in Building Construction: The Case of West Shoa Zone
32. Lucy Feleke, Evaluation of Health and Safety Practice in Building Construction: A case study in Addis Ababa

Appendices

Questionnaire

Dear sir/madam

My name is Habtom Ebuy. I am a post graduate student at Saint Mary's University. As part of fulfillment of my master's thesis entitled "occupational health & safety practices in Ethiopian construction sector, a case study in MIDROC Construction plc", I am kindly requesting you to fill up the questionnaire attached.

The main purpose of this survey is to have an overview of the current landscape of OSH regulations and framework and to assess the challenges and discrepancies in OSH implementation. In addition it aims to analyze the key challenges and opportunities for improving occupational safety and health practices within the Ethiopian construction sector, particularly focusing on MIDROC construction plc.

I hope your educational background and expertise in the construction industry will be highly regarded and immensely contribute to the successful completion of my research, and to the overall development of Ethiopian construction industry.

The data collected will be used strictly used for academic purpose only, and what you say in this questionnaire will be completely confidential. Thank you for giving me your time.

Sincerely

Please answer all the questions by putting _√ 'in the boxes where applicable. You can select more than one option.

1. **Demographic data of respondents**

1.1 job title

Project manager ☐ Project Engineer☐Health and Safety manager ☐other ☐

1.2 Gender

Male ☐ Female ☐

1.3 Age

20-35 ☐ 36-45 ☐ 46-55 ☐ Above 55 ☐

1.4 Type of employment

Part time ☐ Full time ☐ temporarily (daily) ☐

1.5 experience on construction

1-5 years ☐ 6-10 years ☐ 11-15years ☐ above 15 years ☐

2. **Current Landscape of OSH Regulation and Frameworks in the Ethiopian Construction**

2.1 Are you aware of the existing Occupational Safety and Health (OSH) regulations and frameworks specific to the construction sector in Ethiopia?

Yes ☐ No ☐ partially ☐

2.2 How would you rate the level of compliance with OSH regulations and frameworks within the construction sector in Ethiopia?

High ☐ Moderate☐ Low☐

2.2 In your opinion, how effective are the current OSH regulations and frameworks in ensuring worker safety and health in the construction sector of Ethiopia?

Very effective ☐ somewhat effective☐ Not Effective☐

2.3 How is compliance with OSH regulations monitored and enforced within the construction sector in Ethiopia?

Government inspections ☐ Self-regulation by construction companies ☐

Industry-specific regulatory bodies ☐ other (please specify) ☐

_____

_____

_____

2.4 Have you or your organization faced any penalties or fines for non-compliance with OSH regulations in the construction sector of Ethiopia?

Yes ☐ No ☐

2.5 How important do you think OSH regulations and frameworks are for ensuring a safe and healthy work environment in the construction sector of Ethiopia?

Very important ☐ somewhat important ☐ Not important ☐

2.6 Do you believe that the current OSH regulations and frameworks adequately address the safety and health risks specific to the construction sector in Ethiopia?

Yes ☐ No ☐ Unsure ☐

2.7 Are there any areas where you think the current OSH regulations and frameworks in the construction sector of Ethiopia could be improved?

Yes ☐ No ☐

2.8 If yes, please specify the areas for improvement and any suggestions you have.

_____

_____

_____

3. **Challenges and Discrepancies in OSH Implementation in the Ethiopian Construction Sector**

3.1 Have you encountered any challenges in implementing OSH practices effectively within the construction sector of Ethiopia?

Yes ☐ No ☐

3.2 If yes, please specify the main challenges you have encountered.

_____

_____

_____

3.2 What factors do you believe contribute to the challenges in implementing OSH practices effectively within the construction sector of Ethiopia? (You can select more than one option.)

- Lack of government enforcement ☐
- Insufficient training and awareness program ☐
- Inadequate resources (financial, human, technical) ☐

- Poor safety culture within the industry ☐
- Non-compliance with the regulation by the construction company ☐
- Other (please specify) ☐

3.3 Please specify any additional factors not listed above that you believe affect OSH implementation in the construction sector of Ethiopia.

_____
_____
_____

3.3 Are there any discrepancies between OSH regulations/standards and actual implementation within the construction sector of Ethiopia?

Yes ☐ No ☐ Unsure ☐

3.4 What barriers or obstacles prevent construction companies from fully implementing OSH practices in Ethiopia? (You can select more than one option.)

- Lack of top management commitment ☐
- Resistance from workers ☐
- Limited resource/budget ☐
- Lack of expertise or knowledge ☐
- Time constraint ☐
- Others (please specify)

_____
_____
_____

3.5 How high of a priority is Occupational Safety and Health (OSH) within the organizational goals and objectives of construction companies in Ethiopia?

- Very high priority ☐
- High priority ☐
- Moderate priority ☐
- Low priority ☐

4. **Improving OSH Practices in the Ethiopian Construction Sector: MIDROC Construction PLC**

4.1 Does your construction firm have Health & Safety policy?

Yes ☐ No ☐

If your answer is no, why? (you can select more than one option)

- Lack of awareness by all parties in the industries ☐
- Budget not considered in the firm ☐
- Clients does not consider as a perquisites for awarding projects ☐
- Others ☐

4.2 If your answer is yes how would you rate the current Occupational Safety and Health (OSH) practices within MIDROC Construction PLC?

- Excellent ☐
- Good ☐
- Fair ☐
- poor ☐

4.3 What OSH practices or initiatives are currently in place within MIDROC Construction PLC?

_____

_____

_____

4.3 Do your construction projects/sites have a Safety Officer?

Yes ☐ No ☐

4.4 In your opinion, what are the main challenges hindering effective OSH practices within MIDROC Construction PLC? (you can select more than one option)

- Lack of management commitment ☐
- Insufficient training and awareness program ☐
- Inadequate resources (financial, human, technical) ☐
- Poor safety culture ☐
- Non-compliance with regulations ☐
- Others (please specify)

4.3 Please specify any additional challenges not listed above that you believe are impacting OSH practices within MIDROC Construction PLC.

_____

_____

_____

4.5 What opportunities do you see for enhancing OSH practices within MIDROC Construction PLC? (you can select more than one option)

- Increased management commitment ☐
- Implementation of comprehensive training program ☐
- Allocation of additional resources ☐
- Development of strong safety culture ☐
- Adoption of new technologies for safety management ☐
- Others (please specify)

4.6 Are there any specific initiatives or strategies that you believe could significantly improve OSH practices within MIDROC Construction PLC?

_____

_____

_____

4.7 Do Managers encourage and support training of employees in Health &Safety?

Yes ☐ No ☐

If your answer is no, why? (you can select more than one option)

- Lack of awareness by all parties in the industries ☐
- Budget not considered in the contract ☐
- Upper level management and commitment problem ☐
- others ☐

_____

_____

_____

4.8 Do Managers actively monitor the Health &Safety performance of their projects and Workers through reports?

Yes ☐ No ☐

If your answer is no, why? (you can select more than one option)

- Lack of awareness by all parties in the industries ☐
- Budget constraints ☐
- Upper level management and commitment problem ☐
- Other

_____

_____

_____

4.9 How involved are employees in the development and implementation of OSH practices within MIDROC Construction PLC?

Actively involved ☐ Somehow involved ☐ Not involved ☐

4.10 Do Managers ensure that the Health & Safety budget is adequate?

Yes ☐ No ☐

If your answer is no, why? (you can select more than one option)

- Lack of awareness by all parties in the industries ☐
- Budget constraints ☐
- Upper level management and commitment problem ☐
- Others

_____

_____

_____

4.11 Is there adequate first aid and first aider(s) on your construction projects/sites?

Yes ☐ No ☐

If your answer is no why? (you can select more than one option)

- Lack of awareness by all parties in the industries ☐
- Budget constraints ☐
- There is no enforcement law ☐
- Others

_____

_____

_____

4.12 Do your firm Provided personal protective equipment (PPE)?

Yes ☐ No ☐

If your answer is no why? (you can select more than one option)

- Lack of awareness by all parties in the industries ☐
- Budget constraints ☐
- There is no enforcement law ☐
- Others

_____
_____
_____

4.11 Do your firm Provided right tools, equipment and plant to execute construction?

Yes ☐ No ☐

If your answer is no why? (you can select more than one option)

- Lack of awareness by all parties in the industries ☐
- Budget constraints ☐
- There is no enforcement law ☐
- Others

_____
_____
_____

4.12 Do your firm Provided good welfare facilities such as showers, canteens, toilets?

Yes ☐ No ☐

If your answer is no why? (you can select more than one option)

- Lack of awareness by all parties in the industries ☐
- Budget constraints ☐
- There is no enforcement law ☐
- Others

_____
_____
_____

4.13 Do Workers undergo induction on Health &Safety before commencing work on a particular site?

Yes ☐ No ☐

If your answer is no why? (you can select more than one option)

- Budget constraints in projects ☐
- Lack of awareness by all parties in the industries ☐
- Lack of H&S policy implementation on projects ☐
- There is no enforcement law ☐
- Others

_____
_____
_____

4.14 Do you believe increased employee engagement and participation could improve OSH practices? If yes, how?

_____
_____
_____

4.15 How significant do you consider training and education programs in ensuring the effectiveness of OSH practices within MIDROC Construction PLC?

- Very significant ☐
- Significant ☐
- Somehow significant ☐
- Not significant ☐

4.8 What topics or areas should be covered in OSH training and education programs to enhance worker safety and well-being within MIDROC Construction PLC?

_____
_____
_____

4.16 How should the effectiveness of OSH practices be evaluated and monitored within MIDROC Construction PLC? (you can select more than one option)

- Regular audits and inspection ☐

- Incident reporting and analysis ☐
- Employee feedback mechanism ☐
- Key performance indicator (KPIs) ☐
- Others(please specify)

_____
_____
_____

4.17 Are all injuries, fatalities filed & reported to the concerned body?

Yes ☐ No ☐

If your answer is no why? (you can select more than one option)

- Rarely done by the consultant ☐
- Lack of awareness by all parties in the industries ☐
- Upper level management and involvement problem ☐
- There is no regulatory body enforce to report ☐
- Others

_____
_____
_____

4.9 How can lessons learned from incidents or near-misses be used to improve OSH practices within MIDROC Construction PLC?

_____
_____
_____

5. Developing effective OSH strategies in Ethiopian construction sector

5.1 What do you understand by the term "Occupational Safety and Health (OSH) strategies" within the context of the construction sector?

_____
_____
_____

5.2 In your opinion, what are the key components of effective OSH strategies specifically tailored for construction workers in Ethiopia?

_____

_____

_____

5.3 What are the most common hazards and risks faced by construction workers in Ethiopia?

Item No	Description	Frequency of injury and fatalities				
		Very high	high	medium	low	exceptional
1	Falling from height(serious injury of fatality)					
2	Falling (objects falling from a height)					
3	Manual handling(carrying cement bags or bricks/blocks) neck, back or arm injury					
4	Falling from stairways and ladders					
5	Scaffolding(falling from scaffolding during construction					
6	Excavations (slides, collapse, inadequate or no shoring protection)					
7	electricity(electric power accidents)					
8	Construction hoists & elevators and cranes					
9	Hazardous substances					
10	noise					

11	Tools and machinery (drilling, grinding, bending machines ...etc					
12	Fire (from electric fuel, chemical etc...					