

Assessment of Risk and Safety Management on Building Construction Project in Case of Jimma Town

Manaye Mosiye*, Arun Asokan

Lecturer, Department of Construction Technology and Management, Bule Hora University, Ethiopia

Corresponding Author: *

Abstract— Health and safety risky issues have always been a major problem and concern in the Construction industry. Due to its nature and complexity of the work and relatively labour intensive environment, construction works provide opportunities for occupation for a wide range of people skilled, semi-skilled and unskilled. Wherever reliable records are available, construction is found to be one of the most dangerous on health and safety criteria, particularly in developing countries. However, knowledge on how health and safety risks are managed in Ethiopia construction sites is limited. This study therefore, aims to find out the current practice of health and safety risk assessment on building construction site in Ethiopia context specifically in Jimma town. The study was based on individual judgement, educational background, existing journals and available regulation. Questionnaires were designed and distributed to potential construction industry players; interview sessions and site observation have been conducted to meet the objective of the study. In addition, structured interviews were carried out with selected managers, daily workers and site engineers from a selection of government construction site. Descriptive analysis was used to summarize and interpret the data by using MS-excel and SPSS software.

Keywords— Risk and Safety Management, SPSS, Construction Project.

I. INTRODUCTION

Construction is and always has been the largest single sector in the industry of every country in the world, once there is any degree of industrialization with the development of an infrastructure. From then on it forms a vital sector in the country's economy and its prosperity is a measure of the economic progress of the country.

The construction industry has invested much time, effort and money in trying to improve its health and safety performance. This investment has had success in the past in achieving significant improvements in the industry's record.

II. LITERATURE REVIEW

Sermolo, 2014 suggested that Poor working conditions/environment and lack of personal protective equipment (PPE) are the cause of accidents in construction industry. and striking, crushing.

(**Taylor, 2004**)²A similar view is held by (**Lubega, 2001**) who found that the causes of construction accidents in Uganda include a lack of knowledge about safety rules, engaging an inexperienced workforce, and lack of respect for safety. with this view and suggests that the main factors affecting safety in China were managers' poor

safety awareness, lack of training, reluctance to commit resources to safety, and reckless operations.

Dejus, 2007 conducted a study in the Lithuanian Republic and identified that the major reasons for serious and mortal accidents are inexperienced employees, lack of qualifications and understanding risk on a construction site. carried out a survey in Malaysia to identify the causes of accidents on construction sites; they found that unsafe methods, including incorrect procedures, knowledge level, and disobeying procedures are the most frequent reasons for accidents on construction sites.

Pillay and Haupt, 2008 in his paper mentioned that The direct costs of injuries are those that are most observable and are typically referred to as insurable costs. Direct costs may include: medical cost, premiums for compensation benefits, liability, and property losses. The direct costs can generally be quantified with reasonable accuracy. Indirect cost; -which are borne by contractors, include reduced productivity for both the returned worker(s) and the crew or workforce; clean-up costs; replacement costs; stand-by costs; cost of overtime; administrative costs; replacement worker orientation; costs resulting from delays; supervision costs; costs related to rescheduling; transportation, and wages paid while the injured is idle.

III. OBJECTIVES& METHODOLOGY

OBJECTIVES

- 1) To identify the major factors affecting the safety and health practice in building construction project.
- 2) To analyze the effect of safety and health practice in building construction project.
- 3) To recommend remedial measurement and to reduce hazard in the building construction project site.

METHODOLOGY

- 1) Collection of Literatures
- 2) Site Visits.
- 3) Quantitative Research Approach.
- 4) Study Population and Sampling Techniques
- 5) Recommendations and Conclusions.

The above-mentioned methodologies were implemented in the following private and government construction industries with effective manner to get the conclusion and recommendation.

- a. Jimma City Administration Office.
- b. Vavnero Construction PVT Limited.
- c. Jimma university Project Construction Office.
- d. Yotek General Construction PLC.

IV. RESULTS & DISSCUSION

4.1 Technical risk related:

As Table 4.8 show that 13(34.2%) of the respondents of the company highlighted that Inadequate Site is the most frequent factor on building construction sites followed by 15(39.4%) of the respondent's storage and handling were under very frequent factors. Were as 14(36.9%), of the respondents Poor Jointing Machine were moderate frequent factors and 17(44.7%) of the respondents Maintenance and Repairing categorized under frequent factor.

4.2 Logistic Risk related

As Table show that 12(31.6%) of respondents Insufficiency of equipment availability is the most frequent factor and 12(31.6%) of respondents Insufficiency of transportation facilities is very frequent factor of construction hazards were as 12(31.6%) of the worker's construction site Non-availability of maintenance facility is frequent factor risk.

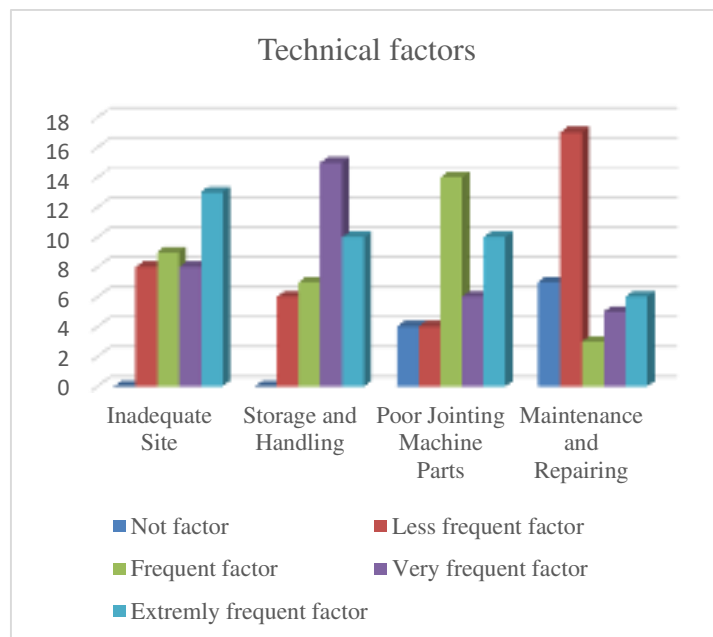


Fig.1: Technical Factors

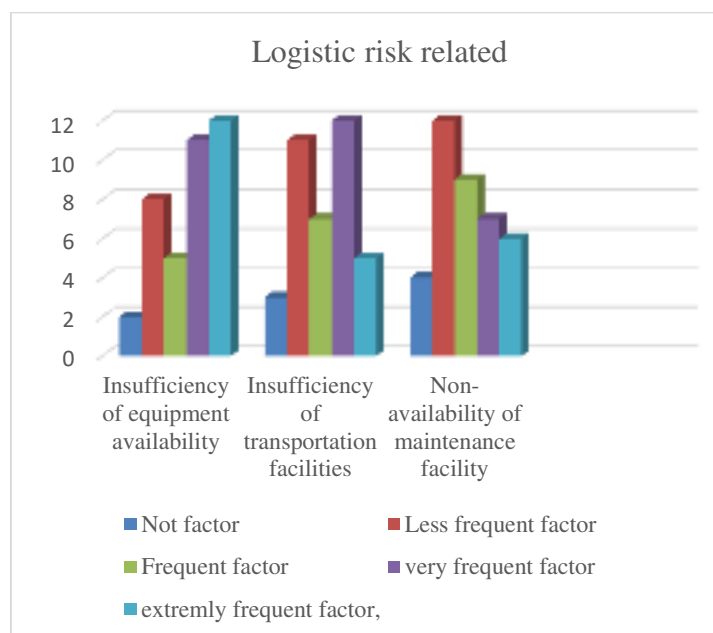


Fig.2. Logistic Risks

4.3 Management Risk related

Table shows that 13(34.2%) of respondent's co-ordination with subordinates is the very frequent factors, 13(34.2%) of the respondents primary planning were moderate frequent factor followed by 12(31.6%) of the answer of respondents were communication among all stakeholders of the construction.

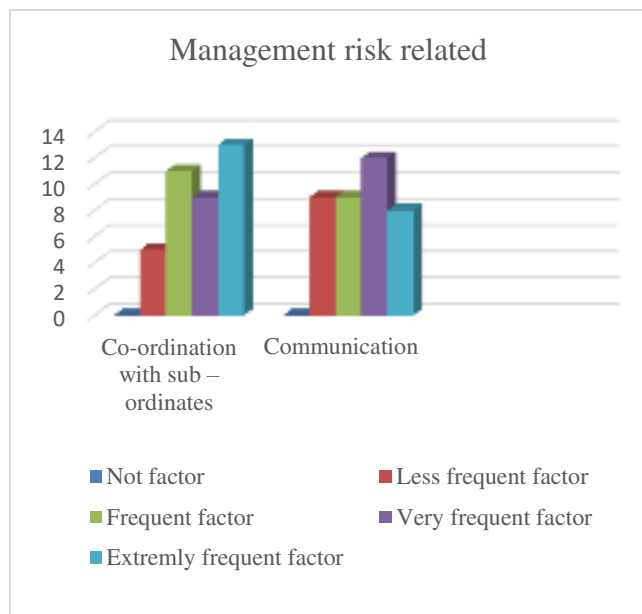


Fig.3. Management Risks

4.4 Environmental related risk:

As table 4.8 show that, 15(39.5%) of the respondents believed that Weather Implication were very frequent factors.

Table 4.8 result show that the environment could poses risk on the construction site. Workers on construction sites are often exposed to hazards due to unexpected bad weathers during working time. For example, here in Jimma town it's difficult to construct or demolish at summer season, due to the bad weathers of the towns workers who are working under rain could be exposed to several hazards.

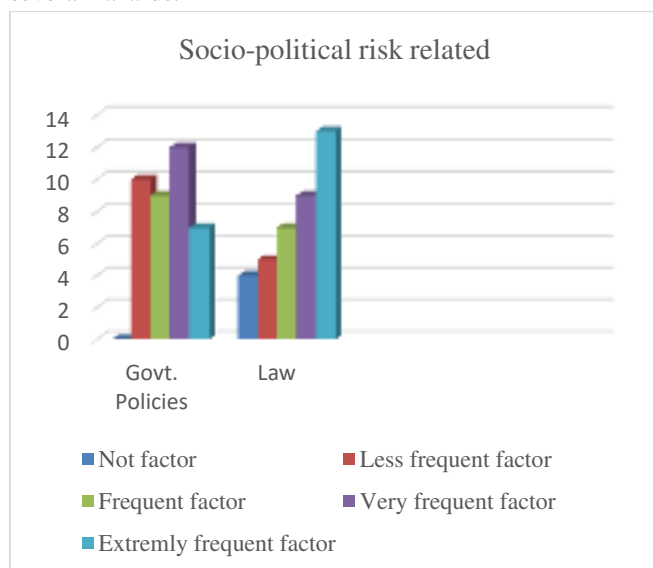


Fig.4. Socio – Political Risks

V. CONCLUSIONS& RECOMMENDATIONS

CONCLUSIONS
This study demonstrates the assessment of safety and health on building construction project and highlights the factors affecting safety and the major causes of hazards on building construction projects.

Most of the results are consistent with the former literature in other developing countries the researcher draws the following conclusions.

RECOMMENDATIONS

- ❖ Safety and health should be included as a project parameter, which means it should be considered during all phases of a project. Procurement systems should be evaluated in terms of their impact on safety and health prior to their selection for projects. Prospective contractors should not be placed on tender lists unless they can show competence in the management of safety and health.
- ❖ To ensure a safe and accident free construction site, management must understand, undertake and implement all or some of the following measures which are regular supervision and inspection by safety officials and leaders on site, constant training on the use of tools and equipment, proper use of safety items and attire, signs and notices should be provided on construction sites and should be located at strategic areas on site, training programs should be provided regularly.
- ❖ The researcher suggest that no hazard consequences should be completely ignored, therefore government should give priority to reducing the risks associated with the above most discussed, From this perspective the most consequence hazardous needs in-depth study in the future study.

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