Evaulation of Construction Safety in Construction Project

Aaditi Vijay Jadhav[1], P. P. Bhangale[2]
Sant Shree Gadge baba College of Engineering, Bhusawal

I. INTRODUCTION

The construction industry is one of the most significant industries where safety of the workers is at highest risk in the absence of adequate care. In ancient period while constructing the seven world wonders and hydro structure, workers involved in the construction lost their lives at that time of execution (Hinze 2000).

II. CAUSES FOR ACCIDENTS

The success of a construction project depends on the planning and decisions that are made at site. Most accidents result from basic root causes such as lack of proper training, enforcement of safety concept, unsafe handling of equipment, unsafe methods or sequencing, unsafe site conditions, awareness about safety equipment and poor attitude towards safety

III. GENERAL OBJECTIVE FOR PERSONAL AND WORKSITE SAFETY

i. To eliminate or minimize accidents in construction industries
ii. Design a cost-effective and affordable safety gadget which can be used as a measure of safety even in small budget constructions
iii. To develop a novel safety kit for the concern of construction safety.
iv. To protect unexpected loss in lives and cost at construction site
v. Create awareness about use of safety gadgets and equipment's and its benefits.
vi. To make safety gadget available for different level of skilled and unskilled workers.

To ensure safe working environment for construction workers

IV. DESIGN FOR CONSTRUCTION SAFETY (DfCS)

Design for Construction Safety is a next level application to Designing for Safety (DfS) process. In construction industry, it is the process of analyzing the hazards at the time of design itself. First step is to identify the hazards and trying to eliminate it. If it cannot be eliminated by modifying the design, then safety devices are used. Even then, if the risk of hazard still exists the next step is to go for a warning, instruction and training as a last measure.

V. RISK ASSESMENT AND MANAGEMENT IN CONSTRUCTION INDUSTRY

Risk management is defined as a set of methods and activities designed to reduce the disturbances occurring during the realization of the project. The fundamental aim of a risk management process is to ensure that all steps needed to achieve the project objectives will be looked into.

5.1. Risk Identification
5.2. Risk Assessment
5.3. Risk Allocation
5.4. Risk Mitigation
5.5. Risk Monitoring

VI. EXPERIMENTAL STUDY ON PERSONNEL SAFETY

Falls from height - work that is carried out at heights of over and above one meter from base. Fall to a lower level is one of the most common hazards chances to fatal, or being seriously injured in the construction sector. One must prevent risks of falling from height, starting from heights of one meter or more, during construction of buildings.

6.1 Guardrail systems
6.2. Safety net systems
6.3. Fall arrest systems

6.4. Warning line systems
6.5. Controlled access zones

VII. LITERATURE SUMMARY

Researchers have contributed their articles to identify root causes of accident from the data and result analysis and concluded with recommendation and suggestions theoretically. In construction site there are very less working model and real time case study conducted to eliminate the construction accidents.

VIII. CONCLUSION

From the research findings, it is concluded that generally the construction site has good and structured safety practices namely safety policy, safety training & education, site safety inspection, safety auditing, safety meeting, site safety organization, personal protective equipment, emergency support and safety, measuring device, fall protection system and safety promotions. Nevertheless, several major problems are encountered in the safety practices; the problems are ignorance of workers on site procedures, lack of finanlcial allocation for safety management, lack of awareness among workers, and languages barrio between supervisors and workers. Several strategies have been suggested to overcome the problems, such as to provide effective safety training, allocation of budget for safety management, full commitment from the top management, and to provide safety booklets in various languages as the strategies to reduce problem in safety practices; ie. Awareness of workers.

REFERENCE

[1] Behm, M 2005, 'Linking Construction Fatalities to the Design for construction Safety Concept', Journal of Safety Science, vol. 43, pp. 582-611.
[2] Cherng Shing & Ming En, WU 2018, 'A Study of Evaluating and Evacuation Time', Advance in Mechanical Engineering, vol. 10, no. 4, pp. 1-11.
[3] Cheung, SO, Cheung, & Suen, H 2004, 'CSHM:Web-Based Safety and Health Monitoring System for Construction Manaement', Journal of Safety Research, vol. 35, pp. 159-170.
[4] Enrico Ronchi Daniel & Daniel Nilson 2013, 'Assesment of Total Evacuation System for Tall Building', Fire Protection Research Foundation, Tecnical report.