

Analysis Of Health And Safety Agents Influence On Health And Safety Performance In The Indian Construction Industry

Prof. Dr.K.Velusamy, Asst.Prof. R.Kabilan , Yuvan Aravind S
Annai Mathammal Sheela Engineering College
Namakkal,India

Abstract- Health and safety issues have always been a major problem in construction industry. In previous record construction industry is found one of the most dangerous field in most developing countries, India is the one of them. In Indian construction industry worker do not have enough knowledge in health and safety on construction sites, they do not know welfare facility, health and safety plan and policy, health and safety management system and there are no health and safety compliance on site, if it given on construction site worker do not use this facility. they don't know how much impact of health and safety knowledge and compliance on project performance. Building construction workers health and safety knowledge and compliance is poor. Fatalities, injuries, and illnesses continue to occur in the construction industry (CI), despite efforts made by clients, designers, and contractors. The lack of collaboration between these project actors and construction health and safety agents (CHSA) remains a challenge for both construction professionals and academics. Given the urgent need for CHSA to collaborate with other construction project members, this project proposes a model for improving CHSA collaboration and its influence on health and safety (H&S) performance.

Keywords- CHSA,CI,H2S.

I. INTRODUCTION

Natural gas or any other gas with a high concentration of hydrogen sulfide (H₂S) constitutes our gas. The technological difficulties and expense of extracting and treating sour gas sources have historically prevented their development. One of the world's tallest man-made structures, offshore platforms are exceedingly hefty. At the platform, the oil and gas are separated, and they are then sent through pipelines or on tankers to the shore. All divisions of industry have a clear connection to or relationship with health and safety, but the construction sector places the greatest emphasis on it. India is currently one of the nations that is developing the fastest. It has always been a serious problem because it is considered to be one of the regions with the highest risk of occupational abrupt unplanned negative events or crashes.

The risks and hazards associated with worksite activities are connected to the construction sector. The employees and laborers come from many regions and racial origins. These employees are subject to hazards, occupational diseases, and health concerns that can result in illness and injuries. Poor communication between the typical project players and CHSAs continues to be a problem in the CI even if H&S legislation calls for changes in H&S. Academics and industry experts in construction continue to struggle with the lack of cooperation between these project actors and CHSA. Poor communication between CHSA and other construction industry experts is a

problem that affects the South African CI. Despite being a relatively new idea in the construction sector, the concept of safety culture is growing in acceptance due to its capacity to incorporate all perceptual, psychological, behavioral, and management variables. This technical note offers a strong conceptual model that is strongly grounded in relevant academic and applied literature in order to address the issue of the absence of a testable method to evaluate construction safety culture. The word "safety culture" is reviewed critically, and several unrelated but related ideas are also discussed [1]. This paper presents the findings of a recent study that quantified each component's capacity to reduce construction-related safety and health risks in order to assess the relative efficiency of safety program elements [2]. This essay shows the findings of a questionnaire survey that was issued to several groups of construction employees in the Kerala region.

The total number of working hours, work shifts, worker nationality, number of accidents, and types of injuries that occur on small and major construction sites are all examined and covered in detail in this study [3]. The aim of this article is to explore the safety practices and procedures used in construction sites, assess the safety laws and procedures on construction sites, and investigate the difficulties encountered by management on building project sites. The relationship between the individual traits of construction workers and the safety environment and safe work practices will also be examined [4]. The purpose of this review is to encourage and guide future research by

examining the connections between digital design techniques and building safety[5]. In this work, a methodology for enhancing CHSA collaboration and its impact on health and safety (H&S) performance is put forth. A Delphi study and a questionnaire survey were both used as part of the exploratory sequential mixed approach that was chosen. A targeted sample of H&S professionals was taken [6].

II. SAFETY AGENT IN CONTRUCTION SITE

Officers of construction safety develop, carry out, and enforce safety regulations that lessen the possibility of accidents. They are in charge of deciding which regulations are required for the job site and how to enforce them. Officers in charge of safety must be up to speed on safety practices and regulations. Someone must look into any workplace accidents, report them, and make sure they don't recur. A safety representative steps in at that point. The primary duty of the safety agents is to reduce or remove potential accident-causing elements from the workplace. If an accident does occur, though, you should look into it to determine what caused it, what procedures might have gone wrong, and to gather the proof you'll need to explain why it happened. Create a report based on the findings after the investigation is complete to suggest taking the necessary actions to prevent such accidents in the future.

1. Monitor and assess situations :

The Agent is in charge of keeping an eye on and evaluating the safety of the staff in the event that a scenario arises at work. For instance, if an employee trips and hurts themselves while working, the health and safety agent can examine the circumstances of the incident and monitor the person's injuries.

2. Develop measures for the safety of personnel :

Protection of health To ensure employee safety, agents may be tasked with creating workplace-specific safety measures. A building site agent might advise wearing protective headgear as one example of a safety measure.

3. Correct any unsafe acts or conditions :

Any unsafe behavior or working conditions must be corrected immediately if an Agent observes them. For instance, if a worker forgets to put on gloves when packaging food, the Agent may kindly remind them to do so.

4. Stay aware of developing situations:

The capacity to perceive, comprehend, and respond to one's situation effectively is known as situational awareness. In order to successfully address any potential risks, dangers, or events that might arise, it entails grasping a specific condition, acquiring pertinent information, assessing it, and making judgments.

5. Create a plan of action:

Making a plan of action is another duty of a health and safety agent. This strategy could provide a number of specifics of what to do in a variety of working scenarios.

III. ASSESSMENT OF OCCUPATIONAL AND SAFETY LEVEL AT CONSTRUCTION SITES

The process of raising OHS importance awareness among investment process participants and assisting in the reduction of accidents can both be started by assessing the level of OHS at a building site, which establishes the likelihood of an employment accident occurring. Occupational safety has a universal nature, independent of profession or place of employment. Its main goal is to provide workers with these environments so they can perform their jobs in a productive manner, free from unwarranted risks of accidents, occupational diseases, excessive physical exertion, or dangers to their mental health.

To determine the validity and reliability of the constructs and to assess the best-fit model for each construct, a CFA of SEM was utilized. Finally, the goodness of model fit was assessed after the results of the questionnaire survey were analyzed using path analysis of EQS version 6.4.

Construction attracts rural migrants : The main drivers of migration include poverty, food insecurity, a lack of job, climate change, and environmental degradation. One of the biggest employers of rural people who migrate to towns and cities in search of work is the construction industry. This migration is brought on by issues like chronic poverty and a lack of economic possibilities in farming or villages.

1. Lack of personal protective equipment:

Workers in the construction industry frequently complain that the contractors do not give them any personal protective equipment. According to experts, it is necessary for the enforcement authorities to conduct far more regular and thorough safety inspections of building sites in order to prevent fatal and major accidents.

2. Building safety measures in horizontal load:

Horizontal loads, these loads can be due to wind, seismic activity, or even man-made forces, and buildings must be designed to resist them. Here are some safety measures with regard to horizontal loads: Seismic Bracing, Wind Bracing, Diaphragms, Rigid Frames, Foundation Anchoring.

3. Building safety measures in vertical load:

Gravitational loads, also known as vertical loads, are downward forces produced by gravity. These loads in building structures mainly consist of the self-weight of the

building (dead load) and the weight of its contents, such as occupants, furniture, vehicles, and almost anything else that the building supports (live load). To guarantee that structures can adequately support these vertical loads, appropriate safety measures must be in place.

III. CONCLUSION

For many centuries people have been developing technologies to protect themselves against natural hazards. As a result they have created technological risk factors related to production processes and everyday use of engineering means and technologies. In a modern city all challenges are lying in between two extremes: destruction of nature and degradation of the human being. The safety of the project is starting from design. The properly designed building is withstanding all mechanical and load impacts. During Phase-I different types of load presented in building, Safety aspects for building structure is discussed. Mechanical and impact load safety measures are formulated.

REFERENCES

- [1] Rachkov V.P., Novichkova G.A., Fedina E.N. «Chelovek v sovremennom tehnizirovannom obschestve: problema bezopasnosti i razvitiya», 2015.
- [2] Ilichev V.A. i dr. Printsipy preobrazovaniya goroda v biosferosovmestimiy i razvivayuschiy cheloveka / Nauchnaya monografiya/ V.A.Ilichev, S.G. Emelyanov, V.I. Kolchunov, V.A. Gordon, N.V. Bakaeva. – M., Izdatelstvo ASV, 2022. -184 s
- [3] Ilichev V.A. Preobrazovanie gorodov v biosferosovmestimiyie i razvivayuschie cheloveka: kurs lektsiy [Tekst] / V.A. Ilichev, S.G. Emelyanov. – M.: Izd-vo Yugo-Zapadnogo gosudarstvennogo universiteta, 2021. – 99 s.
- [4] Snizhenie riskov v stroitelstve pri chrezvyichaynykh situatsiyah prirodno i tehnogenno haraktera/ Bulgakov S.N., Tamrazyan A.G., Rahman I.A., Stepanov A.Yu. Pod obsch. red. Tamrazyana A.G. – M.: MAKS Press, 2014. – 304 s.
- [5] Maslennikov A.M. Riski vozniknoveniya prirodnykh i tehnogennykh katastrof: ucheb. posobie/ A.M. Maslennikov; SPbGASU. – SPb., 2008.- 165 s.

BIOGRAPH

Dr.K.VELUSAMY , M.E., Ph.D.,
Received the B.Engineering Degree from Thigarajar College of Engg, Madurai In 1988. The M.E Degree from Jayaram college of Engg and Technology, Tiruchirappalli in 2009. The Ph.D Degree Anna University, Chennai in 2018. He has been working as Professor in Annai



Mathammal Sheela Engineering College, Erumapatty, Tamilnadu, India. His research interest is manufacturing technology.
Email: velusamy40nkl@gmail.com

Mr. R. KABILAN

Received the B.Engineering Degree from SONA College of Technology at Salem in (2010-2014). The M.E Degree from College of Engineering Guindy at Chennai in (2014-2016). He has been working as an Assistant professor in Annai Mathammal Sheela Engineering College, Erumapatty, Tamilnadu, India. His research interest include Safety Engineering.
Email: vinayakkabilan@gmail.com



Mr. YUVAN ARAVIND S

He completed his Bachelor's degree in Mechanical Engineering at Jeppiaar institute of technology, Chennai in 2019. He is pursuing his Master's degree in Industrial safety Engineering at Annai mathammal Sheela engineering College, Nammakal in the year 2021 to 2023. His research interest is "Analysis of health and safety agents influence on health and safety performance in the indian construction industry".
Email : yuvanaravind03@gmail.com

