A STUDY ON IMPROVING SAFETY MONITORING AND PROACTIVE MEASURES FOR MIGRANT CONSTRUCTION WORKERS IN CHENNAI

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ABSTRACT

In the present day world, technical breakthroughs have revolutionized construction activity. The market of the construction business is both domestic as well as global. In general scenario, construction workers are migrated from state to state for their needs, around 5 lakhs migrant people are working in Chennai region from different states. The topic on “A Study on Improving Safety Monitoring and Proactive Measures for Migrant Construction Workers” has been undergone. The objective of the study to analyze the ways for improving safety monitoring and proactive measures for Migrant construction workers. The project would enhance more awareness among labours for their linenancy in safety. The study is restricted to Chennai City. Reviews been gathered from secondary source and Questionnaire been prepared and a survey is underwent with migrant workers working in Chennai city, a sample of 60 is taken for the study. Based on the data analysis the following observation has been concluded. Proper communications in their language’s to be pictures in all safety signage’s / Hoardings.

Introduction

Corporate responsibility should begin close to home – for us that means tackling a serious issue within an industry, the vulnerability of construction workers. Often slipping through the cracks of government health programs, at serious risk from serious diseases and generally without the option to argue for their workers’ rights, construction workers in India are considered a very vulnerable sector of society. Respecting safety standards is a basic and critical responsibility of any construction company.

Construction Migrant Workers

In general scenario, construction workers are migrated from state to state for their needs, around 5 lakhs migrant people are working in Chennai region from different states like Orissa, Bihar, Assam, Uttar Pradesh and Maharashtra alone in various construction company at different zones. About 200 migrant workers have died on construction sites in greater Chennai in the past two years (2012 – 2014). Still, the state has done little to prevent accidents in the sector that provides the second highest employment...
potential after agriculture. The major reason for the fatal death is lack of Communication between the workers / staff who directs to works at sites and not following the standards, safety policies of organizations. Safety culture is very lenient, and the some people in the safety department they do not have basic engineering qualification.

Causes of Accidents

The main causes for accidents proneness due to differences in physiological and psychological in individuals are responsible for a certain mode of behavior of people. The demographic factors of workers like Age – Young and old get involved more frequently, Experience, mental ability, Emotional factors – emotionally depressed, fear, nervousness, worry, impulsiveness, etc. , Vision, Health - diseases like Tuberculosis, diabetes, sleeping, Blood Pressure Physically impaired etc. on the occurrence of any accident, impartial analysis of what had actually triggered the accident, extent of damage, people who were injured, compensation, work damage, safety lapses and then the report to contain safeguards to be adhered to records. . The work is also characterized by its casual nature, temporary relationship between employer and employee, uncertain working hours, lack of basic amenities and inadequacy of welfare facilities. In the absence of adequate statutory provisions, the requisite information regarding the number and nature of accidents is also not forthcoming. In the absence of such information, it is difficult to fix responsibility or to take any corrective action.

“The building and other construction workers (regulations of employment and conditions of service), act 1996 passed to regulate the employment and conditions of service of building and other construction workers and to provide for their safety, health and welfare measures and for other matters connected therewith.

NEED FOR THE STUDY

Rate of accidents are keep on increasing day by day even though lot of safety equipment's, safety measures, policies available. Lack of communication is there between the migrant workers and localitie contractors / supervisors. Improper proactive measures and poor monitoring system which leads to accidents and health hazards of workers

OBJECTIVES OF STUDY

The objectives taken for the study includes safety monitoring and increasing proactive measures for workers.

Primary Objective

➢ To analyze the ways for improving safety monitoring and proactive measures for migrant construction worker

Secondary Objective

➢ To identify the causes of accidents in construction site
➢ To assess the mode and method of communication between the authority, responsibility and labors.
➢ To examine the health prevention methods.
➢ To develop the safety prevention measures which reduces accidents
➢ To widen the method of monitoring at site.
SCOPE OF STUDY

Accidents can be reduced by identify and eliminate the causes. It will improve workers’ productivity, retention and satisfaction. Preventive measures can avoid the accident growth rate and improve the safety of the workers in site. By identifying the proper way of communication helps to increase the coordination between workers and management which makes the workers to follow the policies of organization. Health issues can be prevented by developing the safety measures.

LIMITATIONS OF THE STUDY

- The study is restricted to the predominant factors
- The study is restricted to the unique construction industry in Chennai city
- The sample size of the study is limited to 60 samples

REVIEW OF LITERATURE

Stacey M.Conchie, et al.(2012) - A growing body of research supports the importance of supervisors’ safety leadership in promoting employees’ engagement in safety. The factors that give rise to these safety leadership behaviors are under-explored. The study addressed this void by adopting a Job Demands-Resources framework to identify contextual influences on supervisors’ safety leadership behaviors. Focus group data from sixty-nine supervisors recruited from the UK construction industry showed that role overload, production demands, formal procedures, and workforce characteristics hindered supervisors’ engagement in safety leadership. In contrast, social support (especially from the organization and co-workers) and perceived autonomy promoted supervisors’ engagement in safety leadership. Exploration around these issues highlighted a need for more training for supervisors in this role and the development of a supportive environment between supervisors affiliated with different parent companies.

Haiyan Sun, et al. (2013) - There are more and more migrant workers in the cities, which brings higher risks in urban transportation. The paper discusses what proper traffic safety education is for migrant workers. It describes the traffic safety awareness, knowledge and behavior of migrant workers by focus group and observation. With such kinds of survey, the paper analyzes the population characteristics and travel behavior of migrant workers, finds the cause of their travel behavior and what content and form of traffic safety education they need. The findings are put in practice. A traffic safety education activity for migrant workers is held in Shandong Province, which works well. The final results show that migrant workers have weak awareness of traffic safety, less knowledge of transportation and many bad travel behaviors. Migrant workers prefer education with real stories and pictures.

Francesca Cappelletto, et al. (2013) - The Research reconstructs how workers perceived asbestos hazards, using narratives from a group of migrant workers at the crocidolite mine of Wittenoom Gorge, Western Australia. The mine employed about 7000 workers over the entire period of its operation from 1943 to 1966—relying heavily on migrant workers. The exposure to asbestos dust caused a huge number of occupational respiratory diseases in workers, leading Wittenoom later to be labelled as a modern industrial disaster. Fieldwork involved 137 interviews with Italians who had worked at Wittenoom. They constituted 18% of the mine’s work-force and were employed as miners or millers between 1951 and 1966. They interviewed workers who had returned to Italy, relatives of Italian workers now deceased, and workers who had settled in Australia. The results confirm the seriousness of the occupational exposure to asbestos and the weaknesses of the health surveillance program. Although workers were given no health-related information, they felt they were at risk and left the job as soon as possible.
RESEARCH METHODOLOGY

Research is a serious academic activity with a set of objectives to explain or analyze or understand the problem or finding solutions for problems adopting a systematic approach in collecting, organizing and analyzing the information relating to a problem. The factors taken for the study are - Importance of safety for migrant workers, effects of required work place on safety, Status of safety committee, Status of safety officer, effects of safe conduct on promotion, Level of risk at work place, Management attitude to safety and Effects of safety conduct on social status

The present study descriptive research design has been used for analyzing the issues related to the improvement of safety monitoring and proactive measures for migrant construction workers. Non probability Convenience sampling method is used to choose the sample. Primary data is collected through structured Questionnaire. Sample size for the study is 60. The Respondents were Migrant Workers working in Chennai in construction sites. The Area selected for study in Chennai construction sites at –Perungudi, Navallur, Thorappakkam, Porur, Sripermbudhur and Tambaram. The collected data analysed through SPSS.

FINDINGS OF THE STUDY

It is found that Cronbach’s alpha for the chosen question is 0.720, which is highly reliable. It is commonly noted that if the alpha is greater than 0.60 the chosen data is valid, in the analysis the alpha value is 0.72 which is highly reliable estimate. Hence the questionnaire is more reliable the study reveals that majority 80% of the workers in construction site are in the age group between 26-40 years. It is found from the analysis that 66.7% of workers have nearly 2-5 yrs of working experience in construction site. It is found that 66.7% of workers employer are contractor, 20% are sub-contractor and 13.3 % are builders.

Findings pertaining to objective 1 – To identify the causes of accidents in construction sites

- It is observed that 20% of the workers feels that communication of supervisors to migrant workers are able to understand, 56.7% of workers says neutral and 13.3 % of workers strongly agree to the statement that they are not able to understand the communication by their supervisor
- Majority 66.7% of workers says that contractors are not instructed suitably and trained to do the job safely as well as to tackle any emergency arising out of the job assigned to them 10% of workers says contractors instruct suitably and 23.3% of workers are not aware of any safety measures.
- The statistical analysis Chi-square test reveals that the p value is less than 0.05 (p<0.05), therefore we need to reject the null hypothesis and accept alternate hypothesis. Therefore it is concluded that there is a significant difference between employer and safety training provided to the employees at the site. Thus it reveals that an effective training measure will provide workers to do their job safely as they would be able to tackle any emergency arising out of the job assigned to them

Findings pertaining to objective 2 – To assess the mode and method of communication between the authority, responsibility and labors

- The analysis reveals that 80% of workers agree that Site safety induction is conducted whenever a new worker joins the site with safety PPE equipment available at site only 20% of workers feel induction is not done for new workers
- It is found from the table that 66.7% of workers says that Walkie –talkie is not used for a three point contact and 33.3% of workers says that Walkie –talkie is used for a three point
Findings pertaining to objective 3 – To examine the health prevention methods

- The study reveals that 63.3% of workers say that proper first aid kit is not available on site in sufficient numbers and persons not aware of its content and usage and 36.7% of workers say there is a proper first aid kit on site.
- The analysis shows that 76.7% of workers say that smoking, chewing tobacco are not allowed in site, 23.3% of workers say that smoking, chewing tobacco are allowed in site, area provided for it.

Findings pertaining to objective 4 – To develop the safety prevention measures which reduces accidents

- It is found that majority 66.7% of workers say that safety inspection are not carried out on regular basis, only 13.3% of workers strongly agree that safety inspection are carried out on regular basis.
- The study reveals that majority 43.3% of workers feel that Safety rules and procedures / EHS policy are not available to protect us from accidents, 13% of workers agree stating that safety rules and procedures / EHS policy are made available to protect us from accidents.
- Majority 56.7% of workers feel that tool box meeting are not conducted on every week at their site, 13.3% of workers agree stating tool box meeting are conducted on every week at their site.
- Majority 56.7% of workers feel that an illustration of the hand signals are posted at the job site and 43.3% of workers say that hand signals are not posted at the job site.
- The study reveals that 56.7% of workers say that safety belts are anchored to a permanent structure or lifeline, 43.3% of workers say that safety belts not anchored to a permanent structure or lifeline.
- The study reveals that 63.3% of workers say that water is not sprinkled properly in the site entrance, 36.7% of workers say that water is sprinkled properly in the site entrance.
- The statistical analysis chi-square test reveals that the p value is greater than 0.05 (p > 0.05), therefore we need to accept the null hypothesis. Therefore it is concluded that there is no significant difference between employer and safety inspection carried out in the site. Thus the study reveals that irrespective of employer safety inspection are carried on regular basis.

Findings pertaining to objective 5 - To widen the method of monitoring at site

- The analysis reveals that nearly 66.7% of workers are aware of wearing personal protective equipment’s, 13.3% states that instruction for safety protective measures given in all languages an 20% of respondents accepts all the factors are provided for safety protective measures.
- Majority 53.3% of workers say that security found to be inefficient and inattentive, 46.7% of workers say security is efficient and attentive.
- It is found that 80% of workers say that life jackets / buoyant work vest not provided for people working near water and 20% workers say life jacket is provided.
- 56.7% of respondents say that entire site is properly lighted at required places, especially the stair case area and the hoist and frequent power failures encountered, 43.3% of respondents say that entire site not properly lighted at required places, especially the stair case area and the hoist and frequent power failures encountered.
- Majority 53.3% of workers say yes that periodic check not carried out for defective cables, 46.7% of workers say no that periodic check not carried out for defective cable.
SUGGESTIONS

Safety and preventive measures at construction workplace: The Figure 1.1 states for the convenience in safety helmet while wearing at work place to free from all kind of suffocations / irritations which improves % of labours preferred to wear the safety helmet with air vent.

![Safety Helmet with air vent& without air vent](image)

The following Figure 1.2 shows the safety measures at work place to free from all kind of incidents / accidents through rubber speed breakers, traffic cone, convex mirror which improves % of safe man hours at work place.

![Workplace Safety and Preventive Measures](image)

1.2 Workplace Safety and Preventive Measures

The Figure 1.3 shows the safety at work place to free from all kind of incidents / accidents through delineator, barricading tape which improves % of safe man hours at work place.

![Workplace Safety and Preventive Measures](image)

The following Figure 1.4 shows how to have the Mode and method of communication between the authority, responsibility and labors in different languages and to improve the health preventions methods.
These are the few suggestions which helps to improve the safety and to adopt preventive measures to some extent which will reduce the accidents.

CONCLUSIONS

Based on the above survey conducted, the below observations and point has been concluded for this survey with certain improvements. Proper communications in their language’s to be picturised in all safety signage’s / hoardings. Safety induction training for all migrant workers about local safety rules / norms before they entered site premises. The Construction organization should ensure for the availability of first aid box in all projects. Management should ensure to avail below statutory requirements - Interstate migrant license act 1979, BOC act 1996, Tamilnadu contract labor license, Public liability, Health insurance policy, Workman compensation policy. Adequate lighting to be arranged in project premises/ labor camps. Ensuring all these and maintaining regular inspection would reduce the rate of accidents and Migrant workers health also could be seen.

SCOPE FOR FUTURE STUDY

This project restricted to chennai region only to analyze how to reduce the rate of accidents and how to improve lack of communication between the migrant workers and localitie contractors / supervisors with adopting certain proactive measures and monitoring system which reduces the accidents and improves the health hazards within chennai city projects and further study is recommended to all over India with the relevant region and safety culture practiced at their place.
REFERENCES


