

Current Scenario of Health and Safety Practices in Building construction sites in Ahmedabad

¹Name of 1st Author, ²Name of 2nd Author, ³Name of 3rd Author
¹Designation of 1st Author, ²Designation of 2nd Author, ³Designation of 3rd Author
¹Name of Department of 1st Author,
¹Name of organization of 1st Author, City, Country

Abstract : *The objective of this research is to find out the current practices of selected construction firms in Health and Safety Management on construction sites in Ahmedabad. All work activities on the construction sites are considered as dangerous, regardless of their nature or size while the health and safety regulations of the construction site are not applied or controlled by Health and Safety experts on the construction site.*

The focus will be on the improvement efforts on Health and Safety Performance on the construction sites in Ahmedabad so that the overall industry performance may be improved. So the aim of the author is to investigate health and safety management implementation on construction sites in Ahmedabad and to form the basis for developing a health and safety framework for construction sites in Ahmedabad.

IndexTerms – Health and Safety Management, Improvement Strategies, Safety Performance

I. INTRODUCTION

Health and safety is relevant to all branches of industry, it is particularly important for the construction industry. It has always been a major issue as it is considered as among the most exposed sectors when it comes to occupational accidents. The reality is that the construction industry continually has injury and fatality statistics that make it one of the most dangerous industries. Safety rules in most construction sites do not exist and if they exist, the regulatory authority is weak in implementing each rule effectively. When accidents occur, they result in both direct and indirect costs.^[1] Aim of this study is to investigate health and safety management implementation on construction sites in Ahmedabad and to form the basis for developing a health and safety framework for construction sites in Ahmedabad.

Objectives of this study,

To achieve above mention aim of the study the following objective are identified:

1. To find out the current practices of selected construction firms in Health and Safety Management on construction sites in Ahmedabad.
2. To establish the kinds and causes of accidents, injuries and ill health on construction sites in Ahmedabad.
3. To find out the factors influencing implementation of health and safety management on construction sites in Ahmedabad.
4. To provide methods and suggestions to improve the safety performance in construction projects in the Ahmedabad city.

II. LITERATURE REVIEW

The construction industry is very dangerous industry. The performance of the industry in occupational health and safety is very poor. The standard of occupational health and safety is even worse in developing countries. In Indian construction industry OHS has never been given prime importance. Even though in India construction industry is significantly booming. There are no proper initiatives undertaken by the government OHS rules and regulations.

Global Situation of Health and Safety Hazards on Construction Sites :

Construction health and safety risks are always a grave concern for both practitioners and researchers all over the world. Thus, construction has been regarded as the most hazardous place in which to work with a high level of health and safety risks. At least 60,000 fatal accidents happen in a year on construction sites around the world. In the same vein, occupational health and safety statistics presented by different researchers (Lingard & Rawlinson, 2005, Smallwood et al, 2008, Hinze, 2008), revealed that, the injury and fatality rate in construction projects is very high in comparison with other sectors of industry in the majority of countries.

Health and Safety Management:

The Management of Health and Safety of Construction Sites by Okae Adow their aim of this work is to provide a state of health and safety management in various construction activities, study the health and safety of the workers, study the performance and awareness programs of the organization related to safety of the workers for these data is collected by means of visiting various sites and obtaining data from the responded the data is collected with the help of questionnaires and interviews.^[6]

Health and Safety Management Practices of small subcontractors by Nongiba A, Kheni, Andrew R.J. Dainty and Alistair G.F. Gibb their aim of this work is to provide a health and safety management for small subcontractors in the construction activities, because of lack of access to technological, financial and management expertise when devising their health and safety management plans. their aim is also provide effective health and safety management measures and evaluation tools that allow weaknesses in their operations to be established and addressed.^[7]

Health and Safety influences on the construction project performance by shibani A, Saidani M, Alhjeri M their main aim of this research is to be able to produce a comprehensive health and safety policy, it is usually required to have extensive health and safety training. To

achieve the objectives of the study a questionnaire and interviews were carefully designed and data is achieved with number of respondent by giving a data of construction sites.^[8]

A study on health and safety management in construction projects by K Mohammad Imteullah khan, K.sugna,P.N Raghunath the main objective of this study is to identify the critical success factors which are responsible for the implementation of safety management in construction projects. This study was carried out by conducting questionnaire survey among the contractors and clients of various construction projects, for testing their experience in safety management system.The results of the study revealed that there are many safety problems in the construction industry, such as lack of knowledge about the necessity of earth connection for power tools and lack of knowledge about cables protect from mechanical damages.^[9]

Case study on Health and Safety Knowledge and Compliance on construction site by Lab kumar singh, Mukesh Pandey, Sohit Agarwal the main purpose of the research is find out level of health and safety knowledge, compliance on site and how much impact of both on project performance on construction site. Information was administered from construction sites by questionnaires survey and personal interview. This study concludes that only technical person and only construction labour health and safety knowledge and compliance cannot improve project performance, it is possible that both technical person and construction labour should have health and safety knowledge and compliance, and strictly follow the health and safety program can improve project performance.^[10]

A Review of Health Risk on Construction site by M.S Jasmin,Prof.Milind .M Darade The main objective of this paper was to review the health risk during construction of high rise building. The focus of the paper is to understand the health risks with respect to respiration, skin disease, muscular disorders, noise and stress. Further we studied health problem faced by women construction workers. Then finally some remedial measures are suggested to avoid or to minimize of health risk of workers on construction site.^[13]

Health and Safety management on construction site a case study by Grace Muiruri,Cornelius Mulinge the purpose of this paper was to investigate the health and safety measures used on construction sites, evaluate the enforcement mechanisms of health and safety regulations on construction sites and examine the challenges encountered in the management of health and safety in construction project sites. The survey technique was significant in gathering information from site supervisors and the workers on the construction sites by use of questionnaires and/or interviews.^[16]

Research Area:

To carry out research work for Health and safety Practices in building construction sites consisting of less than 60 number of employee, across Ahmedabad city of Gujarat are approached.

III. RESEARCH METHODOLOGY

This Research focuses primarily on literature on Current Scenario of Health and Safety Practices in Building Construction Sites in Ahmedabad. This Chapter discusses how the work will carry out in order to meet the study's aim and objectives. In this section the research questionnaire has been developed and includes the distribution of questionnaire. Survey data may be collected employing a number of techniques, postal questionnaire and email questionnaire, face to face interviews. Owner/managers have more than one telephone line and the frequent problems associated with mobile network providers compel many of them to frequently change from one service provider to another providing better service. For this reason, telephone interviews were not employed for the study. A mail questionnaire was designed to collect data on the incidents and significance of health and safety management within the construction sites in ahmedabad within the constraints of time. Therefore, the adoption of face to face interview survey is the only option feasible option for the present study. This study use a three point Likert scale format ranging from "Agree", "Disagree", "Neutral".

Questionnaire Design:

The Questionnaire were divided into two sections:

- The first section requested profiles of construction (e.g., cost of project, position of the respondent, and characteristics of respondents, type of construction, address of work, number employees, the type of contractor classification)
- The second section also contained closed-ended questions on constraints faced in the construction and health and safety.

IV. DATA COLLECTION AND ANALYSIS

The questionnaire design for use in the survey contained demography data about respondents and 19 safety aspect questions which are in the form. The respondent are asked to choose weightage of ratio for each safety factor which is Agree,- Disagree,- Neutral. The feedback of questionnaire forms are limited to Ahmedabad region.

sr.no	Questions	Agree	Disagree	Neutral	Total
1	Does your company has a Health and Safety policy?	57%	43%	0%	60
2	Does your company has a Health and Safety department/committee?	43%	57%	0%	60
3	Are your employees covered by medical insurance against accidents?	55%	40%	5%	60
4	Any arrangement with hospital for emergency treatment?	50%	45%	5%	60
5	Does your company have a formal health and safety training programme for your employees?	45%	50%	5%	60

6	Does your company have an internal health and safety department?	48%	52%	0%	60
7	Safety material displayed on the site?	60%	37%	3%	60
8	Worker using ppe as per hazard?	35%	65%	0%	60
9	Responsibility for safety and health in only confined to construction work on the site.	53%	40%	7%	60
10	The main cause of the accidents on the site is the workers lack for safety knowledge.	50%	50%	0%	60
11	Implementation of safety regulation helps in reducing accidents	75%	23%	2%	60
12	Insurance companies visit the sites for the insured projects.	53%	45%	2%	60
13	Accident investigation and record keeping on construction sites?	50%	45%	5%	60
14	Tool box talks regularly conducted?	50%	47%	3%	60
15	Owners should include subject of safety in the bid entry.	47%	50%	3%	60
16	Construction professionals should play more active roles in sustaining construction safety?	78%	22%	0%	60
17	Client feel that safety regulations are excessive and complex to follow?	32%	62%	7%	60
18	Worker's safety is neglects in speedy construction?	27%	68%	5%	60

Table 1 Responder's interpretation for safety aspect in Construction sites

N0	Safety tools	Always	Sometimes	Rarely	No	Score	Ranking
1	First Aid Bag	80%(48)	20%(12)			3.6	3
2	Eye protection		20%(12)	30%(18)	50%(30)	1.7	7
3	Safety Helmets	80%(48)	20%(12)			3.6	2
4	Safety Footwear	70%(42)	10%(6)		20%(12)	3.1	6
5	Safety net	60%(35)	20%(12)	10%(6)	10%(6)	3.3	5
6	Warning signboard	70%(42)	15%(9)		15%(9)	3.25	4
7	Site security	100%(60)				4	1

Table 2 Responder's interpretation for safety Tools

Swot Analysis:

SWOT Analysis was carried out to analyse the strengths, weaknesses, threats and opportunities that exist in the current operated plans for companies that were questioned and interviewed. SWOT analysis is a very useful tool for auditing an organisation and its environment. It is the first stage of planning and helps marketers to focus on key issues. This analysis is very useful for construction companies (or other) in the Ahmedabad to address their weaknesses and exploit any opportunities offered to them.

Internal	External
Strengths	Opportunity

-Companies aware of the problem - Companies are willing to tackle the problem and take practical measures	-Companies have opportunity to boost their reputation in embracing H&S. - Opportunity to train employees which will benefit the company by making employees more safe and secure and therefore more productive
Weakness	Threats
-Lack of clear H&S policy -Lack of internal structure to deal with H&S issues (committee) - Lack of training of employees in H&S - Accidents not (always) recorded	System failure - Unexpected disasters as result of lack of H&S policies in place - Company vulnerable to legal action by employees - Company vulnerable to additional costs resulting from failures in H&S - Credibility and reputation of company under threat.

Table 3 Swot Analysis of Construction Companies

V. CONCLUSION

In building construction sites in ahmedabad it can be concluded that access to health and safety resources was a problem, attitudes towards construction site health and safety were seen to be poor, according to total 34 out of 60 (57%) responders are responded that they don't have a safety committee. The reason may be small scale contractor want to make the maximum profit. They wouldn't want to spend their time, money and resources to train their workers to a certain standard of health and safety.

It can be accomplish that total 26 out of 60 (43%) responders are responded that they are not following safety policy in construction sites due to client/owner or a contractor initiatives aimed at increased productivity of the construction sector have failed to incorporate mechanisms to ensure improved working conditions including health and safety. There are certain contracts in which adequate provisions are not made for health and safety and worse of all there are those in which no provisions is made for health and safety at all. So, if government could ensure that in all its contracts there are standard clauses on health and safety to cover such items as site hygiene, toilets, first aid kit, protective clothing, potable drinking water, health education by health personnel.

It can be concluded that total 30 out of 60 (50%) responders stated that they are not giving formal health and safety training to the employees due to lack safety knowledge and they don't have a safety committee. Most respondents also stated that relevant health and safety regulations were not applied in construction because of lack of guidance on how to achieve the health and safety standards contained in them. Training development is therefore necessary and can be undertaken to help address the issue.

On the existing safety procedures, regulations, policies, and accidents prevention methods related to the construction projects; there was a consensus among the respondents that implementation of safety regulation helps in reducing accidents. Construction professionals should play more active roles in sustaining construction safety and in improving safety culture for construction workers. There was also a consensus between the respondents that responsibility for safety and health was only confined to construction work on site.

It can be concluded that total 28 out of 60 (47%) responders stated that they are not conducted tool box talk regularly for their employees due to improper safety management and due lack of safety policy in their site and due to lack of guidance in the construction site for tool box talk.

In general safety of workers in all construction is to be improved. Contractors and owners must give utmost importance to the safety of the workers.

VI. RECOMMENDATION

The following recommendations for improving health and safety in construction sites:

- Development of the safety committee is resulting into improve the safety culture. To improve safety committee increase spot checks or random site visits by the safety inspector.
- The Government can do the following to improve the safety regulations:
 - The government should establish the Department of Occupational Health and Safety Administration (OHSA) with the strong terms of punishment for those who make safety violation.
 - The government should follow up the safety performance in the construction sites by visiting the construction site and evaluating the safety performance during the construction project.
 - The government should provide safety courses on how to improve safety performance in the construction sites for officials of safety in the construction projects, which is to be held annually.

- Time pressure is highly affect the safety in construction projects, so it is recommended that construction project delay and schedules be attainable and set realistically. Penalty for delay in construction should realistic from some fix percentage it will help in to improve safety in construction projects.
- The contractors should prepare the regular safety meeting during the work in the construction site. The contractors should train the workers, promote the safety culture for workers and educate them on how to avoid the risk and use the equipment properly in the construction site.

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