



SAFETY AND HEALTH ISSUES IN CONSTRUCTION INDUSTRIES

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ABSTRACT

The role of employer is very important in construction safety management in any country. It is highly influenced by its legislation. This has motivated the authors to study the construction safety legislation applicable in Indian construction industry and to study the role of employer specified in those legislations. A comparative study has also been made to understand the provisions with regard to employer, specified in both the Acts. This study should be useful to different stakeholders of construction and may result in improvement in construction safety practices. The suggestion is to improve the safety performance on the construction sites. The government should follow up the safety performance by visiting the construction sites. The insurance company should be more active in visiting the construction sites. The owners should be more active towards the safety by controlling, visiting the process in the construction sites. The contractors have to train the workers and promote the safety culture and follow up the safety performance. The consultants should control all the tools in the construction sites to insure that those tools are safe.

I. INTRODUCTION

Any industry plays an important role in building up of a nation. India's economy is based on Agriculture, Industry, and Services. The industry is a major source of income to our economy. According to the National Classification of Industry., [1] the construction industry is under code 5. The workers of the building construction industry are placed in code 7 and 9 of the National Classification of Occupation. [2] About 340 million (roughly 92%) of the workforce is engaged in the unorganized sector, of which, around half of them are from the construction industry. [3],[4],[5],[6] The performance of a worker is usually accounted by the output. It is true that sound health is essential for proper functioning. To safeguard the benefits of the workers and their health, the Central and State Governments in India have enacted various Acts and rules. [3] For building and other construction workers, the Regulation of Employment and Conditions of Service Act, 1996, has been promulgated, for their health and welfare. [7] The maximum stipulated hours of work by Factories Act 1948 is eight hours per day, [8] but the workers are working 10 - 12 hours. [9] This affects their health and they are prone to accidents. The rate of incidence of accidents is higher in the construction industry than the manufacturing industry. [10] Various health hazards are associated with the construction industry. [11],[12] Social security for unorganized sector workers is very meager

Objectives

1. To bring to light the different health problems among workers working in the building construction industry
2. To know the various acts and rules available in the country
3. To find out the magnitude of the problems, as evidenced in research articles



1.1 Review of Literature

4. The review of literature is pertaining to some of the important articles cited or reported in some valuable documents for the last 30 years. Here the emphasis is on the aspects of health hazards, diseases, social security, and psychosocial stress.

II. HUMAN BEHAVIOR IN THE SOCIAL SYSTEM

Social reforms have been taken into considerations by several authors. One of the important aspects is human behavior in the social system. Sociologists would agree that human behavior is shaped by social groups. Emile Durkheim states that Occupation is an example of a social fact. It influences the way we behave and the way others behave toward us. Karl Marx argued that everything that happens in society is caused by economic relationship. [13] ".from the point of view of functioning of the social system, too low a general level of health, too high an incidence of illness, is dysfunctional. This is in the first instance because illness incapacitates the effective performance of social roles..." Talcot Parson. [14] Laborers are classified as per the division of labor into three sections: Primary, Secondary, and Tertiary. [15] The primary section comprises of laborers who cultivate, the secondary section mining and quarrying, and the manufacturing and service industry laborers are from the tertiary section. Construction laborers belong to the service sector, representing the tertiary section.

III. DISTRIBUTION OF LABOUR

Considering the working area, the company laborers are divided into two group- the large group and the small group. The large group workers work in big companies or MNC companies. They make multi-storied buildings, shopping malls, and so on. They are from the organized sector. The small group workers work in small sites of buildings like house or flats. They are the unorganized workers. For the benefit of the workers large companies follow Acts and rules. However, this is not found in the small group owned by contractors of small laborers.

IV. ROLE OF INDIAN GOVERNMENT

To safeguard the benefits and health of the laborers, various Acts are promulgated by the Government of India and rules are framed by the State Government.

The Factories Act, 1948, states that no adult worker shall be required or allowed to work in a factory for more than eight hours per day or forty hours a week. [8]

The Buildings and Other Construction Workers (regulation of employment and conditions of service) Act, 1996, Act no. 27 of 1996 (19 August, 1996) was enacted by the Parliament in 1994: the Act regulated the employment and condition of the service of buildings and other construction workers, to provide for their safety, health, and welfare measures and for other matters connected therewith or incidental thereto. [7]

In India 22.68 million of the workforce is engaged in the construction industry, out of this 18.25 million are casual workers. [16],[17] As per 2001 census, West Bengal alone covers 864,180 construction workers, of whom 827,910 are males and 36,270 females. [18]



The wages of the workers of the organized sector are more compared to the wages of the unorganized small group. The female workers get a lesser amount of wage as compared to the male workers. It is important to note that the maximum wages have also been increased from time to time. The National minimum wages have been increased thus: 1991 - [INSIDE:1] 35; 1999 - [INSIDE:2] 45; 2004 - [INSIDE:3] 45, and 2007 - [INSIDE:4] 80, respectively. [19] It is interesting to note that in 2004, the construction industry workers were paid [INSIDE:5]76.40, [20] which is more compared to the national minimum floor wage rate of [INSIDE:6] 66.00. The revised minimal wage of a construction industry unskilled worker in 2009, was [INSIDE:7] 179.00 in Kerala, followed by Andaman and Nicobar ([INSIDE:8] 167.00), Delhi ([INSIDE:9] 152.00), Haryana ([INSIDE:10] 151.00), and Chandigarh ([INSIDE:11] 148.50). [19] West Bengal has [INSIDE:12] 114.00 for unskilled workers. [19] Average women workers at a certain points in time are jobless, getting lesser wage than males. [21],[22] The unorganized workers get lesser wage as they are under contractors. At times they work in big companies, when the work is outsourced to small contractors. Low wages leads to stress and strain, due to which they cannot fulfill their daily needs. They cannot educate their children and give them proper food. They go through stress and anxiety leading to alcohol intake.

About 19% of the construction workers in the urban area and 38% in the rural area were not eligible for paid leave. [23] It was found that the workers had to work 10-12 hours daily. Very often it happened that they worked day and night to finish a particular construction due to the time constraint. The rigorous work led to many diseases and hazards. They fell sick and were not paid for sick leave.

There are various steps for constructing a building. They involve different types of laborers like mason, santrash mistry, raj misty, marble mistry, electrician, plumber, and so on. These workers are skilled, semiskilled, and unskilled. The big companies give safety facilities like helmets, gloves, and boots to their workers. The small group workers work without any safety measures. The work involves risk factors, whether working at heights or working at ground level. Due to a communication gap they cannot understand properly and come through accidents. The workers are interstate and intra-state migratory workers. During cultivation season they go back to their village for cultivation.

The process of constructing buildings and other structures involves a very wide range of tasks; some of them have a certain amount of risk also. [24] This covers various types of occupational diseases, ill health, and accidents. [25],[26] Very little amount of research has been done on the occupational health, hazards, and psychosocial problems of the workers of the construction industry. Dong et al., [27] observed that working in the construction industry is associated with a high risk of accidents and might result in death. Malignant diseases like cancer of the lung and stomach might be present.

VI. DIFFERENT TYPE DISEASES

The workers might go through different occupational diseases due to exposure to work. They are less educated and not cautious about different preventive measures. The major occupational diseases in construction industrial workers requiring attention are, silicosis, lead poisoning, diseases of joints and bones, carbon monoxide, and benzene poisoning, skin diseases, and so on. [28],[29],[30],[31],[32] The workers are exposed to lead, while buildings are painted. [33],[34],[35],[36] Difficulty in breathing most probably due to the presence of dust and problem associated with high noise and vibration mostly causes hearing loss and

Raynaud's syndrome, respectively. [28],[37] Due to hearing loss the workers speak louder to their colleagues and family members with a concept that others are unable to hear him, as he himself cannot hear. At the working site they do not clean their hands properly. This causes different types of skin diseases that affect their hands and fingers. Reduced travel distances; Participated in the questionnaire are three types of the respondents in the Delhi/NCR Owners, contractors, and consultants. 40 questionnaires have been distributed and the response rate is 75%. 33% of the owners, and the 33% of contractors, and the 33% of the consultants show (figure 4.1) response rate among respondents. All the Type of the respondents executed many projects at the last five years.

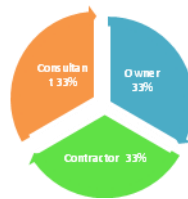


Figure: Response rate among the officials

VII. CONCLUSION

The results in the Delhi/NCR highlighted the bad safety situation where most of the respondents in the survey had accidents in their construction projects during the last five years. Accidents rate mentioned by the contractors (80%) was higher than with the other respondents i.e., the consultants (60%) and owners (70%). This was attributed to the fact that the contractors execute projects with size and values more than the owners and consultants.

There was no detailed record for the size and number of accidents, as the data available only showed the real injuries. Management carelessness, lack of safety officer and safety culture were the main reasons contributed to the increase of rate of accidents in the construction sites. Other than the contractors' responsibility for causing accidents in the construction sites, the absence of government follow up on the construction projects and the failure to improve the safety performance on the construction sites were also responsible for the high number of accidents. Regarding the cost of the construction safety, the majority of the respondents agreed that the cost of safety less than 3 % during the last five years. There were many potential hazards in the sites which can lead to many injuries, or disease among the workers on the construction sites.

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