



A Study On Statutory Provisions For Construction Safety In India

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Abstract: There are about 8.5 million workers employed in the construction activities in India. The construction workers constitute a major portion of the unorganized labour and characterized by their casual nature of employment, temporary relationship with the employer, prolonged and uncertain working hours, lack of safety and health measures, and inadequacy of basic amenities and welfare facilities. There are many legislation providing safeguards for the contract workers in India. The construction safety has been made legally enforceable after the enactment of The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and Central Rules 1998. This paper details on various statutory provisions for construction safety in India with specific reference to the BOCW Act, Central Rules and State Rules.

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1. Introduction

The sustainability of the construction process and its improvement largely depends on Health and Safety of the construction workers [1]. The Construction industry of India is an important indicator of the development as it creates investment opportunities across various related sectors. The sector is labour-intensive and, including indirect jobs, provides employment to more than 35 million people [2]. Health and Safety management practices in construction process can be improvised at various construction levels. Different construction stages incorporate the role of clients, project managers, architects, engineers, contractors, subcontractors, suppliers, and manufacturers [3]. Efforts have been made to address this problem, but the results have been far from satisfactory, as construction accidents continue to dominate the overall construction industry. Despite the programs implemented by government authorities and measures introduced by companies themselves, the number of construction accidents still remains alarmingly high. It is highly unsatisfactory that the implementation of Health and Safety in construction has not resulted in a commensurate improvement in the industry. Construction industry is in requirement of more effective approaches that involves better mechanisms to face industry challenges [4]. This paper provides

as insight in to the various statutory provisions for construction safety in India with specific reference to the BOCW Act, Central Rules and State Rules.

2. Objectives of the Study

The objectives considered for this study are:

- To regulate the employment and conditions of service of building & other construction workers
- To provide safety, health and welfare measures and for other matters connected therewith or incidental thereto.

3. Literature Review

The literature survey reviews on the safety aspects among workers thereby providing safe working environment to the construction workers. According to Charles Y.J. Cheah, there is a high degree of consensus on the three most important parties in assuming safety responsibilities: (i) workers who execute the physical works, (ii) contractors who employ the workers and (iii) government who set up the legislative framework that governs S&H policies and practices. There is however a wider disparity of views on the safety responsibilities that should be shouldered by developers, non-government safety personnel and consultants [5].

Zeng et al., [6] discussed the factors that affected safety in construction industry in China. Their research methods consisted of a structured questionnaire survey and interviews. The questionnaires were sent to safety representatives of the Chinese construction firms, whereas the interviews were conducted with Chinese government officials in charge of safety. The main factors affecting safety performance in China were identified as poor safety awareness of top management, lack of training, poor safety awareness of project manager, reluctance to input resources to safety, and reckless operation.

Kartam et al., [7] evaluated existing safety regulations and procedures adopted by owners, designers, contractors and insurance companies in Kuwait. Different research activities, such as field visits, questionnaires and interviews, were used to collect the necessary information and data. The factors that contributed to poor safety standards were compiled as disorganized labour, poor accident record keeping and reporting systems, extensive use of foreign labour, extensive use of sub-contractors, lack of safety regulations and legislation, low priority given to safety, small size of most construction firms, competitive tendering, and severe weather conditions during the summer.

The wage trend in the construction industry from 1880 to 2004 varies from i) Yearly – 0.24 to 76.40 ii) Monthly – 7.08 to 2292.00 iii) Daily – 85.00 to 27504. The construction man power in India from 1995 to 2007 has shown an annual increase from 9.33 to 11.09.

Okoye et al., [8] examined the health and safety knowledge and compliance of building construction workers on site in Anambra State, Nigeria. Questionnaires containing information relating to health and safety at site were administered randomly to the construction workers and found that the level of health and safety knowledge among the construction workers in the state was moderate. Knowledge and compliance alone are not enough to cause behavioural changes required for safety performance but a certain aspects of safety culture are required. These other essential safety factors include: enforceable regulatory framework, management commitment, workers involvement, etc, which must also be considered for an improved project performance.

Musonda & Smallwood [9] from their research study revealed that the level of H&S awareness is low, H&S legislation is not complied with, the management of contractors is not committed to H&S implementation, there is a lack of H&S management systems, procedures, and protocol,

and clients and designers do not participate in the implementation of H&S.

Ashly Babu [10] investigated the safety performance in the construction sites. The data were collected from the contractors, consultant, and owners by using questionnaire to evaluate the safety performance in the construction sites. The results show that there was still a lack of commitment from the government, the insurance company, the labour ministry, the owners, consultants, and also the contractors to improving safety performance on the construction sites.

Romel and Ricardo [11] explored workers' perceptions of safety practices in their habitual work environment and concluded that the workers have received very little education and possess a limited culture of safety awareness, which has led them to perceive that their lack of precaution is the main cause of accidents. A proper coordination between contractors, clients, and workforce is needed for safe work conditions which are very much lacking in Indian construction companies. Though labour safety laws are available, the numerous accidents taking place at construction sites are continuing [12].

4. The BOCW Act, 1996

There is an exception for residential houses for own purpose constructed with a cost not exceeding Rs.10 lakh and such other activities to which the provisions of Factories Act, 1948 and Mines Act, 1952 apply. It applies to every establishment which employs, or had employed on any day of the preceding 12 months, 10 or more building workers in any building or other construction work [13, 14].

Provision for Health & Safety measures for the construction workers in conformity with ILO convention No.167 concerning Safety & Health in construction. For this purpose comprehensive Central Rules, 1998 have been notified by the Central Government. Article 18 requires that in respect of work at height exceeding the prescribed limit, prevention measures are to be taken against the fall of the workers, tools, material or other objects and precautions against inadvertent stepping on or falling through the fragile materials.

Major Provisions

Major Provisions include i) Constitution of Advisory Committees (At the Central and State level) ii) Registration of Establishments iii) Registration of workers as beneficiaries (Under the Welfare Board) iv) Constitution of Welfare Boards at the State level v) Safety and Health measures vi) Welfare measures. Provision for immediate assistance by board are given in case of: i) Accidents

ii) Old Age Pension iii) Loans for Construction of House iv) Premium for Group Insurance v) Financial assistance for education vi) To meet medical expense vii) Maternity benefits etc.

Funding

To raise the Funds for provision of various welfare measures, the Main Act provides for constitution of Welfare Boards. Major source of the Funds shall be collection of cess at rates not exceeding 2% of the cost of construction incurred by an employer. Collection of funds and administration of the Welfare Boards are the responsibilities of concerned State Governments [15, 16, 17].

5. Safety Provisions

Excessive Noise (Rule 34)

Total time of Exposure per day (in Hours)	Noise Level in dBA
8	90
6	92
4	95
3	97
2	100
1	105
$\frac{3}{4}$	107
$\frac{1}{2}$	110
$\frac{1}{4}$	115

Fire Protection (Rule 35)

An employer shall ensure:

- Fire extinguishing equipment sufficient to extinguish any probable fire at such construction sites.
- Adequate water supply at ample pressure as per National standards.
- Number of trained persons for the operation of fire extinguishing equipment.
- Maintenance and inspection regularly not less than once in a year by responsible person.
- Provision of fire extinguishing equipment in a launch or boat for the transportation of workers & Cabin of lifting appliances and mobile crane.

Emergency Action plans (Rule 36)

Emergency action plans for construction establishments employing more than 500 Building Workers shall prepare emergency action plan for the following emergencies:

- fires and explosions;
- collapse of lifting appliances & transport equipment

- collapse of buildings, sheds or structures etc;
- gas leakages and spillage of dangerous goods or chemicals;
- drowning of building workers, sinking of vessels,
- Landslides getting building workers buried, storms and other natural calamities.

Lifting & Carrying of Excessive Weight (Rule 38)

No Building Worker lifts by hand or carries over head or over his back or shoulders any material, article, tool or appliance exceeding in weight the maximum limits set out in the following table.

Persons	Maximum wt. Load
(a) Adult man	55 Kilograms
(b) Adult woman	30 Kilograms
(c) Adolescent male	30 Kilograms
(d) Adolescent female	20 Kilograms

Health & Safety Policy (Rule 39)

H & S Policy should be prepared by establishments employing 50 or more Building workers & submit it to D.G for approval.

Dangerous & Harmful Environment (Rule 40)

- Adequate & suitable measures by Employer to keep CO content of the atmosphere below 50 ppm.
- No permission to enter B. Workers into confined space, tank, trench or excavation until precautions have been taken and certificate issued by responsible person.

Similarly provisions are given for over head protection(rule 41), Electrical Hazards(Rule 47), Stability of Structures (Rule 49), Test & Periodical Examination of Lifting Appliances(Rule 56) and Lifting Gear (Rule 70) , Operator's Cabin(Rule 63), Transport and Earth Moving Equipment (Rule 88 to 95), Concrete Work (Rule 96 to 107), Demolition (Rule 108 to 118), Demolition of walls, partition, etc. (Rule 110), Inspection (Rule 116), Warnings Signs and Barricades (Rule 117), Mechanical Method of Demolition (Rule 118), Construction, Repair & Maintenance of Steep Roof (Rule 169 – 171), Ladders & Step Ladders (Rule 172 to 174), Catch Platform & Hoardings, Chutes, Safety Belts & Nets (Rule 175 to 180), Safety Belt, Safety Net (Rule 178 to 180), Safety Officer (Rule 209), Hazardous process (Rule 225), Notifiable Occupational Diseases (Rule 230), Hazardous processes (Schedule IX).

6. Conclusion

The statutory provisions on Construction Safety are aimed at providing for the Occupational Safety and Health of construction workers to protect

them from the hazards at the Construction sites. The statutory provisions also provides for data collection on accidents to fix responsibility and to implement corrective actions. Most of the states have started implementing the BOCW Act and Rules in their respective states by enacting State rules. The enforcement of safety provisions in construction sites will go a long way in protecting construction workers from the occupational hazards. It is imperative on the part of all the stack holders to contribute towards ensuring safety of the construction workers by the effective implementation of the statutory provisions.

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