

Investigating The Neglected Safety Practices Influencing Safety Performance Of Building Construction Projects In Sindh Province Of Pakistan

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ABSTRACT

Safety non-performance has not only contributed to higher levels of injuries but also decreased total productivity in the building sector. Through improving standards of safety practices, the condition can be changed. This paper provides a framework for recognizing the most neglected safety practices that must be improved. The research was performed using a questionnaire survey of 33 safety practices. Data obtained through 210 questionnaires from respondents who were working on building projects in the Sindh Province were analyzed using statistical package for the social sciences. All safety practices have been prioritized based on their mean safety performance values. Statistics have shown that the average safety performance of the building industry is 60.596 per cent. Construction safety practices that need special attention are listed as; (a) People should work safely even when they are not being supervised (b) Safety training provided to the employees of subcontractors (c) Investigations carried out to identify the causes of accidents (d) Accidents are reported/recorded (e) throwing or dropping of material/equipment carelessly. The findings also have shown that the factor 'Accident reporting and investigation mechanism', has the lowest level of safety performance, accompanied by 'Workers' involvement', 'Safety training', 'Safety practices', 'Safety meetings'. The findings of this report will provide building stakeholders with valuable knowledge for safe work practices.

Keywords

Safety Practices, Pakistan Engineering Council, Safety Performance

1. Introduction

The building sector plays a vital position in both eastern and western economies, responsible for about 10% of the world's gross domestic product (A. A. Raheem & Hinze, 2014). Despite the important economic benefits of the building sector, the building industry is concerned with a relatively high number of accidents and casualties. According to the survey from the ILO, 270 million workplace injuries are reported worldwide annually. The whole accidents impact millions of households by destroying the lives of around 2.2 million workers and affecting 1.6 million health of the population, resulting in a disquieting figure of 6,000 workplace health problems in one day. However, building firms across the globe are introducing protection, health and environmental management programmes to minimize accidents, eradicate disease and create a healthy working atmosphere for their workers (Choudhry, R. M., Fang, D., & Rowlinson, 2008). In developing countries like Pakistan, construction operations in recent years have been steadily expanding with more than 3 million industry staff (PBS., 2018). In Pakistan, building workers make up 7.6% of the total work force, with building accidents and casualties responsible for about 17.3% of all fatal and non-fatal accidents. (PBS., 2018). Despite these troubling figures, almost no significant attempts have been made to improve the safety conditions of building workers in Pakistan (A. A. Raheem & Hinze, 2012). Informal studies have shown not only that safety failure has contributed to a spike in injury, but also to delays,

overruns in cost and low production. (Hafiz Zahoor Ahmad Khan & Rafiq M. Choudhry, 2012) In Pakistan's building industry, health and safety provisions mainly are included in contract agreements but are not properly implemented because of employees' negligence and ignorance of their rights which lead to poor safety performance. In addition, reported statistics on building injury and mortality are not available in any credible manner. (Hafiz Zahoor Ahmad Khan & Rafiq M. Choudhry, 2012). Alike the majority of the under developing countries, there are numerous hurdles and threats that Pakistani construction industry is facing to improve the implementation of safety regulations within the building industry.

2. Literature Review

The building sector in developing countries needs to introduce a safety, health and environmental protection mechanism to execute projects without harm and reduce threats to the workplace (Choudhry, R. M., Fang, D., & Rowlinson, 2008). Main causes of injuries have been recognized as the unique nature of the building industry, human actions, hazardous working environments and inadequate safety management (Syed M. Ahmed, 2013).

Safety is an important concern for ensuring continuous work and protecting workers' lives in all types of industries. Construction protection and health is a situation in which workers need a safe and healthy atmosphere for themselves and other individuals who are influenced by its practiced. A variety of factors have been identified that impact safety efficiency in the construction industry, including employee behaviour, the size of the construction firm, security policies, project planning, economic pressure, management training, and safety culture. Low safety awareness of top management, lack of preparedness, weak safety awareness of project managers and inability to input protection services and unsafe activities are the reasons impacting safety on building sites (Tam, Zeng, & Deng, 2004). There are three aspects of positive conduct: awareness, equipment on work, determination to act safely. (Marsh, Chessor, Craven, & Roche, 1995). There have been multiple types of work casualties, ranging from mild incidents to fatal accidents, attributed to unsafe or inadequate safety procedures. The owner / developer / contractors and other site personnel are primarily responsible for construction safety. The progress of a project relies on the detailed preparation and On-site decisions on safety measures.

However, in Pakistan the safety performance of large and small contractor firms also differs significantly as most large companies in category C-A (contractor groups without financial limit) registered with the Pakistan Engineering Council have clear security policies and provide employees with certain standards of training and maintain safety staff at their job sites. Small companies, in comparison, do not have general safety on their agenda, so many building projects suffer from unsafe conditions and many injuries and accidents impact employees (Choudhry & Zahoor, 2016). However, there is hardly regulation on safety in developing countries like Pakistan, and insufficient, ineffective or outdated regulation is in existence. Nonetheless, the laws and regulations on building safety cannot be applied because in Pakistan there is no worker health and safety control authority functioning in a capacity similar to that of OSHA in the United States (Choudhry, R. M., Fang, D., & Rowlinson, 2008).

Subsequently training systems for workers are not available for certain work sites of the contractor; inductive training is not performed for new hires or staff; risks are not evaluated, and security meetings are not held. Furthermore, in isolated areas, there are also lack of readily available medical services, inadequate housing and poor sanitation.

As this is a global concern, both emerging and developed countries need to put a great deal of focus on preparation and the use of robust safety systems (Syed M. Ahmed, 2013). In addition, injuries and harm to employees, property, equipment and morale have adverse implications for the viability of the company and also for the competitiveness of the company (Lodi-Smith, Geise, Roberts, & Robins, 2009). Consequently, such safety protocols and practises must be followed for worksite operations and awareness raising among staff, site managers and engineers for every construction project.

2.1 Main Causes Of Poor Safety Practices In Construction Sites:

Researchers studied the underlying causes of unsafe safety practises at the workplace, which eventually led to injuries at the construction site. According to (Ridley, 1986), dangerous actions or unsafe procedures are largely responsible for significant injuries. He stated that almost 99 per cent of fatal injuries occur as a result of either dangerous activities or unsafe procedures or both. According to Toole, (2002), there have been eight underlying factors of poor safety practises that are primarily responsible for all building injuries. These include a lack of proper preparation, inadequate safety compliance, failure to provide protective equipment, dangerous methods or handling, dangerous site

conditions, inability to use the safety equipment given, and a bad attitude towards safety. According to human elements, inadequate control of the workplace, lack of use of personal protective equipment (PPE) and dangerous equipment used in building operations were the common reasons behind the poor safety practises at work.

Thus according Paringga & Aribowo, (2016), instruction and appropriate training are intended to prevent human errors which could lead to injuries and enable employees and labourers to carry out repeated tasks skilfully. According to (Tam et al., 2004), the causes of injuries include low safety knowledge among top administrators, lack of appropriate instructions, and poor information flow lack of correct technical guidance, uncontrolled operation, unwillingness to input resources for safety, lack of certified skill labor, unsafe equipment, lack of first aid measures, lack of innovative technology, lack of rigorous enforcement of safety regulation, lack of teamwork spirits, lack of protection in material transportation and storage, shortage of safety management manual, lack of organizational commitment, lack of personal protective equipment (PPE).

3. Objectives Of Study:

The objectives of the study are :

- 1) To evaluate the safety performance at construction sites.
- 2) To identify weaknesses in existing workplace safety practises.
- 3) To recommend preventive measures to expand safety at building sites.

4. Research Methodology

In order to determine the performance level of each safety practice, the findings of questionnaire surveys were analyzed to evaluate the rank of all safety practices. The most neglected safety practises have been identified on the basis of this survey. For data validation and reliability analysis, a statistical package for social sciences (SPSS) has been used. Internal consistency of the questionnaire has been calculated by the Cronbach's coefficient alpha method.

4.1 Questionnaire Design:

A thorough literature was carried out which suggested that a variety of safety practices and factors exist affecting safety performance of construction sites. However, for this study, only 33 safety practices which have most influence on safety performance of construction projects was selected clustered into 10 main safety factors, were shortlisted through a comprehensive literature review as shown in table 1.

General information was questioned in the first section of the survey questionnaire, using multiple choice questions, such as age, job experience, education, and grouping of respondents into contractors, consultants, and clients. Throughout the second section, respondents were asked to rank protection activities on a five-point Likert scale of 1 (Strongly Disagree) to 5 (Strongly Agree).

4.3 Pilot Study

The goal of the pilot study was to improve the structure, style and composition of the questions and the overall survey content. Therefore two-step pilot study was conducted to ensure that the questions are straightforward, ambiguities are excluded and that they are applicable to a particular group. In first phase, the questionnaire was sent to five academia and industry experts, and their positive comments were addressed. The modified questionnaire has again been shared with two contractors, consultants and consumers who have not been involved in the final survey. The feedback from these people led to the improvement and removal of inconsistencies and differences and the final questionnaire is created with their feedback.

Table 1. Safety Practices identified through literature review :

Safety Practices	References
A. Management's commitment to safety	(Shah & Alotaibi, 2018)
1. Safety is the primary concern of upper management and not productivity	(Mohammed, Shamsul, & Bakri, 2017)
2. There is no workplace burden and safety is given preference over time.	(Nadhim, Hon, Xia, Stewart, & Fang, 2016), (Gao, Chan, Utama, & Zahoor, 2016)

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| 3. Upper management / safety officers carry out routine safety inspections. | (Feng, Teo, Ling, & Low, 2014) |
| 4. Management is really serious about the safety and health of those who work here. | (A. A. Raheem & Hinze, 2012) |
| 5. Field Engineer, Supervisor and safety officer promote hazard reporting. | (Awwad, El Souki, & Jabbour, 2016) |
| B. Workers' involvement | |
| 6. Safety laws and policies are strictly practised by staff. | (Adeeba A. Raheem & Issa, 2016) |
| 7. Staff respond strongly to any violations of the safety rules by employees. | (Hafiz Zahoor Ahmad Khan & Rafiq M. Choudhry, 2012) |
| 8. People here still work comfortably even though they're not being watched. | (A. A. Raheem & Hinze, 2014) |
| C. Safety in the contract documents | |
| 9. In any type of contract, contractor had been required to present the project's 'safety policy.' | (Hafiz Zahoor Ahmad Khan & Rafiq M. Choudhry, 2012) |
| 10. Before beginning each task, the contractor is expected to provide a 'safety plan.' | (Adeeba A. Raheem & Issa, 2016) |
| 11. Safety audits are routinely performed. | (A. A. Raheem & Hinze, 2012) |
| D. Safety rules/procedures and policies | |
| 12. The first aid service is made accessible on-site. | (A. A. Raheem & Hinze, 2012) |
| E. Accident reporting and investigation mechanism | |
| 13. There is a written framework for accident reporting and investigation. | (El-Mashaleh, M., H., & Rbabe, 2010) |
| 14. Accidents are usually reported/recorded | Chenet et al., 2013 |
| 15. Investigations to determine causes of injuries are often carried out. | (López Arquillos, Rubio Romero, & Gibb, 2012) |
| F. Safety training | |
| 16. New employees' training is mandatory. | (Jeyakanthan, J. and Ahamad, 2012) |
| 17. The staff of subcontractors are also provided with safety training. | (López Arquillos et al., 2012) |
| 18. The organizational chart shows the names, roles and responsibilities for safety compliance on the site. | Geneva et al., 2012 |
| 19. Safety banners and signboards are used in crucial locations for staff awareness, in English and Urdu. | (Rizwan U Farooqui & Farrukh Arif, 2008) |
| G. Safety meetings | |
| 20. Safety is addressed at all progress and pre-construction gatherings. | (Gunawardana & Jayawardane, 2003) |
| 21. In safety discussions subcontractors also participate. | (Belel & Muhmud, 2012) |
| H. Use of personnel protection equipment (PPE) | |
| 22. The organization has an efficient issuance/ inspection / replacement scheme for the PPE | (El-Mashaleh et al., 2010) |
| 23. PPE is of high standard, used on site. | (El-Mashaleh et al., 2010) |
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24. Employees are expected to enter the workplace with hard hats on it.	(Vitharana, De Silva, & De Silva, 2015)
25. Hearing protection and safety glasses are most often used when required.	(Jackson et al., 2011)
26. At the height, workers often use safety belts and a protected lanyard.	(Somasundaraswaran, Brammananda, Akeel, & Rajakumar, 2006)
I. Safety practices	(Hafiz Zahoor Ahmad Khan & Rafiq M. Choudhry, 2012)
27. Walkways / stairs not packed with litter and muddy spots washed up periodically.	(Hafiz Zahoor Ahmad Khan & Rafiq M. Choudhry, 2012)
28. Scrap is periodically extracted.	(Hafiz Zahoor Ahmad Khan & Rafiq M. Choudhry, 2012)
29. No material / equipment carelessly tossing or falling.	(Hafiz Zahoor Ahmad Khan & Rafiq M. Choudhry, 2012)
30. Sharp corners, including nails and metal bars, are coated / protected	(Ahamed, Nafeel, Rishath, & Dissanayake, 2011)
J. Quality of scaffolding and ladders	(Abdul Hamid, Wan Yusuf, & Singh, 2003)
31. Specifically built / connected scaffolds are utilized which are regularly checked.	(Hafiz Zahoor Ahmad Khan & Rafiq M. Choudhry, 2012)
32. Guardrails are mounted on working scaffold platforms to avoid falling.	(Jackson et al., 2011), (Rizwan U Farooqui & Farrukh Arif, 2008)
33. High quality ladders are used at construction sites without faulty rungs.	(Hu, Rahmandad, Smith-Jackson, & Winchester, 2011)

4.4 Sample Size

By year 2017-18, over 2737 construction companies in different groups have been registered with the Pakistan Engineering Council (PEC). in Sindh province. This statistic has been used as the population size. Therefore, the responses were assumed to be homogeneous and the p value would be set to 0.5. When these values are added to Equation 1, The appropriate sample size was determined to be 93 for a sampling error of $\pm 10\%$.

$$n = \frac{[(N) (p) (1 - p)]}{[(N - 1) (B/C)^2 + (p) (1 - p)]} (1)$$

Where:

n = Required sample size (notation commonly used n)

N = Population size i.e. 2737

p = Proportion of the population that is expected to choose one of the response categories (yes/no); P = 0.5

B = sampling error; ($\pm 10\%$ or ± 0.10)

C = Z statistic associated with confidence level (Z=1.96 for 95% confidence level)

4.4.1 Characteristics Of Respondents

Three Hundred (300) questionnaire sets were distributed, as results a total of two hundred and ten (210) questionnaire sets were collected back. The response rate for the survey was 70% which is acceptable.

It can be observed in Fig. 1, the highest response came from the contractor it is 51.94%, the response of the consultant was ranked as second, it was 25.97% and 22.09% percent to the client organizations.

Respondents of the building industry worked at various ranks such as executives 27.4%, engineers 24.5%, supervisors 19.6%, employees 14.7% and the safety officials 13.8% and therefore Fig.2 shows education level of all respondents.

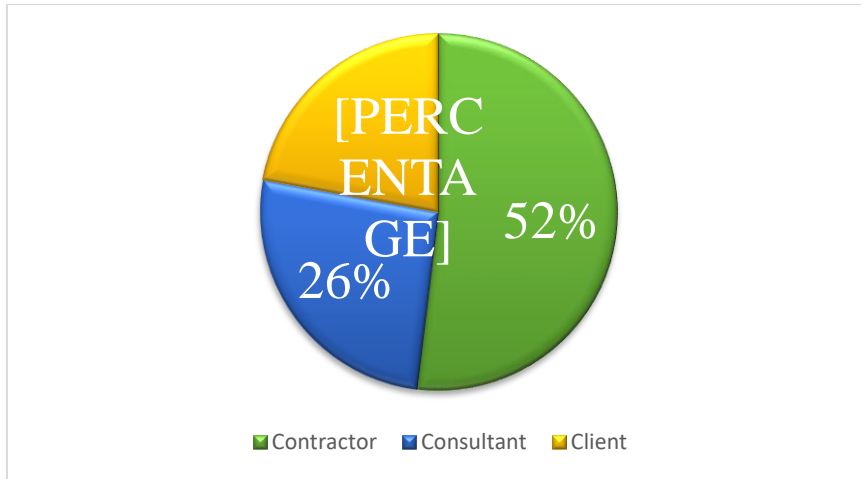


Figure 1 : Respondents based on categories

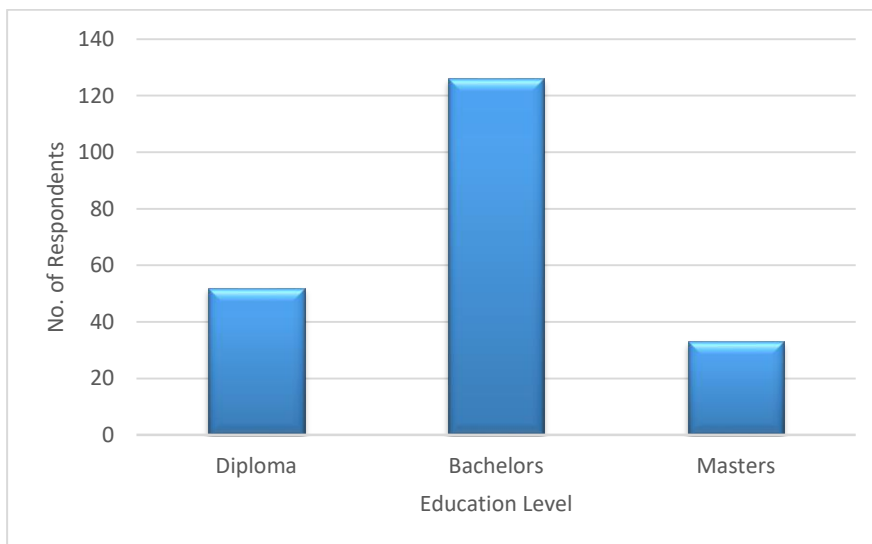


Figure 2 : Respondents Education Level

4.4.2 Type Of Building Firms Participating In The Survey

The survey included responses from 30 PEC registered construction firms operating in the Sindh Province. Respondents from the numerous organizations represented clients, consultants and contractors. The building firms involved in the survey are divided based on their PEC category in Table 2.

Table 2 : Size of companies based on PEC categories

PEC category	Financial limit of each category	No. of companies
C-A	No financial limit	2
C-B	2,000 Million	3
C-1	1,000 Million	5
C-2	500 Million	9
C-3	250 Million	7
C-4	100 Million	4
C-5	30 Million	-
C-6	15 Million	-
Total		30

5. Data Analysis

5.1 Reliability Of The Data

To obtain Cronbach's Alpha value, data collected from 210 valid questionnaire forms was analyzed using SPSS software. The Alpha of Cronbach is 0.816, which means that the consistency is high, and the data obtained is valid, since the Alpha of Cronbach is greater than 0.7.

6. Ranking Of Safety Practices

SPSS was used to analyze the collected data. Mean and percentage values were determined to rate the performance of all safety practices (see Appendix-A). In the Sindh Province of Pakistan, mean safety performance value for the construction sector was estimated as 3.045 (60.914 per cent) preferably closer to 5. The findings have revealed the most neglected safety practices that need extra consideration from all stakeholders of the building industry.

- 1) Labours do not work safely at workplaces when they are not being supervised.
- 2) Safety training sessions are not conducted for the employees of subcontractors.
- 3) Investigations are not carried out to identify the causes of accidents at worksites.
- 4) Accidents are not reported/recorded.
- 5) Workers are always careless when they throw or drop the material/equipment.
- 6) Walkways/staircases always littered with debris and wet spots do not clean up regularly.
- 7) Good quality ladders are not used on the worksite; usually, those ladders are used having defective rungs.
- 8) An organizational chart is not displayed on worksite showing names, positions and responsibilities for safety compliance.
- 9) Guardrails are not always placed on working scaffold platforms to prevent any fall.
- 10) PPE used on-site, is of inferior quality.

7. Ranking Of Safety Factors

All safety practices have been listed in 13 safety factors. Mean, and percentage values have been determined for all safety factors (Table 3) in order to rank the performance level of each safety factor. Results revealed the factor 'Safety in the contract documents' has got the highest safety performance value of 3.416 (68.32), followed by the factor of 'Management's commitment to safety' 3.341 (66.82). The factor of 'Accident reporting and investigation mechanism' has got the lowest performance value of 2.791(55.82), it ensures that 'Accident reporting and investigation mechanism' is the most overlooked safety factor, it is accompanied by 'Workers' involvement' (58.04), 'Safety training' (58.54) and 'Safety practices' (58.74).

Table 3: Ranking of safety factors

S. No	Safety factors	Mean	Percentage	Ranking
1.	Management's commitment to safety	3.341	66.82	2
2.	Workers' involvement	2.902	58.04	9
3.	Safety in the contract documents	3.416	68.32	1
4.	Safety rules/procedures and policies	3.104	62.08	3
5.	Accident reporting and investigation mechanism	2.791	55.82	10
6.	Safety training	2.927	58.54	8
7.	Safety meetings	2.979	59.58	6
8.	Use of personnel protection equipment (PPE)	3.091	61.82	4
9.	Safety practices	2.937	58.74	7

10.	Quality of scaffolding and ladders	2.990	59.8	5
	Average safety performance	3.047	60.596	-

8. Discussion

For construction projects in Sindh Province, construction safety performance is estimated as 60.596 per cent (Table 3), preferably nearer to 100%. This ensures that health standards in the construction industry need to be improved.

8.1 Safety Practices

The most neglected practices in the building sector are underlined as :

1. When Labours are not monitored, workers take unnecessary risks and lead to a high rate of accident.
2. Subcontractor workers are not provided with safety training, since workers can easily be injured or even killed without adequate training.
3. The inquiries are not undertaken in order to determine the reasons for occupational injuries as accidents are useful in detecting safety risks or preparation for safety and should be taken into account to minimize the risk of future injury.
4. There is no documentation or recording of incidents, but injury incidents and ill-health records may be used as a method for assessing risk to create future risk solutions better. Records also lead to avoidance and monitoring of unintended losses and injuries.
5. Employees are often reckless when they throw or drop the material/equipment, dropping instruments and equipment has an immense detrimental effect on production and, of course, most significantly, is the loss of life Also for recoverable conditions, it is devastating for the victims and families affected – it will lead to a loss of income and continuing medical costs.

8.2 Safety Factors

The ranking of safety factors showed that ‘Accident reporting and investigation mechanism’ is the most neglected safety factor, followed by ‘Workers’ involvement’ ‘Safety training’ and ‘Safety practices. The survey discovered that refresher safety training sessions are not conducted at all. Whereas on most sites, there is no organizational chart that shows safety duties, subcontractor employees do not receive safety training or not provided with safety equipment. However, Subcontractor participation in safety meetings is not encouraged. Progress meetings only focus on issues related to productivity when safety is not discussed. Sometimes workers do not comply with safety standards and procedures and tend to take unnecessary risks if they are not supervised. Moreover, Workers do not have a feeling of being comfortable wearing PPEs. Consequently, Training and media campaigns are necessary to educate workers on the significance of safety.

9. Conclusion

1. This paper examines the existing building safety literature and describes the construction safety defects. The results can be summarized as follows
2. The safety performance of construction in Sindh Province of Pakistan is estimated at 60.596 %.
3. The often ignored safety practices which require special care in order to increase safety performance are: Labour force does not operate safely in the workplace if it is not monitored, for subcontractors staff, safety awareness sessions are not held, Investigations are not performed to determine the causes of injuries at job places, Accidents are not reported/recorded, Workers are always careless when they throw or drop the material/equipment.
4. The factor ‘Accident reporting and investigation mechanism’ has the lowest safety performance value, i.e. 55.82 %. It is quite evident that contractors do not prioritize to record and maintain accident statistics, and only focus on productivity.
5. The second most overlooked safety factors are ‘Workers’ involvement’ ‘Safety training’ and ‘Safety practices.
6. Staff often refuse to follow safety guidelines and standards and continue to take unnecessary risks while they are not monitored. For a fact, employees do not feel comfortable using personnel protective equipment.

7. Subcontractors are not allowed to engage in safety meetings, and development sessions do not have safety on their agendas. Stakeholders primarily concentrate on increasing efficiency and cost and resources savings while safety is the lowest on their agenda.

10. Recommendations

1. Safety should still be emphasized, no matter how fast and according to which budget limitations the building has to be completed.
2. Training, workshops, seminars, posters, banners are used to increase awareness of staff
3. Collaboration with international organizations working on workers ' OSH rights could take place in order to bring pressure on local authorities and governments.
4. The company's certification of ISO and collection process for data regarding OSH problems should be reviewed.
5. Safety training and awareness workshops may be held daily, and staff may be made aware of the necessity of using personal protective equipment. In addition, safety signs and posters with photographs illustrating the appropriate safety requirements and safety responsibilities will be posted at conspicuous positions on building sites.
6. The selection of contractors can be dependent on previous safety records. Besides, PEC can amend its registration requirements to ensure that all building companies have a safety officer.

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APPENDIX 1. RANKING OF SAFETY PRACTICES

Safety Practices	Mean	Percentage	Ranking	
<i>1. Management's commitment to safety</i>				
1.	Safety is the primary concern of upper management and not productivity	3.083333	61.666	13
2.	There is no work pressure on workers and safety is given priority over time.	3.416667	68.333	4
3.	Upper management / safety officers carry out routine safety inspections.	2.916667	59.333	21
4.	Management is really serious about the safety and health of those who work here.	3.583333	71.666	2
5.	Field Engineer, Supervisor and safety officer promote hazard reporting.	3.708333	74.166	1
<i>2. Workers' involvement</i>				
6.	Safety laws and policies are strictly practised by staff.	3.125	62.5	10
7.	Staff respond strongly to any violations of the safety rules by employees.	3.083333	61.466	14
8.	People here still work comfortably even though they're not being watched.	2.5	50	33
<i>3. Safety in the contract documents</i>				
9.	In any type of contract, contractor had been required to present the project's 'safety policy.'	3.333333	66.666	5
10.	Before beginning each task, the contractor is expected to provide a 'safety plan.'	3.5	70	3
<i>4. Safety rules/procedures and policies</i>				
11.	Safety audits are routinely performed.	2.958333	60.1	18
12.	The first aid service is made accessible on-site.	3.25	65	6
<i>5. Accident reporting and investigation mechanism</i>				
13.	There is a written framework for accident reporting and investigation.	2.916667	58.933	22
14.	Accidents are usually reported/recorded	2.75	55	30
15.	Investigations to determine causes of injuries are often carried out.	2.708333	54.166	31
<i>6. Safety training</i>				
16.	New employees' training is mandatory.	3.166667	63.333	8
17.	The staff of subcontractors are also provided with safety training.	2.708333	52.166	32
18.	The organizational chart shows the names, roles and responsibilities for safety compliance on the site.	2.872	57.1	26
19.	Safety banners and signboards are used in crucial locations for staff awareness, in English and Urdu.	2.958333	59.966	19
<i>7. Safety meetings</i>				
20.	Safety is addressed at all progress and pre-construction gatherings.	3.041667	60.833	16
21.	In safety discussions subcontractors also participate.	2.916667	58.533	23

<i>8. Use of personnel protection equipment (PPE)</i>				
22.	The organization has an efficient issuance/ inspection / replacement scheme for the PPE	3.083333	61.666	15
23.	PPE is of high standard, used on site.	2.916667	58.333	24
24.	Employees are expected to enter the workplace with hard hats on it.	3.25	64.2	7
25.	Hearing protection and safety glasses are most often used when required.	3.041667	60.233	17
26.	At the height, workers often use safety belts and a protected lanyard.	3.166667	63.133	9
<i>9. Safety practices</i>				
27.	Walkways / stairs not packed with litter and muddy spots washed up periodically.	2.833333	56.666	28
28.	Scrap is periodically extracted.	3.125	62.444	11
29.	No material / equipment carelessly tossing or falling.	2.833333	55.666	29
30.	Sharp corners, including nails and metal bars, are coated / protected	2.958333	59.566	20
<i>10. Quality of scaffolding and ladders</i>				
31.	Specifically built / connected scaffolds are utilized which are regularly checked.	3.125	62.3	12
32.	Guardrails are mounted on working scaffold platforms to avoid falling.	2.916667	58.133	25
33.	High quality ladders are used at construction sites without faulty rungs.	2.875	57.1	27
	Average safety performance	3.045	60.914	-