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Contractors' Perception towards Safety and its Consequences on Construction Workers in Cape Coast Metropolis[1]

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Abstract

The construction environment has been declared as a hazard prone area due to high number of accident and death. The study aims to identify influential factors that contribute to poor safety practices and its consequences on construction workers in Cape Coast Metropolis. Seventy respondents were taken as the sample size for the study. Descriptive analysis was used to analyze the data obtained from the field. Findings show that poor site management, working without safety gadgets, failure to use their Personal Protective Equipment (PPE) and negligence of workers were the main causes of accidents on sites. Poor site management had the highest ranking among the seven variables. Effects of poor safety practices on building construction site and delays in work execution were due to injury of workers, extra cost due to payment of compensation to injured victims, not motivated due to injury of worker and declined reputation of firm. Management team should motivate workers for safe work done, provide adequate PPE for their workers on site and have documented health and safety policy on site. Site authorities and management team should be on site regularly to ensure proper safety practices on construction site.

Keywords: Delay, Death, Health Risk, Injuries, Poor Attitude, Negligence.

Major classification: Environmental Safety and Engineering, Public Health, Health Policy and Economy.

1. Introduction

The construction industry is considered to be one of the most dangerous industries (Chartered Institute of Building, 2009). Menzel and Gutierrez (2010) posited that the construction industry is prone to safety risks due to poor physical environment, nature of construction work operations, methods, materials, heavy equipment used and physical properties of the project. Occurrence of accident has always been a major issue as it is considered as among the most exposed in the construction sector. The construction industry topped the list of fatal accident among other industries, with 937 worker death. This is about a 4 % increase in occupational fatalities over 899 reported for 2014.

This is the largest number of construction worker deaths since 2008 (Kendall, 2017). Noncompliance to occupational health and safety may result to series of accidents on site, such as creating panic among the workers and negligence of safety and health of the worker (Srinivas, 2016). Most builders do not follow safety rules, thus leading to accident in the construction industry (Srinivas, 2016). Health and safety rules are usually violated by workers and they live in horrible conditions. Most construction companies are not registered and the labour department officials do not have the list of the registered firm and the details of the workers engaged by the

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management (Srinivas, 2016). Health and safety can be improved by addressing construction problems in many different ways as it reflects the common threat that binds the global research efforts in construction health and safety (Cooney, 2016). The paper determined influential factors that contribute to poor safety practices and its consequences on construction workers in Cape Coast Metropolis

2. Literature

This section gives details on construction industry practices in relation to health and safety in the construction Industry, health and safety implementation in Ghana and construction health and safety compliance.

The construction industry is an important sector of the economy and plays a key role in national social and economic development (Lopes, 2011). The main client of construction industry is a government, regarding to their policy in infrastructure development (Nazib, 2010). Allen 92014). Posited that regulators and the industry itself are facing a major challenge due to shortage of skilled workers and the peripatetic and fragmented nature of the industry. Hughes and Ferrett (2012) was of the view that high level of literacy among construction industries has contributed to difficulty in communication of health and safety to employees.

The implementation of Occupational Health and Safety (OHS) as indicated by Annan, Addai and Tulashie (2015) in very difficult in Ghana. Mustapha, Aigbavboa and Thwala (2014) pointed that OHS issues in Ghana have not been managed effectively due to inefficient institutional frameworks responsible for H&S standards, inability to partner with organizations responsible for the implementing the OHS activities, lack of comprehensive national OHS policy, inadequate government support for regulatory institutions and inability to ratify the ILO convention number 155. Annan et al., (2015) further indicated that some key economic sectors have not been covered by the current OHS legislation and it is fragmented and limited in coverage. Moreover, the body responsible for the implementation of the necessary OSH requirements for the missing national policy in Ghana is not constituted (Annan et al., 2015). Dadzie (2013) indicated poor risk assessment, inadequate data collection systems, lack of H&S education in various institutions, lack of H&S training for workers, inadequate H&S professionals, poor attitude of workers towards H&S, communication difficulties, H&S policies, cost of providing and maintaining H&S on sites and accident reporting shortfalls were the factors affecting the implementation of OSH in Ghana. Annan et al., (2015) argued that the Ghana government is not able to partner with organizations responsible for the implementing the OHS activities and reported on its outcomes. The quest for the requirements and committed bodies to handle the mantle of affairs that will initiate the implementation of the national policy should be considered.

Rouse (2015) describes compliance as a state of being in accordance with established guidelines or the process of becoming so. Idubor and Osiamoje (2013), argued that lack of strict enforcement of OSH regulations leads to non-compliance to OSH regulations. Umeokafor, Isaac, Jones and Umeadi (2014) stated that noncompliance to OSH regulations is a major contributor to the poor state of OSH. Performance of well-designed compliance audit and reviews programme will ultimately lead money saving, creating a more productive working environment for employees and also resulting in better outcomes (Bose, 2016).

3. Methodology

This section describes the methods employed in the data collection and analysis. Descriptive statistics was used for the data analaysis (Polit and Hungler 2013). Questionnaires covered issues on problems of health and safety in the construction industry. Only four construction companies were working in Cape Coast during the data collection and all of them were considered. It repents the population (two hundred and thirty) and meets the criteria used by Alvi (2016). Stratified sampling technique was used which comprised of six strata made up of site engineers, site supervisors, safety officers, clerk of works, foremen and artisans and labourers. The population was divided into a number of strata and the sample was drawn from each stratum. The resulting sample (seventy) was used as the final sample for the study (Sarantakos, 2012). Confidence level of 95% and an absolute limit of 5% was used was employed in the sampling. Thus, the size of sample was determined using Gupta and Kapoor (1970) formula. The distribution of questionnaires was fast since all the four construction sites were in Cape Coast and the response rate was high (85%). The selected personnel (four site engineers, two site supervisors, one safety officer, two clerk of work, ten foremen and fifty-one artisans and labourers) was based on a convenience sampling technique. Convenience sampling method was adopted because of accessibility and proximity and the results were analysed using descriptive statistics.

4. Findings

This section presents the finding from the administered questionnaires.

4.1 Demographic Data

Table 1 shows that majority (91.43%) of the respondents were males and it indicates the domination of male employees in the construction industry.

Table 1: Gender

Gender	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Male	64	91.43	91.43	91.43
Female	6	8.57	8.57	100.0
Total	70	100.0	100.0	–––

Table 2 shows that majority (45.72%) of the respondents were Technician with Construction Technician Certificate (CTC) Grade I to III.

Table 2: Level of Education

Education	Frequency	Percent (%)	Valid Percent	Cumulative Percent
BSc	12	17.14	17.14	17.14
HND	21	30.00	30.00	47.14
Technician	32	45.72	45.72	92.86
MLSC	5	7.14	7.14	100.0
Total	70	100.0	100.0	–––

Table 3 shows that majority (72.86%) of the respondents were artisans. Very few respondents were site engineers, site supervisors, clerk of work s and safety officers.

Table 3: Position in the Firm

Position	Frequency	Percent	Valid Percent	Cumulative Percent
Site supervisor	2	2.86	2.86	2.86
Site engineer	4	5.71	5.71	8.57
Artisans and labourers	51	72.86	72.86	81.43
foremen	10	14.29	14.28	95.71
Safety officer	1	1.43	1.43	97.14
clerk of work	2	2.86	2.86	100.0
Total	70	100.0	100.0	–––

Table 4 shows have majority (45.71) have worked with the industry between 2-6years and it was followed by employees who have worked for less than 2 years. Few of the respondents have worked for over 6years. This information indicates that the personnel were competent and have adequate experience and that will enable them to exercise good judgment on their jobs.

Table 4: Working Experience

Working experience	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 2 years	23	32.86	32.86	32.86
2-6 years	32	45.71	45.71	78.57
Over 6 years	15	21.43	21.43	100.0
Total	70	100.0	100.0	–––

Majority of the respondents were of the view that employees 'attitude towards safety practice during working hours was very discouraging. Majority of the employees were found wanting in the use of safety gadgets and Personal Protective Equipment (PPE), which has contributed to most of the accidents on sites. The employees were very reluctant when it comes to the use of these PPE. The reason was that they have been working without PPE for several years without experiencing any accident. Negligence on the side of employees, during working hours has a major impact on site safety practice. Majority of the respondents indicated that delays in work execution was due to injury of worker and this has an effect on poor safety practices on construction site. Extra cost incurred due to payment of compensation to injured victim on construction site was another factor. Few respondents were de-motivated due to injury.

Table 5 shows that poor site management, working without safety gadget and failure to use Personal Protective Equipment (PPE) were among the highest ranked variables with their means ranges from 0.45 to 0.51, contributing to poor safety practices. The remaining four variables have little effect.

Table 5: Factors that Lead to Poor Safety Practices in Construction Site

Factors	N	Max	Sum	Mean	Ranking
Poor site management	70	3	108	0.51	1st
Working safety gadget	70	3	99	0.47	2nd
Failure to use their PPE	70	3	95	0.45	3rd
Workers Negligence Incorrect work	70	3	86	0.41	4th
procedure	70	3	79	0.38	5th
Equipment without safety device	70	3	77	0.37	6th
Lack of workers knowledge	70	3	74	0.35	7th

Table 6 shows that delays in work execution due to injury of workers and extra cost due to payment of compensation to injured victims were the major variables contributing to the effects of poor safety practices on building construction sites. These factors were ranked first and second respectively. The remaining four factors have little effect on poor safety practices and have means ranging from 0.37 to 0.59.

Table 6: Effects of Poor Safety Practices in Building Construction Site

Effects of poor safety practices	N	Max	Sum	Mean	Ranking
Delays in work execution due to injury of worker	70	3	141	0.67	1st
Extra cost due to payment of compensation to injured victims	70	3	137	0.65	2nd
De-motivated due to injury of worker	70	3	124	0.59	3rd
Declined reputation of the firm	70	3	113	0.54	4th
Cost of medical expenses	70	3	101	0.48	5th
Psychological effects on workers on site	70	3	98	0.47	6th
Death	70	3	78	0.37	7th

Table 7 shows that five factors (workers do not get motivated by the management team for safe work done with, management does not provide Personal Protective Equipment (PPE) for their workers on site, the management team do not undertake a risk assessment on site, they do not you have any documented health and safety policy on site and they do not conduct training session for new workers in the firm) out of nine factors were given approval by the respondents to be effective measures for site safety improvement on sites.

Table 7: Measures to Improve Site Safety Construction

Measure to Improve Safety Practices	Yes	No	Percent (%)		Ranking
			Yeo	No	
Do you get motivated by the management team for safe work done	0	70	0%	100%	1st
Does management always Provide Personal Protective Equipment(PPE)	10	60	14.29%	85.71%	2nd
Does management team undertake a risk assessment	13	57	18.57%	81.71%	3rd
Do you have any documented healthy and safety policy?	16	54	22.86%	77.14%	4th
Do you conduct training session for new workers	18	52	25.71%	74.29%	5th
Do you have orientation programme for new workers	23	47	32.86%	67.14%	6th
Do you conduct project healthy and safety inspection	28	42	40%	60%	7th
Does your organization have a safety officer	31	39	44.29%	55.71%	8th
Do you have adequate Personal Protective Equipment(PPE) on site	41	29	58.57%	41.43%	9th

5. Summary of findings

The construction industry within Cape Coast Metropolis is dominated by males with Construction Technician Certificate (CTC) Grade I to III. Majority of them were artisans who have worked with the industry over two decades. The critical factors were four, with a mean rating of 0.41 to 0.51. The major effects of poor safety practices on site was due to delays in work execution because injury to workers. Four measures for poor safety practices had a mean rating from 0.54 to 0.67.The attitudes of the majority of the workers towards safety practice during working hours was not encouraging. Most of the workers were found without PPE. Delay in work execution was found to be due to injury of workers which has incurred more cost during payment of compensation for injured victims.

6. Conclusion and recommendations

The paper determined influential factors that contribute to poor safety practices and its consequences on construction workers in Cape Coast Metropolis. Poor safety practices was very rampant on sites and contributed to more injury of workers. Management team should motivate workers for safe work done to enhance and improve safety practices on sites. Contractors' should employ competent safety personnel to monitor the performance of safety practices at workplaces. Both employers' and government representatives on sites should ensure the use of safety gadgets and the need to employ competent persons to monitor the performance of safety practices at the workplaces.

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