



## A Qualitative Study of Health and Safety (H&S) Construction Practices in Lagos

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### Abstract

Projects in the construction sector are reputed for poor H&S records when compared to other similar industries. This can be attributed among other things to an uncontrolled working environment, risk, workers' behaviour in relation to H&S commitment, cultural and religious beliefs, and uncertainties inherent in projects. Risk and hazards arising due to poor H&S practices result in injuries and fatalities in few cases. The aim of this study is to explore the perceptions of workers regarding H&S on construction sites. A combination of interviews and observations was conducted in the study. The participants in the study are mainly production workers (ironworkers, masons, carpenters, roofers, and electricians) engaged in construction projects. The findings of the study reveal that workers view productive activities on construction sites as hazardous and risky. However, lack of understanding the use of PPE affects its use. This perception may also be attributed to inadequate training, socio-economic realities, cultural and religious beliefs. Therefore, there is a need for a localised H&S certification and awareness programmes to foster a commitment to improving H&S at construction sites. Further research is required to understand the influence of stakeholders on H&S practices in the Nigerian construction industry.

**Keywords:** Health and Safety; Nigeria; Perceptions; Workers.

### 1. Introduction

The construction sector is viewed as an accident-prone industry. Studies on H&S in the field of construction management reiterate the poor H&S performance on construction sites as a global phenomenon (Zhou *et al.*, 2013). It has been established that poor H&S practices among workers significantly contributes to the poor H&S performance reported in construction-related studies (Haslam *et al.*, 2005; Choudhry and Fang, 2008). Also, complexities experienced in the industry due to changing technology, construction methods, clients' demands, construction materials and the changing environment have made hazards and risk controls difficult (Odeyinka *et al.*, 2006). It is evident that some factors are principally responsible for poor H&S performance at construction sites. However, it is evident that workers' practices are within the control of the contractor whom may not be able to influence the other identified factors. Hence, improving workers, H&S practices could result in reduced accidents at construction sites.

The statistics emerging from the construction industry highlights the need for a paradigm shift in the H&S performance of projects. According to the International Labour Organisation (ILO, 2005), an estimated 2.3 million people die every year from work-related accidents and diseases, and there are 313 million non-fatal accidents per year. Furthermore, 30% of workers suffer from musculoskeletal disorders and more than 20%-40% of work-related deaths occur on construction sites in industrialised countries. It was reported that 31% of all occupational-related deaths in 2002/03 occurred in the construction industry (Haslam *et al.*, 2005). Chi and Han (2013) also state that on every work day, more than three workers do not return home due to fatalities experienced on construction sites in the United States of America (USA). Similarly, the construction industry development board in 2008 records that South Africa had fatalities and accident rates of 19.2 and 14 626 per 100,000 workers respectively. This is said to be lower than that of sub-Saharan countries estimated at 21 and 16 021 per 100 000 workers respectively (CIDB, 2008). Cokeham and

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Tutesigensi (2013) note the high accident rate in Rwanda and the increase in other sub-Saharan countries. Hence, the statistics suggest that poor H&S performance is a global problem.

Poor H&S record can give rise to poor project performance which is commonly observed in the construction sector. It has been reported that accidents lead to increase in operation cost of projects (Hinze, 1997; Willkins, 2011). These could be due to poor productivity, the cost of medical care for victims, loss of person hours, absenteeism, and an adverse impact on the image of the organisation. The need to improve H&S at construction sites has been a subject of several years of research (KoeHN *et al.*, 1995). It should be noted that it has been reiterated that high rates of injuries and death of workers can be linked to workers' non-compliance with H&S procedures, inadequate training, and insufficient knowledge of H&S practices (Willkins, 2011). Thus, this necessitates the need for a study to understand how workers view H&S in the construction environment.

As highlighted in the opening paragraph, arguments and evidence indicate that the construction industry has a poor H&S record. Despite the fact that Nigeria is a member of the ILO, H&S provisions and conventions are not properly implemented (Umeokafor *et al.*, 2014). In a similar vein, Idoro (2008) asserts that there are no policies prescribed for H&S in the Nigerian construction industry. Therefore, contractors and employees are left to use their discretion. As suggested by Khosravi *et al.* (2014), construction workers executing the task in an unhealthy and unsafe environment could give rise to poor productivity. Furthermore, it is known that research provides a body of knowledge that guides a discipline. A review of past published and unpublished studies in construction management-related disciplines in Nigeria and the West-African region reveal that H&S related research has been limited (Laryea & Leiringer, 2012; Ejohwomu and Oshodi, 2014), except for few studies (such as Windapo and Jegede, 2013). Hence, construction workers executing the task in unhealthy and unsafe environment could give rise to poor productivity. The reported study assessed the perception of workers' on H&S in the Nigerian construction industry using a qualitative approach. The present study offers some valuable insights into the H&S issues on construction sites in Nigeria.

## 2. Improving H&S Performance in the Construction Industry

Implementing H&S 'best' practices on construction sites can be challenging. There are several possible explanations for these challenges; such as migration of workers, method of worker employment, work standards, different backgrounds and experience (Mohamed *et al.*, 2009). Also, adoption of 'best' H&S practices attracts little attention from the construction sector. This is because stakeholders are largely profit-driven and give H&S little considerations (Priyadarshani *et al.*, 2013; Windapo, 2013). To address poor H&S performance in methods is that it provides deep insights into the study's problem (Levy & Henry, 2001; Creswell, 2012). Literature shows that there is a general preference for

the construction industry, it is important to understand its meaning.

Research into H&S in construction-related disciplines has a long history. Agumba, Pretorius & Haupt (2013) define H&S management as "tangible practices, responsibilities, and performance related to H&S, including the association between H&S management, climate, and culture." Smallwood (1995) maintains that management commitment to H&S is reflected in the organisation's values, policy, goals, programme development, resource allocation, behaviour modelling, and injury analysis. However, H&S management techniques should be tailored to meet the unique needs of the worker. Agumba, Pretorius & Haupt (2013) further categorise H&S practices into five basic elements, namely top management commitment and involvement in H&S, employee involvement and empowerment in H&S, project supervision, project H&S planning, communication in H&S and H&S resources, and training. The study reveals the importance of employee involvement and empowerment in H&S on a construction site. It was recommended that workers should be engaged at the project level to improve H&S performance on construction sites. Researchers such as Cheng *et al.* (2004), Cheng *et al.* (2012), and Ismail *et al.* (2012) opine that limiting human errors will reduce accidents, which can only be achieved by employing H&S management best practices on site. When the system is driven positively to reduce hazards and risks, workers will adopt good behaviours to foster positive commitment to H&S. Thus, understanding how workers perceive H&S may lead to valuable insights that can be determined to improve on-site construction H&S.

Windapo and Jegede (2013) are of the opinion that fatalities, injuries, and deaths are mainly caused by unsafe and unhealthy practices of contractors and workers. Contractors prefer to spend less on PPE, employ less experienced workers for cheap labour and care only for the profits to be made. Similarly, from a qualitative survey, Khosravi *et al.* (2014) identified eight main categories of factors that influence workers' unsafe and unhealthy behaviours on construction sites. These factors include society, organisation, project management, supervision, contractor, site conditions, work group, and individual characteristics. Workers' perceptions of risk, H&S management, H&S regulations, and procedures have been linked to their attitude towards H&S on construction sites (Mohamed *et al.*, 2009). The study mentioned above reveals that workers have a self-rated competence and their behaviour relates to their H&S responsibilities.

## 3. Research Methodology

The investigation reported here is part of an on-going study targeted at understanding and suggesting improvements to construction workers' H&S practices in Lagos, Nigeria. Interview and participant observation are the data collection methods adopted in this study. A significant advantage of the qualitative data collection quantitative research method in construction management studies focused on Nigeria (see Ejohwomu and Oshodi, 2014). Hence, the use of qualitative method in this study

gives an alternative perspective towards the H&S problems at construction sites. The primary sources for the semi-interview questions included a literature review on H&S (Gillen et al., 2004). The questions enabled the workers to discuss the following topics: H&S training, risk awareness, use of PPE, and employee and management interactions as regards H&S; and probes for some of the questions were also developed.

The data provides actual words of the respondents. The findings of Baradan and Usmen (2006) determine that roofers, iron workers, electricians, painters, and masons were more at H&S risk and ranked highest in fatalities when compared to other work trades in the construction industry. Based on this finding, a worker from each of the trades was selected and interviewed. The small size of respondents (interviewees) was to allow for an in-depth discussion and for the workers to adequately express their ideas without restrictions. The questions were structured to allow the respondents to discuss their general impression of H&S on site, work environment, and how work is conducted in a healthy and safe manner. Observations were carried out during project activities as interviewees granted access to site.

All ethical issues were addressed such as formally requesting to visit and interview the respondents, explaining the purpose of the research, and asking for the workers' consent based on a voluntary decision to be interviewed. The contracting firms selected for this study are registered with the Nigerian Institute of Building (NIOB). There are 191 construction companies registered with the NIOB. Ninety-two (92) of these firms are based in Lagos. The selected companies were those undertaking projects at the time of the research. Further questions were

asked to prompt discussions in relevant areas during the interview. The interviews were recorded (with permission of interviewees) and were conducted in both English and local languages. The transcripts of the study were translated into English (for those interviews carried out in local languages) and then transcribed. The interview sessions were conducted during the lunch breaks and after-work hours. This was because two of the workers surveyed, preferred to be interviewed after work. Their ages, educational status, and years of experience were noted.

### 3.1 Participants of the study

#### 3.1.1 Interviewees' characteristics

The respondents (Table 1) were all male adults between the ages of 30-49, and they all had more than eight years' work experience, which indicates adequate work experience to provide responses that reflect actual practices on construction sites. The interviewees have been engaged in several projects ranging from engineering works (dam, road, and bridge construction) and building structures (residential and commercial buildings). This reveals that the interviewees' had varied work experiences on different construction sites. This will enhance the quality of the responses on H&S. Of the five respondents, only one had a trade school certificate. The other four were primary and secondary school leavers; they all learned their trade through informal training, i.e. working as an apprentice until they were set to work on their own.

Table 1: Characteristics of the interviewees

Interview code	Trade	Gender	Age	Highest qualification	Years of experience
R1	Roofer	Male	Adult	Primary education	10
R2	Ironworker	Male	Adult	Secondary education	16
R3	Electrician	Male	Adult	Trade school certificate	13
R4	Painter	Male	Adult	Secondary education	9
R5	Mason	Male	Adult	Primary education	9

## 4. Findings and Discussion

This study explored the perception of workers regarding H&S practices on construction site. Thematic analysis of interview was used to analyse the qualitative data. First, the qualitative research result will be presented followed by the observations. We asked the interviewees to reflect on the training received, use of PPE, hazards, and risks. Three broad themes emerged from the analysis: H&S training, perception of risk, and management commitment/workers' involvement to H&S. Other H&S issues were raised during the discussion. The issues were categorised as workers union and clients commitment to H&S.

### 4.1 H&S training

Interviewees indicated that H&S training is not conducted on construction sites as suggested by R5: *"There is nothing like H&S meetings or training since I started working with this contractor"* and R4: *"I do not know anything about H&S training."* They have not attended any H&S training. Therefore, the workers regarded H&S training as unnecessary to their work. They are of the opinion that, H&S officers are not available on site, H&S meetings were not conducted, and communication was through the supervisors and foremen. R1: *"The management does not involve us in any meeting so that we can talk; they mostly talk with our foremen. The foremen will now pass the information down to us."*

As regards to the use of PPE, the interviewees indicated that they were familiar with some PPE such as goggles, ear plugs, hand gloves, helmet (hard hat), boots,

reflective jackets, and overalls. However, the use of PPE was not regarded as important or necessary. Interviewees expressed their opinions R3: *"Some of the PPE were not durable; they were of low quality and these contractors buy them to reduce cost,"* and R2: *"They give me hard helmet and boots, only a pair."* This indicates that management does not commit adequate resources to H&S and do not care about the H&S of their workers. Also, workers do not understand the need to wear H&S equipment due to various reasons as indicated by some of the interviewees; R4: *"PPE in this hot weather! The weather is too hot to wear them; it makes me very uncomfortable, I will be sweating."* R5: *"It is only when the client and other professionals are coming to site for inspection that my manager will bring them out and insist we wear helmets, boots, and overalls."* R1: *"The helmet and overall are not necessary. I like using the hand gloves. I do not think I really need it for my job."* However, others indicated that some managers they have worked with insisted they use PPE as reported by R3: *"I have worked on sites where the managers will insist we use our PPE."*

#### 4.2 Workers' perceptions of risks

The workers were further asked if they were aware of the degree of risk and hazards related to their work and how accidents are reported on site. Some of the workers affirmed that working on construction sites involves risk. However, they have worked long enough on the job to avoid accidents; they know the "tricks on the job." Interviewee R1 views risk in this way: *"Every job has a risk if no risk then no money. It is not easy to climb on a roof and work; the higher it is, the more the money. I have been doing this job, and I am still alive; I think when you are afraid that is when you fall."* They believed they are safe. Others believed they are at risk only when their supervisors or managers insist on a construction method which they are not familiar with, and they try not to get afraid. R5: *"My boss tells me to do some work, and I do the work the best way I can. I feel safe. I am a man I cannot be afraid of my work. I like my work".* R2 and R4 have similar views: *"For me, when something wants to happen it does happen, and you cannot stop it. It is just God or our forefathers that are keeping us safe because we have to provide for our families." We just have to do the job"; "I just pray to God to help me do my work well and not to get injured."* Accidents, according to one of the interviewees: *"Happen every day, you just have to be careful. Sometimes you may be lucky, and other days you are not, and if you get injured often you may not be employed again"* and that *"Reporting accidents depends on the seriousness of the accident. Managers handle serious cases, and accidents are investigated with help from the foremen or supervisors. When an accident leads to death, the families are compensated, but I do not know if the police are involved."*

#### 4.3 Management commitment to H&S / employee involvement in H&S

Although the interviewees did not attest to any onsite H&S policies, regulation or rules, respondents perceived

that some managers were committed to their wellbeing while others were not. According to R3, *"Most of the sites I have worked, have different types of managers and with different work behaviour. Some will make your work easy because they want good work done"* and *"others will make you work and work making you accomplish some impossible workload as a day's job because they want to save money."* Management commitment to the workers' wellbeing was perceived by the interviewees as not sufficient. They are of the opinion that H&S is not relevant on most sites according to R2: *"Where I worked, they don't say anything about H&S."* However, R3 is of the opinion that *"We were taught how to keep our environment clean after work so that your work will be neat and also the site."* Getting involved with H&S on site depends on the management. However, due to workers' level of education, most workers prefer not to get involved with Management R1: *"we are not as educated as they are so we just work."* The workers prefer to do their work and get paid their wage. Furthermore, management does not show empathy and respect for the workers as indicated by an interviewee. R1 is of the opinion that management is more concerned about work rather than their H&S practice; R5: *"But some managers do not see us workers as human beings. I am saying this because the man (i.e. the contractor's representative) was more concerned about the work being done right rather than about us."* R3: *"Managers, engineers, and supervisors talk to us with disrespect. This often occurs especially when the work is delayed."*

All the interviewees gave accounts revealing that the management of contracting firms was not committed to implementing H&S during the construction phase. Responses from interviewees above identified managers who expected workers to carry out tasks that cannot be accomplished within the time frame allotted to the task. Their concern as stated above implies management's poor H&S commitment on construction sites. Hence, workers' do not view H&S as a priority on project sites.

#### 4.4 Other concerns:

A standard view mentioned among interviewees are categorised below:

##### 4.4.1 Workers' trade union

*Interviewee R2 and R5 are members of Trade Unions. This gives them welfare benefits. They can easily access loans and receive help in the case of any labour dispute. However, their responses were similar stating that contractors do not allow active participation in union activities in their organisations. This implies that the union has an influence on the members. This was made clear by the following statements: "I am a union member because when I need help, they will help me. We make monthly contributions as members, and we get information about work easily." "I was a union member when I was in permanent employment with a big company as a union member; we fight for our wage increase or when they don't treat us well." "When I get employed for work on any site, I do not tell them I am a union member"*

*because you may not get the job; they say as union members we fight always."*

#### 4.4.2. Clients' commitment to H&S

The interviewee raised a point relating to stakeholders on site and H&S. The interviewee reported that *"when we work in big projects our supervisor talks with us and gives us things like boots, and helmet, but for small projects, it is rarely provided."* *"I have worked where the bosses (professionals and the clients) visit the site to see the work and have meetings; the sites are always big projects."* *"In this kind of work we use PPE and work well."* Interviewees further agreed that in such large projects, the clients' visit the sites for inspections and emphasis are laid on H&S practices such as cleanliness, proper scaffold use, smoke-free on construction site and use of PPE.

From the analysis of qualitative data, it is evident that clients have an influence on H&S practice and the magnitude of projects may also be an influence on H&S on construction sites. Hence, large construction firms may have better policies towards H&S practices than small companies. This assertion is similar to that of Farooqui et al. (2008).

Lack of management commitment to H&S, the lack of respect towards workers, and H&S influence of clients (stakeholders) have a negative effect in the Nigerian construction industry. These have affected the effective management of H&S within the Nigerian construction industry. Hence, the poor H&S practices on construction sites. Also, stakeholders are not involved in H&S which may be a major contributing factor to inadequate policy formation and implementation especially with respect to H&S practice in the construction industry in developing countries.

#### 4.5. Observations on workers' H&S practice during site activities

Everyday on-site activities are recognised as vital contributors to on-site H&S practices. Examples include provision of welfare facilities such as first aid, restrooms, baths, changing rooms, and food canteens; general housekeeping; material handling; plant and equipment handling; and use of PPEs by workers.



Figure 1: Workers at work on construction site (Kukoyi and Smallwood, 2016)



Figure 2: Workers at work on construction site (Kukoyi and Smallwood, 2016)



Figure 3: Workers at work on construction site (Kukoyi and Smallwood, 2016)



Figure 4: Workers at work on construction site (Kukoyi and Smallwood, 2016)

The pictures (see Figure 1 to 4) above are representations of observations conducted during site activities. The pictures show the state of H&S practice on the construction sites visited. Some issues were identified; Figures 1 and 2 indicates the poor use of PPE, none of the workers were adequately dressed for the activity. Plant, equipment, and materials were not properly handled. Figures 3 and 4 shows the inappropriate use of scaffolds, poor housekeeping, and inadequate material handling on site. Poor practices of the workers during construction operations suggest the level of management H&S, level of H&S awareness and H&S perception of workers. However, restrooms, changing rooms, and food canteens were provided for the workers.

The findings of this study reveal that workers are aware of the risks and hazards associated with work. This

is different from the findings of Ulubeyli *et al.* (2014) which suggest that workers are not aware of the risks or hazards on construction sites. However, this study suggests that the workers were more interested in monetary gains than concern for the risks they were exposed to, and relate accidents to lack of precautionary methods when at work. This is probably confirmed with the workers' poor use of PPE during construction activities as shown in the results. However, this may be attributable to the low socio-economic characteristics of the workers, and unfair labour practices. Furthermore, risks and hazards, associated with the workers' trades on construction sites, are also viewed within the context of workers' religious beliefs. This result is in agreement with Smallwood's (2002) findings, which demonstrate the link between H&S and religion. Also, the activities of workers' unions are limited on construction sites. The unions are not adequately represented on construction sites in Nigeria. Furthermore, if trade unions are fully established, this could serve as a platform to promote H&S on construction sites and engender stakeholders' commitment and workers' involvement in H&S. This is buttressed by the findings of various studies regarding how unions and union workers have contributed to improving H&S on construction sites in various countries (see Debobeeleer, 1990; Ulubeyli *et al.*, 2014).

Lastly, the results of the study also raised related questions regarding the available H&S training for workers on construction sites. Workers lack formal H&S training; an indication that H&S is not a priority to stakeholders and the workers. Hence, poor H&S practices on construction site. The need for adequate codes of conduct, policy formulation, and implementation in the construction industry in Nigeria is vital.

## 5 Conclusions and Further Research

The work environment in the construction industry is unsafe. This suggests the need to adopt H&S practices so

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as to improve H&S performance of construction projects. This paper explored the perceptions of workers on H&S practices on construction sites. The study adopted a qualitative research approach. This method enabled an understanding of the H&S perception of workers in the Nigerian construction industry.

The findings of the study reveal that workers view construction activities as hazardous to them, and are more interested in the monetary gains. They have little or no knowledge of what H&S in construction is about due to a lack of H&S training. Workers view that the number of years spent in a trade determines the level of risk they are being exposed to, and how to manage it. Also, religion is a determining factor of how risk is perceived and managed. Therefore, the workers expose themselves to avoidable risks. In summary, their perceptions could be linked to stakeholders' inadequacies in promoting H&S practices, socio-economic realities, cultural beliefs, and inadequate training.

This research has established the importance and the need to train workers in the Nigerian construction industry. The government and other stakeholders should develop strategies and policies that will foster commitment to H&S on construction sites. Given the sample for the present study, is not a representative of the total number of workforce, it should be seen as a limitation to the study, and therefore cannot be generalised. However, the findings provide insight to stakeholders in the industry as regards H&S. Further research is needed to understand the H&S influence stakeholders have in promoting H&S and training needs of workers in the Nigerian construction industry. Construction Managers could plan H&S strategies with supervisors to systematically analyse work risks and hazards. This will enable management to improve the H&S climate on projects and to develop an H&S culture among workers through adequate policy formulation and implementation.

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