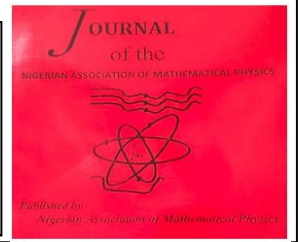


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**INVESTIGATING THE IMPACT OF ILLITERATE RURAL
MIGRANT CONSTRUCTION WORKERS ON THE EFFECTIVENESS
OF SITE SAFETY INDUCTION TRAINING IN EDO STATE**

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ABSTRACT

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Globally, the demand for housing and other social infrastructural development in urban cities continues to be on the increase. To meet the high demand of labour force required on construction sites, contractors often employ illiterate migrant workers. This study aimed at investigating the extent to which these illiterate rural migrant construction workers impact on the effectiveness of construction safety induction training on sites. Questionnaire survey was then structured from literature and administered to construction site workers with the aid of interpreters where necessary and followed with interviews conducted with site supervisors. Analysis of data revealed that about 67% of the total workers are rural migrant workers with no basic education and trade qualifications. Interview conducted with sites supervisors revealed that there is lack of commitment on the part of contracting organizations. The study recommends that contractors should conduct site H&S induction training in local language of the rural migrant workers.

1.0 Introduction

The use of illiterate and unskilled rural migrant workers for construction work in the urban cities is a global phenomenon. These categories of rural migrants' drift to the cities for search of greener pasture. Hissen [13] postulates that rural migrant workers have always been a source of regular and cheap labour to the construction industry. The Health and Safety Executive (HSE) [7] maintains that traditionally, construction work is often the most alternative to farm work, particularly to those without any skill or education. The HSE [7] further states that in the developing countries about 50-65% of the construction general

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workers are illiterate rural migrants that were motivated to drift to the cities to earn as much as possible in short time when they have finished harvesting crops on their farms. International Labour organization [6] states that the situation has been exacerbated by cheaper transportation system and the instant world-wide communication through the use of global system for mobile communication (GSM) mobile phone. Thus, illiterate rural migrant workers are able to find out work through the mobile phone contact with relatives and travel to cities at relatively low cost. Nonetheless, a combination of factors contributed to the drift of these categories of rural migrant workers to the cities such as; economic factor, social, political or religious [10]. Beside these, illiterate rural migrant workers have proved to be a source of cheaper labour to the construction industry [13].

Research findings emanating from the [11] states that illiterate rural migrant workers have been a regular source of unskilled site workers and helpful to the construction industry. Recent research work by the [11] on the impacts of illiterate rural migrant workers on construction sites accidents and incidents, concluded that though they carry a burden but they are cheaper and regular in supply. Nonetheless, [18] argued that, the growing number of illiterate rural migrant workers on construction sites, particularly in the developing countries carries a serious negative burden namely: a rise in work-related injuries and fatalities compared with the rate of fatalities and injuries among the permanent site workers. In Nigeria, the National Occupational Safety and Information Centre [12] reports that accidents in the industry are among the highest in all industrial sectors, resulting in a second of all work fatalities. The high number of fatalities and injuries cases in the Nigeria construction sites should be a serious concern to all [12]. The [11] states that construction accidents and incidents cost national economies over 7% of their gross domestic product (GDP) and the case of developing countries is even worst.

Bust, Gibb and Pink [1] argued that the working environment in which these illiterate rural migrants' workers carried out their works exposed them to workplace injuries and fatalities. Rural migrant workers as noted by [13], are sources of cheap labour and always employed to do the most three (Ds) dirty, difficulty and dangerous work. However, the high demand of labour, force required on construction sites in Nigerian major urban cities including available social infrastructure facilities remain a focal point of attraction to these rural migrant workers, regardless of the associated H&S issues. Therefore, this study seeks to investigate the impacts of illiterate rural migrant workers on the effectiveness of construction site H&S induction training in Edo State, Nigeria.

Perspective of illiterate rural migrant construction site workers

Poor understanding of spoken English among construction site workers is one of the major barriers to successful conduct of site H&S induction training [13]. Similarly, [1] argue that effective H&S site management is dependent on efficient communication of instruction and information between workers and co-workers and between workers and supervisors. English as a second language to many construction site workers has a serious impact on workers' H&S behaviour. Moreover, this problem is aggravated by the fact that about 47-65% these site workers are illiterate and can only speak their own language or mother tongue [10].

Nigeria population is currently estimated to be about 200 million. There are over 500 tribes, with Igbo, Hausa and Yoruba being the three major tribes amongst others. The largest tribe out of the three major ethnic groups in Nigeria is the Hausa. The Hausa has Islam as one of their major religions. Islamic religion has a significant influence on this people's culture; as a result, they did not embrace Western education earlier compared to the other two major tribes Igbo and Yoruba. Though, Igbo and Yoruba tribes might have embraced Western education earlier, there are some smaller/minor tribes within them that did not. Other possible factors could be the civil war that took place in Nigeria from 1967-1970. The Nigerian civil war with its associated socio- economic problems also has serious negative impacts on the education growth of the Igbo tribe and her minor tribes. The low levels of education found in some of the major and minor/small tribes in Nigeria leads these people into primary industry such as agriculture, mining and

construction. Vazquez and Stalnker [18] maintain that low education has a negative impact on H&S performance. They further state that the inability to communicate well, as a result of a high illiteracy rate among the Latino construction site workers resulted in poor H&S performance. Similarly, [[17], surveyed urban immigrant workers in an immigrant community in Northern Virginia, and found that they face a high risk of occupational injuries, with adverse H&S outcomes.

Cordova [3] states that understanding of spoken English among site workers have been resulted in fewer workplace injuries and fatalities. She further maintains that it also increases site compliance and reduces employers' compensation insurance premiums. On site, where all workers can speak English and understand each other, H&S culture is easily developed and nurtured. Also, conducting site H&S training such as weekly toolbox talks and safety induction training to workers will be optimized leading to workers safe behaviour and safe practices on sites.

Illiterate rural migrant construction site workers and H&S performance

Vazquez and Stalnaker [18] assert that poor understanding of spoken English among rural migrant workers on construction site compromise H&S management. Further, research conducted in the United Kingdom by [8] on factors contributing to construction accidents revealed that poor communication skills and understanding of spoken English within the work team contributed to site accidents. The study quoted a 30-year-old ceiling fixer who said if his workmate had understood the word 'stop pushing' probably an accident could have been prevented. From the above statement it can be inferred that the high illiteracy rate among construction site workers has a serious negative impact on H&S management. Another possible visible effect of illiteracy among rural migrant workers on site H&S management is their non-compliance to site H&S rules and procedures [18].

Evidence from site supervision has shown that foremen and supervisors often lose their temper and become frustrated trying to explain to illiterate site workers who have no trade qualification and in particular cannot understand simple spoken English, on what to and how to do it safely. This ugly scenario always ends up with, supervisor being frustrated and tell them to skip that part, which compromise site H&S management. Vazquez and Stalnaker [18] states that another factor contributing to higher fatality and injury rate among rural migrant construction site workers is the fact that the rural migrant workers always show some loyalty and respect to their employers, resulting in site accidents and incidents not being reported for the fear of being fired from work. This attitude is common among illiterate rural migrant workers. The attitude not only prevents reporting of workplace incidents or injuries, unsafe acts or conditions, but also it does not encourage effective site H&S induction training.

Level of compliance to construction sites H&S legislation

Workplace H&S is an important issue in the Occupational Safety and Health Act (OSHA) all over the World. The Act is primarily to ensure that employer creates a safe work environment free from all forms of hazards to workers. The Act further emphasizes the importance of employee education pertaining to H&S of the working environment regardless of whether the employee is educated or illiterate. Failure to comply with the Act could result in legal prosecution of an employer by the state authority [7].

Section 21 of the Act deals on 'safety training and education of workers' sub-section 5 of Section 21 describes how safety induction training should be conducted at reasonable interval to ensure adequate understanding of H&S relative to work environments and materials used on site. OSHA Act, according [5] defines the duties and responsibilities of employer with regard to provision of adequate personal protective equipment (PPE), regular instructions and training as required by laws and regulations governing construction sites environments. Unfortunately, evident from scholars works such as [18]; [9]; [14] have shown that compliance to construction sites H&S by contracting organisations particularly the medium and small sized firms is very poor. Hughes and Ferrett [5] stated that prioritized profits over workers' H&S training and these acts have led to incessant construction sites accidents and incidents.

Construction site induction training to workers

Causes of construction site injuries and fatalities can be attributed to many factors. One of the factors is a lack of induction training of workers among contractors particularly in the developing countries [9]. Induction H&S training plays a key role in the development of awareness and understanding of the specific hazards and risks associated with construction site operations and its environment [5]. It has been noted that a lack of site H&S induction training particularly to new and illiterate workers is a major factor contributing to site injuries. Hinze [9] succinctly states that new and rural migrant workers are accident waiting to happen. Thus, these categories of workers should be given site H&S induction training at a reasonable interval. It is their right and contractors whether small, medium or large owns it as a duty that must be done as required by laws and regulations.

H&S induction training is very important as it familiarizes new workers with contractor's H&S policy, hazards and work environment. Despite the importance of site H&S induction training, contractors do not have a good record of investing in this aspect of workers' training when compared with organizations in other industries [5]. Okorie [14] maintains that site H&S induction training is a prerequisite for creating an appropriate level of awareness relative to H&S, which, in turn, is a prerequisite for the development of an optimum H&S culture. Vazquez and Stalnker [18] state that induction training is very important in the construction site where the levels of illiteracy among workers are deemed to be very high.

Language of H&S induction training

Conducting site H&S induction training to workers whom English is not their home language is a serious problem confronting H&S management. Torrance [17] asserts that illiterate site workers with a poor understanding of spoken English are at a higher risk of injuries and fatalities when compared with those who can understand English. This poses a serious problem to contractor in managing site H&S. The [7] maintains that an effective site H&S induction training programme should incorporate modern technologies such as audio (visual) and translators. The benefits of these modern technologies are numerous such as better understanding among the illiterate rural migrant workers, reduction of site injuries and increase workers moral.

The use of visual images and digital technologies in conducting site H&S induction training is becoming increasingly important. Bust et al [1] state that site H&S induction training involving people with different languages is better conducted with audio (visual) technology. Vazquez and Stalnker [18] argue that the use of H&S training manuals written only in the English language may not achieved the desired results. More importantly, English is not the home language of Nigerian construction site workers. The problem is exacerbated by the fact that majority of the general site workers are illiterate rural migrants. HSE [7] maintains that contractors have a duty to provide translation equipment, interpreters or replacing written manuals with clearly understood symbols or pictures, where workers have problems of understanding English or cannot read English. The use of audio and digital technologies as a medium of site H&S induction training has improved learning and understanding among the illiterate rural migrant construction site workers.

2.0 RESEARCH METHODOLOGY

Ten construction companies were randomly selected within Edo State, for the purpose of this study. Six companies accepted to participate for the study, one large, two medium and three small. Questionnaires were administered to construction workers from each of the six companies. Since most of the general workers are illiterate, interpreters were employed where and when necessary. The aim of the questionnaire was to determine the effectiveness of site H&S induction training on illiterate rural migrant construction site workers.

One hundred and sixty (160) questionnaires were distributed, eighty-five (85) were returned, and this resulted in a response rate of 53%. The response rate achieved for this research is similar to that achieved

in other surveys [16]; [2]. It could be inferred from [16] and [4] that performing a statistical analysis in survey within the response rate equal to or above the threshold of thirty (30) is acceptable. Thus 53% response rate achieved in this survey provides reasonable data for analysis. Interviews were also conducted with six supervisors from each of the company. An interview is an interaction between two or more people to gain insight relative to problems [15]

The aim of the interviews was, to gain an understanding on the effectiveness of site H&S induction training programme they employed in their site.

Data obtained from the completed questionnaire survey and interviews were analysed with the aid of SPSS package version 10 and findings presented in Figure 1-.3 and Table 1.

3.0 DISCUSSION OF FINDINGS

Demography of information of the respondents

Six geopolitical zone in Nigeria and six States selected to obtain response

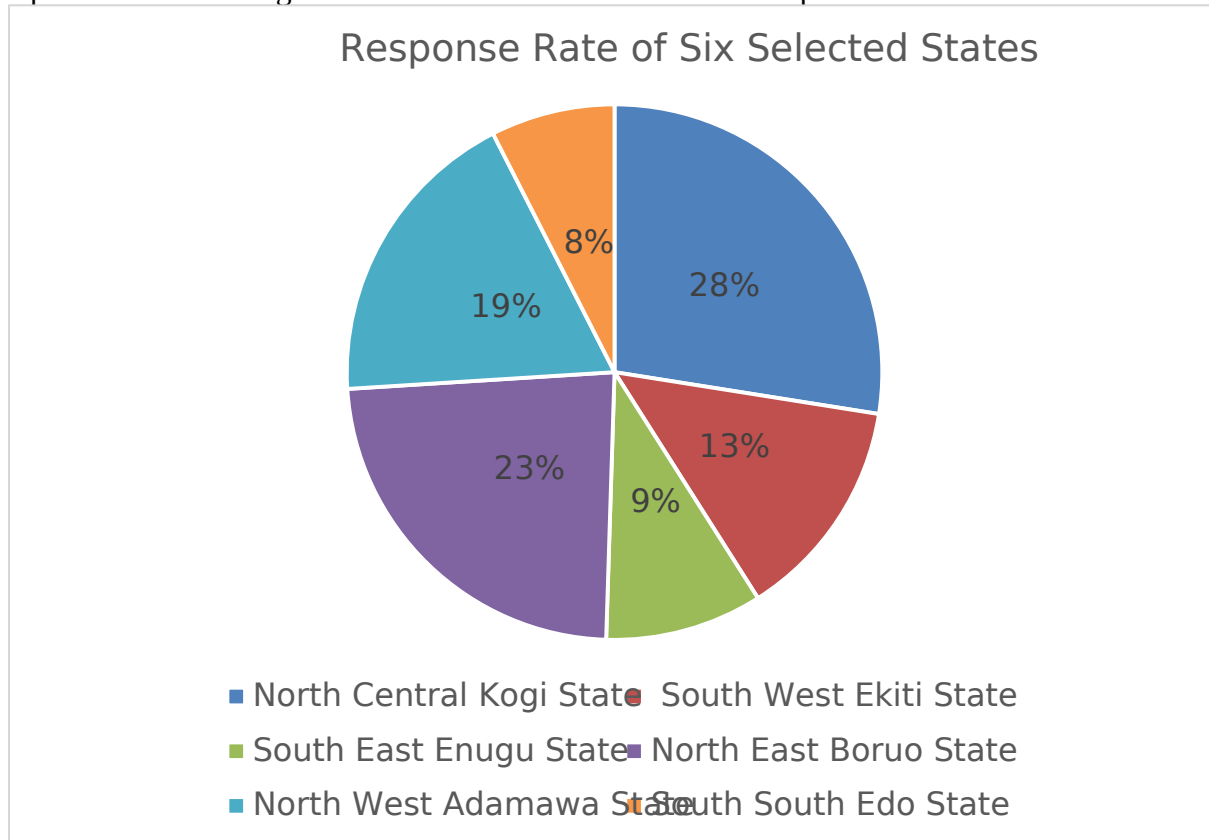


Figure 1

Six States were randomly selected from the six geopolitical zones of Nigeria for this study. Figure 1 indicates that 27.5% of the illiterate rural migrant workers from Kogi State, 13.5% from Ekiti state, 11.4% from Enugu State, 23.5% from Borno State, 18.5% from Adamawa State and 4.6% from Edo State. The average age of the respondents is 31.8 years; they have lived in Edo State for an average of 2.3 years, and have worked for their present employer for an average of 1.5 years. Although, 54.5% of the respondents are from the North Central of the geopolitical zone, it is not an indication that the state is educationally backward.

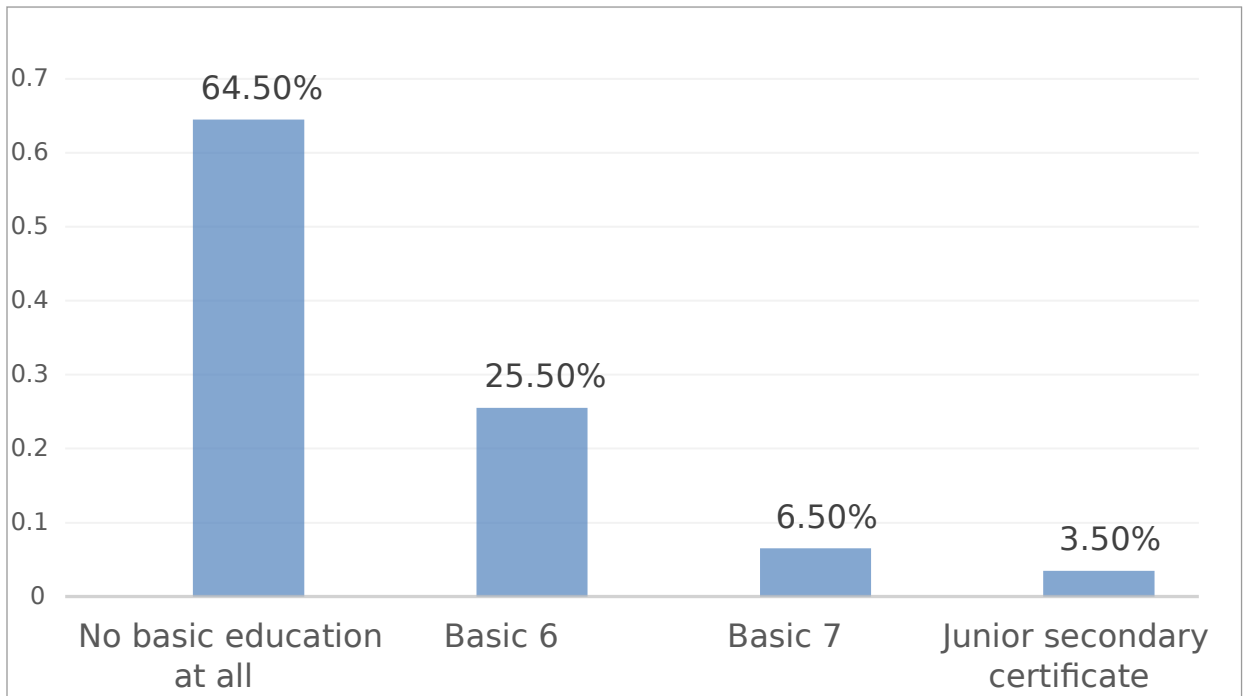


Figure 2 Educational qualifications

Figure 2 indicates that in general the rural migrant construction site workers have low level of education as 64.5% have no basic education at all, 25.5% basic 6, 6.5% basic 7, and .3.5% junior secondary certificate. The interview revealed that those with junior secondary certificates from Enugu and Ekiti state respectively. This finding supported the literature that about 47-65% of site workers are illiterate and can only speak their own language or mother tongue (ILO, 2005).

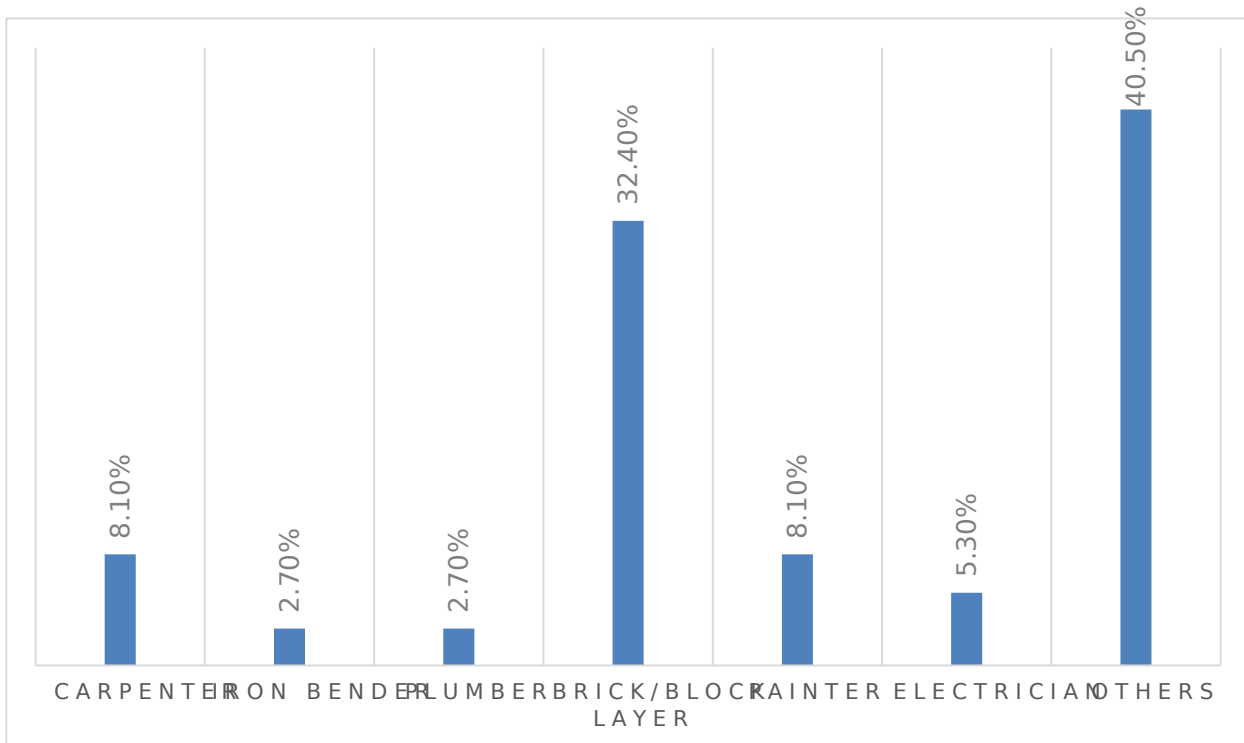


Figure 3 Skills and experience

Figure 3 indicates that, 8.1% qualified in carpentry, 2.7% qualified in iron bender, 2.7% qualified as plumber, 32.4 % qualified in brick/block layer, 8.1% in painting, and 5.3% qualified in electrician. The 40.5% who have no construction trade qualifications consist of soil diggers, assistants, messengers/tea boy.

The lack of construction trade qualification among the rural migrant construction site workers could be impact negatively on the effectiveness site safety induction training to wokers.

Table 1 Statement on respondents’ perception of H&S induction training

Statement	Sometimes	Always	Not Always	No Idea
Are you aware of site H&S induction training?	19	25	56	75
Is H&S induction training conducted weekly?	21	28	54	72
Is H&S induction training conducted for newly employed workers?	39	52	36	48
Is H&S induction training conducted only in English language?	67	89	8	19
Does your company employ an audio (visual) technology during H&S induction training?	1	5	75	95
Does your company make use of language interpreter(s) during H&S training?	9	12	66	8
Do you understand the training?	35	47	40	63

Table 1 indicates that 75% of the respondents stated that they have no idea of site H&S induction training, while 19% indicate sometimes. 56% indicated that H&S induction training is not all conducted on weekly while 28% indicated always. 39% indicated sometimes that H&S induction training is conducted for newly employed workers while 36% indicated not all. 89% indicated that H&S induction training is always conducted in English.

In the area of modern technology, 95% indicated no idea regarding the use of modern technologies such as audio (visual) aid during site H&S induction training. 88% indicated that language interpreter(s) is not used during site induction training, while 12% stated that interpreter(s) is used. 63% indicated that they not understand, while 35% agreed that they understand. The findings supported the literature in that lack of usage of audio aids in conducting site H&S induction training, particularly with illiterate site workers have negative impact on workers understanding. Bust et al [3] assert that site H&S induction training involving wide multilingual audience is better conducted with audio technology.

Interview conducted with sites supervisors

Responses from site supervisors

A question was asked: “Do you employ audio (visual) technology in conducting site H&S training,

knowing that majority of your workers are illiterate?” The five supervisors expressed dismay that they never did. However, two supervisors, one from the medium and one from large company stated that they only make use of language interpreters when necessary. The use of language interpreter(s) is a welcome development. Most importantly, English is not the home language of Nigerian construction site workers. The [7] maintains that an effective site H&S induction training programme should incorporate modern technologies such as audio (visual) and translators. According to the six supervisors interviewed, one of the greatest challenges is that while OSH Act stipulates that all site workers should be trained on H&S, the Act offers limited clarity on how to deal with the case of illiterate rural migrant workers.

However, the six supervisors interviewed indicated that on average, 67.5%% of construction workers on their sites are illiterate rural migrants. They also agreed that there are problems of communication and understanding of spoken English. Literature supports this, according to [12]; poor understanding of spoken English among construction site workers is one of the major barriers to successful conduct of site H&S induction training programme. In addition, [18] assert that inability to communicate well and high illiteracy rates among rural migrant site workers in the construction industry compromise the OSH Act which emphasized the importance H&S of workers.

Site H&S induction training

A question was asked with regard to site H&S training: *How regular do you conduct site H&S training to your workers?* Four of the six site supervisors interviewed stated that H&S induction training is rarely carried out on their sites. The only one that stated that H&S induction training is conducted to workers before commencing any new activity on site is from a large construction company. It has been noted that H&S training of workers, particularly among the medium and small sized construction companies in the developing countries is poor [9].

CONCLUSIONS AND RECOMMENDATIONS

Based on the research results, it can be concluded that illiterate rural migrant construction site workers impact negatively on the effectiveness of safety induction training on site. Poor understanding of spoken English among the illiterate rural migrant construction site workers is a major impediment to effective conduct of safety induction training on site. It was also discovered that medium and small contracting organizations invest little or no resources for workers' H&S induction training as compared to large companies, particularly in the areas of employing language interpreter or the use of modern technologies such as audio (visual) aids.

The study revealed that there is a lack of management commitment to workers' H&S, contracting organizations maximizing profit by employing illiterate rural migrant workers whom they pay less and avoid conducting site safety induction training as required by OSH Act. The following recommendations arise from the study:

- Contracting organizations have to adhere to H&S legislation as well as educating and training their workers in H&S, regardless of whether they are temporary or permanent workers;
- Construction site H&S induction training should be conducted in the local language and the use of modern technologies such as audio and translators' equipment should be encouraged, particularly among medium and small sized companies, and
- Management of contracting organizations should demonstrate commitment to workers' health, safety and wellbeing, that it is not acceptable to be injured on the job, and that completing a job is not as important as completing it safely in a healthy and safe manner.

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