Working Conditions and Exposure to Work Related Injuries and Accidents at Kokompe-Accra Ghana

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Abstract

The occupational environment in which artisans work may expose them to work-related injuries, chronic illness, stress and, disability. In order to understand the issue of workplace safety among artisans in the informal small-scale enterprises, there is the need to explore their general level of safety. Consequently, it will be possible to suggest possible ways of improving their health conditions and safety in the work place. This paper examined the general level of safety of automobile artisans at the Kokompe Artisanal Centre in Accra as well as assessing their level of awareness about occupational accidents and injuries they are exposed to and the preventive measures in place. The qualitative in-depth interview and observational methods were used to examine incidences of work-related injuries and accidents among the artisans. In all 58 artisans including auto-mechanics, auto-electricians, auto-welders, auto sprayers and auto-spare parts dealers were selected through convenience and snowballing sampling techniques. The working conditions of the artisans were poor due to haphazard siting of temporary workshops by squatter artisans resulting in multiple exposures to different hazards: physical, psychosocial and ergonomic hazards leading various forms of work-related physical injuries well as musculoskeletal disorders (MSDs) and work-related illnesses. The contributing factors of accidents and injuries were: human, environmental and mechanical factors. The physical environment and the nature of work are both hazardous since the work entails improper sitting posture, lifting of heavy objects and generally working without any safety measures. The artisans were mostly aware of the many dangers associated their work which is largely unregulated. For policy implication, city authorities must consider a re-engineering of the entire workplace of the artisans by planning and demarcating the structure in accordance with standard practice to enable work to be done in a safe and healthy environment.

Keywords: Working conditions, Exposure to Work-related Accidents, Injuries, and Kokompe.

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Introduction

Exposure to occupational hazards, with the resultant injuries, disease and death, has profound effects both on work productivity as well as on the socio-economic well-being of workers and their families. These hazards are the most common in the informal sector, which is inadequately supervised and lacks occupational health services. Because of inadequate financing and difficulties in obtaining credit facilities, small-scale industries use poor, outdated machinery and equipment, limiting their productivity and increasing exposure to hazards (Okuga, Mayega and Bazeyo, 2012). The work processes of informal small scale workers present the risk of physical injuries – such as cuts and burns as well as hearing impairment resulting from loud noises, and eye injuries due to excessive UV-radiation and respiratory dysfunctions caused by noxious metal fumes inhaled (Sabitu, IIiyasu and Dauda, 2009). There is also a risk of psychosocial hazards such as stress at work and exhaustion, in addition to the ergonomic hazards that mainly involve musculoskeletal injuries such as sprains, muscle pain, dislocations and fractures (Aguma-Acon, 2012; Theuri, 2012; Mbulingwe, 2014). From the above examples of the nature and types of hazards and injuries informal small-scale workers are exposed to, the working environment and conditions are the main determinants.

Hazards relating to inadequate safety and health standards are particularly evident in the informal sector. Informal workers do not have the necessary awareness, technical means and resources to implement health and safety measures (Okuga et al. 2012). A poor work environment, including inadequate premises and often very unsatisfactory welfare facilities causes large human and material losses (Theuri, 2012). Workers in the informal small-scale enterprises have been shown to be more prone to work related hazards and injuries as they work in an unhealthy and unsafe work environment. These groups of workers however have been reported not to know much about such hazards and to have little or no training on workplace safety (Johnson and Motilewa, 2016). For most informal sector operators, their homes and workplaces are one and the same place as vulnerability to diseases and poor health results from a combination of undesirable living and working conditions. The conditions under which most informal workers operate are precarious and unsafe as many live in ramshackle structures, lack sanitary facilities or portable water, and have

poor waste disposal. The interaction between occupational hazards and poor living conditions can exacerbate the health and safety problems of informal sector workers, since micro-enterprises in the informal sector, poor working practices and poor working conditions are interrelated (Theuri, 2012).

The automobile service industry has a large group of workers many of which are in the unorganized informal small-scale sector. The numerous activities they are involved in expose them to many physical and chemical agents that can be hazardous to their health. These workers are also proned to workplace accidents and injuries, many of which are preventable (Johnson and Motilewa, 2016).

In Ghana, the relevance of the informal small-scale enterprises like Kokompe, Abossey Okai and Suame Magazine artisanal spare part retail and repairs center cannot be ignored in the face of shrinking public sector employment. These artisans provide important services to the large Ghanaian lower and middle class vehicle-owner population, many of who own and use home-used or second-hand vehicles. In spite of their valuable contributions, these artisans operate in precarious and hazardous environment exposing them to all kinds of preventable injuries and accidents. These artisanal centres are urban slum community concentrated with high population of urban youths making a living out of artisanal works and with very few social amenities, poor infrastructural planning and exposure to occupational hazards, risks and accidents. As a result, they fall within a high risk group with low education, income, social status and minimal support from state regulatory and inspection agencies. It is therefore important to examine the general safety and working conditions of the artisans, their awareness of occupational hazards and risks, the predisposing factors and nature of workplace accidents they experience. Against this background, this paper argues that, any attempt to reduce workplace accidents would fail unless the working environment and conditions of artisans and their knowledge of the hazards and risks they are exposed to is known. This is because an understanding of their working environment and conditions and exposure to incidences of hazards, injuries and accidents would help in reducing workplace accidents.

Existing Literature and Theoretical Framework

A number of researchers have studied the special nature and culture of informal small-scale enterprises (Eakin, 1992; Hasle, 2000; Walters, 2001; and Robin, 2003). Some of these do not put special emphasis on occupational health and safety but rather they make important contribution to the understanding of the reaction, motivation and resources of informal small-scale enterprises (Hasle and Limborg, 2006). In most of the studies on the nature and operations of informal small scale enterprises, the owner is emphasised as the dominant actor in relation to any changes made in them (Hasle and Limborg, 2006). Other studies document how the personal values and priorities of the owner are determinants of the culture, social relations and the attitude of the enterprise (Hasle, 2000; Walters, 2001; Eakin, 1992).

Based on the above references, one main characteristic feature of informal small-scale enterprises is the owner-manager/sole proprietor. In many cases he/she is the key person and his or her opinions and values constitute the approach of the enterprise to occupational health and safety (Hasle, 2000; Antonsson et. al, 2002 and Walters, 2001). Many of these owners consider health and safety to be the responsibility of the employees and thereby blame them for accidents and injuries (Eakin, 1992). The effect of this is to avoid questioning the firm's owner/manager and organization of work. Many Small and Medium Enterprises' (SME) owners/managers are isolated, overworked, do not use services offered by the Occupational Health and Safety (OHS) sector associations and generally do not belong to business groups (Hasle, 2000). They also appear to be poorly informed and do not realize the extent of their health and safety problems (Walters, 2001). At the same time, many owners consider regulation and demands to improve health and safety standards as financial burden which is too heavy and not realistic for a small enterprise. In combination with the fact that accidents are a rare experience within the individual workplace, this attitude forms an ad hoc approach to health and safety as problems to be solved (Hasle, 2000).

Consequently, most informal small-scale enterprises can be described as organizations which have to fight for survival with the owners as the responsible persons who, like an octopus, has to handle many different issues at the same time, and consequently, health and safety issues are not always high on the agenda. It is this position as both owner, manager and in some cases worker, held by

one person who has to handle all management issues including safety, which is the key to the understanding the nature of many small enterprises. The owner-manager gets a large part of his or her identity from the enterprise and his or her own beliefs and cultural values are the guidelines for the development of the business. His/her management is often a patriarchal one, which may be ego-centric and action-oriented, but which also means that he/she assumes a certain responsibility for the employees (Hasle and Limborg, 2006).

Clark (2012) buttressed these problem scenarios by indicating that poor OHS infrastructure and funding, insufficient number of qualified occupational health and safety practitioners and the general lack of adequate information are among the main drawbacks to effective OHS practices. Kheni, Dainty, and Gibb (2008) in their survey on health and safety practices among informal small-scale construction revealed some OHS problems. The main problems identified by Kheni et al. (2008) included lack of skilled human resources, inadequate government support for regulatory institutions and inefficient institutional frameworks responsible for health and safety standards.

Dwomoh, Owusu and Addo (2013), studied OHS in Ghana's timber industry and showed that occupational hazards, injuries and accidents exist among lumber and logs workers. Their findings concluded that enterprises in the timber industry need to pay much attention to their health and safety needs. A study by Kwankye (2012) on woodworkers in the Kumasi Metropolis indicated that unavailability and low usage of personal protective equipment (PPE) increase the risk of getting involved in accidents. Monney et al. (2014) studied occupational health and safety practices among vehicle mechanics in Mampong Municipal area in the Ashanti Region of Ghana. The result of their study indicated that 78% of the artisans lacked training in fire safety and besides firefighting equipment were non-existent in the workshops visited. In addition, 64% of the artisans had sustained various work-related physical injuries. Due to the physical exertion required by their work, most artisans experienced musculoskeletal disorders. Use of PPE was as low (27%) and the main reasons for non-use of PPE were attributed to discomfort, PPE are not important for their jobs as well as the cost of procuring them.

Bittel's 3Es of Accident Prevention Framework

In understanding the attitude and behavior of artisans towards occupation health and safety in their workshop and measures they put in place for accident reduction and prevention, Bittle's (1985) framework for accident prevention was used. According to Bittel (1985), accident reduction and prevention depend on the three E's– *Engineering, Education and Enforcement*. In other words, jobs should be engineered for safety; employees should be educated in safe procedures and safety rules should be enforced.

Firstly, engineering a job for safety is very crucial in ensuring safety and health at the workplace. This is because when the work and its environment are not well structured, the chances are that, accidents and injuries are more likely to occur. In many workplaces, a major occupational health and safety concerns the way in which the work environment and conditions are structured and organized. In many instances, the manner in which the job and its environment and conditions are engineered and organized among workers in the informal sector is a leading cause of the numerous preventable occupational injuries and accidents.

As note in the three E's proposal, education is another key element in occupational health and safety promotions and accident reduction at the workplace. A job or workplace well engineered for safety and health is a necessary but not a sufficient condition for ensuring safety and health at the workplace. In many instances, workers in both the formal and informal small-scale sector are not well educated on the need to use personal protective equipment as well as follow established and laid down procedures for work. Educating workers on safety mechanisms and procedures is the responsibility of the entire social partners at the workplace namely employers, workers and their unions and state agencies. Artisans' knowledge on safety mechanisms and procedures is not only low but also such preventive measures do not exist at the first place.

Finally, enforcement is another key aspect of accident prevention and reduction in Bittel's framework since safety rules and mechanisms should be enforced to ensure workplace safety. Enforcement of safety rules and regulation is the responsibility of workers, employers/management and state regulatory and inspection agencies.

In effect, the *3Es-Engineering, Education and Enforcement* are mutually interrelated to bring about workplace safety or otherwise. This is because; a well-engineered workplace must have mechanisms of educating workers in safe procedures of work as well as enforcing safety rules.

Materials and Methods

The data used for analysis in this article was taken was collected at Kokompe Artisanal Centre in Accra between June, 2013 to July 2014 and supplemented with further data in August, 2018. The qualitative in-depth interview and observational methods were used to interrogate the working conditions and exposure to hazards and accidents among the artisans at Kokompe in Accra. The interview process was often conversational and situational with occasional interruptions from customers and other artisans seeking some explanations from the interviewee. The semi-structured interview guide was supplemented with direct observations of the artisans at work by the researcher in order to confirm or deny any claim they made. It was anticipated that due to the sensitive nature of artisans' health and safety under investigation, adequate data may not be generated using in-depth interviews alone. This was due to the fact that, there were instances the artisans were not forthcoming with their responses on questions posed by the researcher. The researcher also observed the artisans in their work activity with the working conditions and environment they operated in.

In selecting the study area as well as the various artisans, purposive and convenient sampling methods were employed. In all, 58 auto artisans comprising 15 mechanics, 12 welders, 15 sprayers, 10 spare part dealers and six electricians were selected and interviewed. Direct observation was utilized in addition to the in-depth interviews as the researcher observed the artisans at their work activity to ascertain the use or otherwise of Personal Protective Equipment (PPEs). To do this, the study area was first divided or mapped into two main clusters: namely the zone occupied by the spare part dealers and the zone for the other four groups of artisans (sprayers, welders, mechanics and electricians) on the other hand. In selecting the individual artisans from the four artisanal workshops, at least a master/owner, a senior apprentice, a worker and apprentices were selected. This was done to ensure that in each zone all the categories of artisans (masters/owners, senior apprentice, worker and apprentice) were covered. This ensured equal representation of the views

of all the categories. In each case, those who were willing to be part of the study were selected and interviewed. The convenient sampling technique was used because of the unwillingness of the artisans to take part in the interviews as a result of their perception that the research was for the purpose of tax collection by the city authorities. The perception was fueled by rumors that went round the study area that the Accra Metropolitan Assembly (AMA) had sent a team to investigate the income levels of artisans to increase the level of taxes to impose on them.

Data from the field were in the form of notes, sound bites on recorders and pictures and videos on camera. While the notes were carefully read through to confirm information provided by the respondents, the interviews captured on recorder were played and transcribed and coding was then carried out. This involved organization of raw data into categorized themes or concepts. Further, data was re-categorized into subsections under the various themes which were represented in the interview question. Finally, the data was sorted into comparative themes and concepts based on the research question of the paper. Data so treated was then analyzed. In doing so, the researcher looked for patterns in the data such as recurrent behavior under the various categorizations among the artisans. The analyses of the data under the various themes were done using the terminologies and concepts of the people studied. Below is the map showing the location of Kokompe.

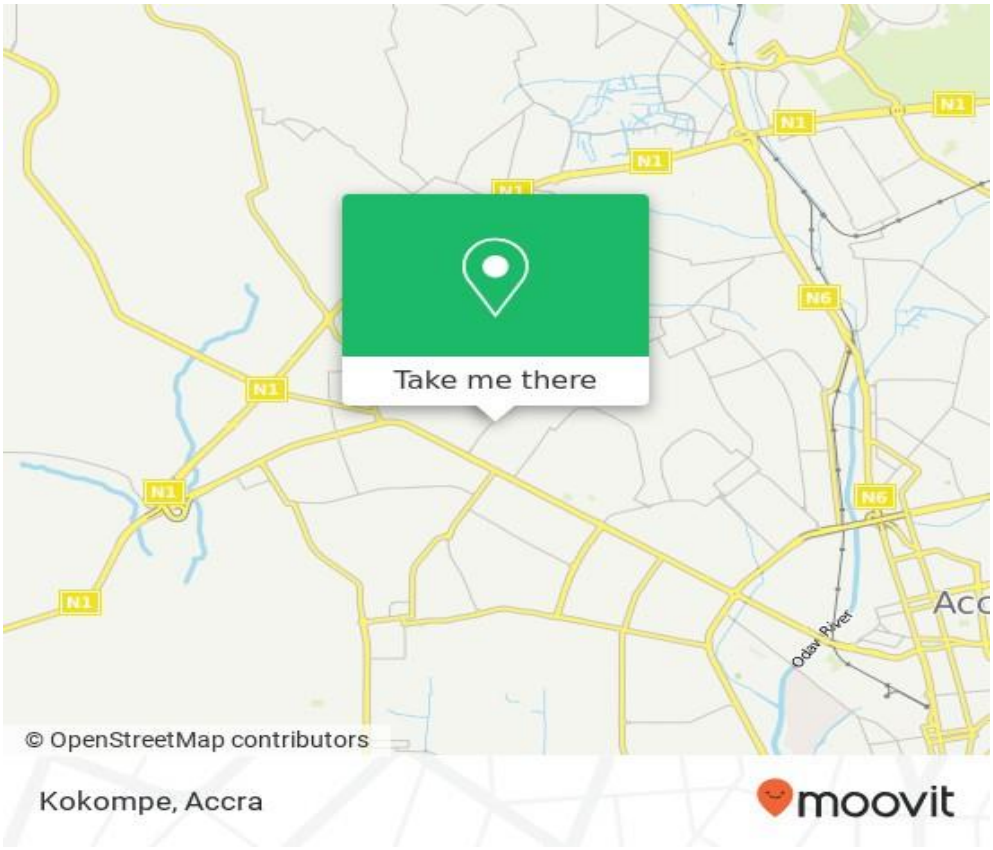

Figure 1: Map showing the Location of Kokompe

Results and Discussion

The findings of the paper were grouped under the following themes;

General level of safety and working condition among artisans

Automobile service industry has a large group of workers many of which are in the unorganized informal small-scale sector. The numerous activities they are involved in expose them to many physical and chemical agents that can be hazardous to their health (Johnson and Motilewa, 2016).

The conditions under which the workers at Kokompe operate were precarious and unsafe. A study by Theuri (2012) in Kenya found similar conditions under which many of the informal small-scale

workers operate. These small-scale enterprises operated in makeshift structures, lack sanitary facilities or potable water and have poor waste disposal systems.

The structures at Kokompe are mainly constructed of temporal materials using wooden boards and iron sheets. The poor infrastructure is compounded by the wooden structures which have no well-laid down pattern, resulting in overcrowding. There is also lack of access road to the area since abandoned vehicles, metal scraps and metal chips have taken over the entire area close to the main road. Some of the abandoned vehicles serve as "houses" for some of the mechanics and other artisans. Worsening the potential health and safety of these artisans is the scorching sun under which they work and particularly, the mechanics, welders and electricians in particular work. Price (2004) argues that exposure to extreme heat may result in heat stroke and heat exhaustion which may also increase the possibility of acute cardiovascular diseases. Exposure to heat during work has also been reported to cause reduced sperm count in men and to cause non-melanoma skin cancer (Fartasch, Diepgen, Schmitt and Drexler, 2012; Machida, 2013).

The enclosed structures like those used by the spare part dealers-and sprayers were not designed to be used as workplaces and so do not have adequate ventilation. They lack sanitary facilities, potable water and adequate refuse disposal facility. Waste disposal has become a problem as many workshops in the area dispose of hazardous waste improperly which has an adverse impact on the work environment. Problems with sanitation are very visible at Kokompe: empty plastic water sachets, oil from vehicles, disused pieces of spare parts and other waste products choke the open drains which run through the area. These choked drains become the breeding ground for mosquitoes besides the offensive smell emanating from them. A mechanic who works along a large and particularly choked gutter complained thus:

> *The gutter is always choked with 'pure water' rubbers (small plastic bags and others. So, anytime we come here and eat, we get sick… and we often get malaria…Since January this year (2014) the rubbish in the gutter has not been cleared.*

The smell from the gutter was so offensive that a female artisan had to spray a disinfectant around her stall to reduce the smell in order to attract customers to her store.

Throughout Kokompe, there was no firefighting appliances as water hydrants are not visible. Fire hazards from naked paraffin lamps; LPG (for cooking and welding) and unsafe electrical connections make Kokompe a potential disaster zone. This situation explains why in recent times two major fire outbreaks have occurred with grave consequences for human life and property. For example, in October 2011, Kokompe artisanal center was gutted by fire which was estimated to have destroyed over 400 market stalls, as well as a significant amount of goods and cash. Many market stalls are constructed from wood which make them highly flammable. In addition, naked electrical wires traversing the area and flammable chemicals used, underscore the importance of fire safety equipment. The Ghana Fire Service also complains that access routes to market are often blocked by stalls and goods which mean that fire engines are obstructed in cases of fire outbreaks.

The lack of basic first-aid items and personnel with elementary first-aid skills at the workplaces are a challenge to the general safety, health and welfare of the artisans. This, added to the lack of a medical outfit within the immediate confines of the workshop is likely to result in loss of lives in the case of a major accident. The importance of first-aid equipment and supplies and availability of personnel with basic skills in first aid administration at the workplace, has been emphasized by some authors (Erickson, 1996; Alli, 2008). The general environment safety conditions of artisans at Kokompe is poor made up of improper infrastructure, bad roads, poorly planned area putting the artisans in danger of being exposed to all kinds' hazards and accidents.

Awareness of Occupational Hazards and Accidents

It is important to access the artisans' levels of awareness of occupational hazards and accidents associated with their daily operations. This is because, workers' level of awareness of accidents and hazards associated with their work is crucial to accident reduction, prevention as well as ensuring a safe and healthy workplace. According to Okuga et al. (2012), awareness of occupational accidents and hazards is the first step in promoting workplace safety.

The paper notes that, though most of the artisans knew of the risks and hazards associated with their work while a few of them had no idea. Awareness of occupational hazards was independently matched with the category of artisan. The findings indicated that all the sprayers (15), mechanics (15), welders (12) and electricians (6) are aware of the hazards associated with their respective jobs. For the spare part dealers (ten), four of them had some idea about the hazards associated with their jobs whiles the remaining six had no idea. The artisans were aware of the hazards associated with their respective jobs namely physical, psychosocial and ergonomic hazards. The work processes undertaken by these artisans present the risk of physical hazards such as cuts, burns, hearing impairment resulting from loud noises and eye injuries due to excessive UV-radiation. There is also the possibility of injuries associated with respiratory dysfunctions due to the noxious metal and spraying paint fumes inhaled. There was also a risk of exposure to psychosocial hazards such as stress at work and exhaustion. In addition, there were ergonomic hazards that mainly results in musculoskeletal injuries such as muscle pain, dislocation and fractures.

The welders indicated they were aware their work exposes them to physical hazards such as welding sparks, inhaling welding arc and fumes, handling of hot metals and extreme weather conditions among others. For the mechanics, electricians and spare part dealers, the hazards and risks they were exposed to included poor lifting methods, and carjacking practices resulting in dislocations and fractures among others.

A 35-year-old apprentice mechanic narrated his experience six months earlier when a car he was working on had an apprentice electrician trapped underneath. According to him:

> *It was only a miracle that happened that day if not we would have been dead now. On that fateful day, I had removed the tyres of a car and jacked it with two big concrete blocks and I went under it to work. My other colleague, the apprentice electrician, joined me under the car to check an electrical problem. After some time, I decided to get out from under the car to pick a tool while the apprentice was called by a customer to check something on his car. Minutes after the car came down. You*

> *can imagine what would have happened to us if we were still under that car* (35-year-old apprentice mechanic).

The above incident is just one of the near misses of occupational hazards and risks that artisans are exposed to in their daily operations. It was found that artisans have a high level of awareness of occupational hazards and risks associated with their respective jobs. It is however important to note that, despite the artisans' awareness of the occupational hazards and dangers, they continue to work in such environment since for them that was the only way they could make their daily living and provide their livelihood. For instance, an apprentice welder who was seen working on a vehicle without an eye goggle, protective cloth and boot indicated that he knew it was hazardous but felt it was just normal to work without the PPEs. In his words:

> *I know the naked fire can expose my eyes to injuries, but you see, we always work like that and everything is fine. Even though we sustain some injuries and accidents, it is part of our everyday job and just as the farmer will by all means experience cutlass wound in the farm, you expect us also to suffer burns from fire and cuts from the metals as we work (36-year-old apprentice welder).*

The above assertion of the apprentice welder is a clear indication that he is aware of the consequences of adopting improper safety procedures, but felt that it was normal to experience some form of injuries while working. This was the attitude, behaviour and assumption of most of the artisans interviewed. Some of the sprayers interviewed and observed considered spray-painting to be dangerous due to the fumes they inhale but were reluctant to wear protective nose masks. Due to their belief that accidents and injuries are normal parts of their daily work, they continue to work in these hazardous environment with the explanations of meeting their daily need.

For instance, according to a 45-year-old married mechanic:

> *My whole life depends on this job.... so you can imagine the case of an accident or injuries during work. Absence from work for just a day means that I would not have any income or money and my brother you know the effect of that. At times you come to work and customers do not come regularly, so just imagine you did not come at all due to injuries (45-year-old married mechanic).*

It is therefore clear that for the artisans, the financial benefits of their work are more important than the hazards and dangers associated with their work and present in their working environment

Nature and Types of Work-related Injuries and Accidents

In order to know the nature and type of accidents and injuries, the artisans were asked to report and narrate accidents and injuries they have ever experienced especially those they have experienced in the last six months prior to the study. The nature of injuries and accidents varied from minor to severe ones. In other words, the nature of accidents and injuries could be classified into serious incidents, non-recordable and near-misses.

The most common type of injuries experienced was cuts and burns and the least common were fractures. Other injuries included backaches, chest pains, eye injuries and hearing problems. For the welders, the common injuries and accident they experienced in the line of work included cuts and burns on various parts of their bodies as a result of the handling of hot metals during welding. However, other welders, experienced eye injuries due to exposure to naked fire. A 35-year-old apprentice welder narrated an injury he had about three months ago while working on a car. According to him:

> *I was working on a car when I realized that the fire from the welding machine was poor. I, therefore, decided to increase the oxygen outflow by pouring water on the carbonated stones. All that I saw was that my cloth has been lit with fire and burning my hand. It took the timely intervention of my master and others to save me. You can now see my arms with the healed scars (35 year old apprentice welder).*

The mechanics and spare parts dealers reported the incidences of cuts, dislocations and fractures on various parts of the body, especially the shoulders and arms. For most of the cuts, dislocations and fractures – they were caused by manual handling of heavy car parts and engines they work with as well as awkward postures, lifting, and twisting, bending and repetitive working movements. The electricians experienced accidents in the form of electric shocks and cuts on the hand. It was realized that most electricians who had never experienced any form of injury were new apprentices who had just come into the job.

Work-related Illness and Diseases

Apart from physical injuries identified, there were other non-physical work-related injuries at Kokompe. For example, as a result of excessive noise levels and prolong inhalation of contaminated air (isocyanates in spray paints and dust), there were complaints of hearing and respiratory problems. According to existing literature, excessive noise levels and prolong inhalation of contaminated air could lead to reduced hearing acuity and work–related asthma (Williams, Jones and Cocker, 1999 and Pronkand Skarping, 2006, as cited in Monney et al., 2014).

In addition, due to the physical exertion one expects high prevalence of musculoskeletal disorders (shoulder pains, backaches, numbness of hands and feet and rheumatism/arthritis) among the artisans. Consistent with these findings, other studies such as Okuga et al., (2012); Theuri, (2012) and Katula, (2013) who have all established high-incidence of musculoskeletal disorders among workers whose work involves physical exertion. These include musculoskeletal disorders (shoulder pains, backaches, numbness of hands and feet and rheumatism/arthritis); eye strain and injury, skin irritation and respiratory disorders. Price, (2008); Spies, (2008) and Fartasch et al., (2012) have also reported that persistent coughing is among the early symptoms of exposure to isocyantes in spray paints, which after long-term exposure could result in lung infections and even deaths.

Predisposing Factors of Accident and Injuries

The predisposing factors of accidents and injuries identified by the artisans could be classified into three categories namely, human, environmental and mechanical factors. The main contributing factor to accidents and injuries was human such as failure to follow established safe-working procedure, lack of attention, unsafe personal acts, improper posture, carelessness at work, fatigue caused by overworking and lack of skills and non-use of PPEs. Reasons cited for irregular and non-use of PPEs were that, PPEs were uncomfortable while working, they were also expensive making access difficult. For others, PPEs have been given to a colleague to use, forgetfulness and lack of knowledge on the requirement for use of PPEs for even ‘simple’ tasks. One remarkable character of the artisans’ work was the absence of personal protective equipment (PPEs). It was

observed that in many cases, the artisans lacked gloves, eye goggles, safety boots and protective clothes. For example, a sprayer was observed using a surgical mask ostensibly to protect his face from exposure to volatile organic chemical compounds. In another case, some welders were seen using ordinary sunglasses to protect their eyes from the gas flames. In effect, it was observed that in many cases, the appropriate PPE was not used. The welder who was using the ordinary sunglass rationalized his action in the quote below:

> *I am aware of the dangers of working without protecting my face and this is why I am using this sunshade. For me whether it is a sunglass or a goggle does not matter, but what is important for me is that it provides protection (45-year-old welder).*

The above sentiment was a reflection of the views of many other artisans who were observed using inappropriate PPE. For many of these artisans it was better to use the inappropriate PPE rather than not using any at all. This finding on the low and non-use of PPEs by auto artisans is consistent with studies by (Johnson and Motilewa, 2016); who also reported the low usage of PPEs among auto technicians in Nigeria.

The environmental factors identified included slippery and muddy floors due to rain, hazardous chemicals, poor illumination and source of electricity. The working environment was such that, welding, spraying, vehicle repairing and other related activities were all carried out at the same place and at the same time. This has resulted in multiple exposures to different hazards including excessive noise apparently beyond the recommended maximum noise levels of 85 dB (A) for an eight–hour working day (ILO/WHO, 2013). The high level of noise is a concern raised by most of the artisans interviewed.

They complained that it was a major problem, but that there was nothing they could do about it since exposure to noise was one of their occupational hazards. According to a 45 year old mechanic:

> *The noise level here is too high for us and at times it is even difficult to hear your colleagues when they call you. Some of us have started developing hearing problems as a result. But there is nothing we can do about it since we do not have ear plugs.*

The above views of the spare part dealers and mechanics were expressed by several others during the interview with the researcher.

The mechanical factors identified include unsafe tools, heavy tools and rapidly moving parts. The researcher also observed that, the small workshops suffer from poor housekeeping. Tools and materials are usually out of reach and working postures which can lead to the development of strain are common. In many cases, artisans work in awkward positions as a result of limited working space. Artisans especially spare part dealers lift engines and other heavy parts and sometimes over a long distance. In several instances, no proper ergonomic chairs were available and artisans were observed sitting on makeshift 'seats' such as concrete stools, drums, crates, buckets and other non-ergonomically designed chair. As a result of using these makeshift 'seats', some of the artisans, especially the spare parts dealers, mechanics and welders claimed they have developed waist problems. A 43-year-old welder, whose views were shared by others observed:

> *We have to make our own seats out of concrete, stones, drums and so on. This is the only way we can sit while working; some of us are experiencing pains in our waist. Now I find it difficult to bend down when I am working.*

These finding confirms other studies such as Okuga et al. (2012) who observed that in Uganda the most common ergonomic hazards result in poor working posture, long hours of working, handling of heavy loads and uncomfortable seating. In Namibia, Amweelo (2000) reported that most occupational accidents were due to falling, flying or moving objects.

It was also observed that sprayers were exposed to a range of hazardous chemical substance (HCS). A strong smell of paint vapours, paint removers and paint thinners were encountered during the

field study in the paint mixing and spraying processes. Spies (2008) has observed that sprayers and painters are often exposed to high concentration of isocyanates.

However, it was interesting to indicate that apart from the above factors (human, environmental and mechanical), some of the artisans attributed accidents to unforeseeable forces or bad luck. One example which illustrates this case occurred to a welder. The apprentice welder was welding a part of a car of which the master had instructed him on what to do. While engaged in the task, he was at the same time talking to two other colleagues. The apprentice welder was apparently so preoccupied with the conversation with his friends that suddenly his forefinger was caught by the fire. He however attributed the cause of the accident to unforeseeable forces.

Similarly, some of the masters ended up as in the case above, attributing the accidents to unforeseeable circumstances and in some cases in combination with workers'/apprentices' indiscretion. In many cases, the masters attributed the cause of accidents solely to the injured person, and in only few cases did they partly attribute - the causes to themselves. In other cases the injured workers had their attribution patterns reflecting those of the owners/masters. An instance of a master welder' attribution, in which he resorted to unforeseeable circumstances/bad luck, was in the following narrative:

> *This particular accident can't be prevented...it was simply bad luck. He (the injured apprentice) wasn't thinking properly. He handled the welding machine improperly... it wasn't a matter of whether or not he used the machine... it was simply bad luck (45-year-old master welder).*

In spite of the fact that both masters and workers/apprentices provided detailed explanations of the causes of accidents, most of them ended up attributing the accidents to unforeseeable circumstances- in other words, bad luck. This is in spite of the point that the artisans at Kokompe identified many different factors that contributed to accident at their workplaces. Workers differ in respect of the number of accidents they are involved in.

Furthermore, in some cases, artisans gave spiritual explanations for the accidents they experienced as witchcraft was used as the underlying cause of the accidents by some of them. Few of the artisans accused their colleague artisans of bewitching them and in the process resulting in the

accidents. Evans-Pritchard (1937 cited in Nukunya, 2003) indicates that witchcraft accusations are function of social relations which are likely to result from jealousy, hatred, envy and fear. The relations may be that of kinship, neighbours, friends, colleagues or co-workers. This explanation could be considered to be the case among the artisans since the witchcraft accusations come from someone the supposed victim must have some relationship with.

Consequences of Workplace Accidents and Injury

When accidents occur, various things result from it: damage to property, injuries to people and loss of time, reduced production, etc. Workplace injuries and diseases are of concern because they impose costs not only on injured workers and their employers, but also on society. The causes of injuries prompted the researcher to further examine the socio-economic consequences. The artisans indicated that injuries and accidents they sustain affect their performance at work as well as financial and other social consequences. Most of these workers were married and were breadwinners; others who were not married had dependants and in many cases these accidents had implications for their dependants. According to Nagash (2002:174), "One of the most obvious indirect costs is the human suffering caused to workers' families, which cannot be compensated with money."

The artisans indicated that they faced direct serious financial problems as a result of the accidents and injuries they sustain during work. This was because their jobs were not salaried, they were not compensated in any form if these injuries made it impossible for them to be at work. This meant the loss of day's wages or income and this implied that there would be no income to take home. This impact or perceived cost of accidents or injuries experienced by the artisans depended on the degree or severity of the injuries. For many of these apprentices and workers, apart from the indirect loss of income, the loss of their jobs due to these injuries also result in loss of customers, since they could no longer meet their (customers) orders and requirements. In any case, whether the loss of income as a result of one's injury is through a direct or indirect means, the implications for victims appear similar. Overwhelmingly, the artisans complained that they face difficulties meeting the basic necessities of life such as providing food, shelter, clothing and paying children's school fees and utility bills. However, even in this instance, some differences in the responses

could be gleaned: those who felt bitter about their plight were the married ones who had more responsibilities and financial obligations than the unmarried workers. For instance according to a 45 year old married mechanic:

> *My whole life depends on this job.... so you can imagine the case of an accident or injuries during work. Absence from work for just a day means that I would not have any income or money and my brother you know the effect of that. At times you come to work and customers do not come regularly, so just imagine you did not come at all due to injuries (45 year old married mechanic).*

Prevention and Reduction of Work-Related Accidents by Artisans

The need to know the measures put in place by the artisans to reduce or prevent accidents and injuries in the course of their work is crucial to this paper. This is because workers in informal small-scale enterprises can only be assured of their daily wages and incomes when they work in a safe and healthy workplace. As a result, it was important to know their coping mechanisms with accidents they experience at their workplaces as well as measures they had put in place to reduce and prevent accidents and injuries from occurring. A safe and healthy workplace also means that accidents, injuries and hazards were reduced and prevented to the barest minimum. This is where workers also have a role to play in ensuring that the workplace is safe and healthy through mechanisms and measures they put in place.

To this end, artisans were asked to indicate how they prevent injury at the workplace. Responses from the artisans indicated that, they did not have adequate measures of reducing or preventing hazards and risks associated with their respective jobs. The artisans claimed to have some mechanisms for preventing occupational and workplace accidents and hazards. However, during the field study, one of the critical observations made was that in many instances, artisans were working without the appropriate or required (PPEs) and were not following established procedures. For example, some sprayers were seen entering the spraying area without any nose mask, gloves and eye goggles. Those who were seen wearing any protective equipment were mainly using surgical mask to protect themselves from exposure to volatile organic compounds. Similar to the

findings of this study, Okuga et al. (2012) reported a very low use of PPEs among small-scale welders in the Jinja Municipality of Uganda.

The general attitude and perception of the artisans including the owners/masters and their workers towards accident reduction was fatalistic. That is a belief that most of the accidents and injuries are unavoidable part of their daily work, and that little or nothing can be done to prevent them. This means that masters/owners neither invests much time nor, - resources to ensure accident reduction and prevention.

Conclusion

Occupational Health and Safety are critical health and developmental issues, especially in a growing economy like Ghana where there is dearth of credible OHS data especially in the informal small-scale sector. Almost every workplace, including informal small-scale enterprises and business in the formal sector, suffer from one or more hazards. Occupational hazards may have health consequences for both workers and for any other person in the proximity of a production process. As indicated in the employment statistics, the informal sector and small scale enterprises play an important role in the labour market as well as in the diversification of the economy in Ghana. In view of this, the safety and health of workers in the informal small-scale enterprises should be recognized as it is in medium–size and large enterprises. Protecting the safety and health of workers in the face of hazards related to work activities is crucial because it promotes a healthy and vibrant economy in any country.

The paper concluded that, Kokompe, with its youthful nature of artisans and male dominance is due to the nature of work. In addition, a large section of the artisans is not educated beyond the basic (Primary and JHS) levels. The physical environment and the nature of work are both hazardous since the work entails improper sitting posture, lifting of heavy objects and generally working without any safety measures. Whilst these artisans and their apprentices know about some of the hazards associated with their work, they are oblivious to the many dangers associated their work. No wonder that the artisans complained of musculoskeletal disorders, allergic reactions, and noise induced hearing loss, physical strain, fatigue, cut and burns. Thus, the predisposing factors

to workplace accidents that have been identified are non-use of protective equipment, carelessness, inexperience defective equipment or tools and bad luck (uncontrollable external forces). Workplace accidents lead to various costs on the artisans including: illness/injury, loss of income, possible loss of job, limb, or life and the cost of health care. Their working environment is hardly regulated by the bodies mandated to do so.

The workshop owners had no explicit safety policy although some owners expressed an explicit positive and proactive approach to safety. In most of the cases though, the owners had an ambivalent attitude towards working with safety. On one hand they emphasized the importance of safety and on the other, they did not feel that they could do anything to promote it. In general, the owners 'reacted' to safety issues and problems by dealing with them as they arise, and most were of the opinion that accidents in general are due to worker faults or unforeseeable factors/bad luck – both of which they meant are beyond their control.

The results of this paper confirmed earlier findings regarding the level of preventive safety activities in informal small-scale enterprises (Hasle and Limborg, 2006; Limborg, 2003). If prevention measures are undertaken they are mainly on an ad hoc basis. Accidents are, considered as unforeseeable and/or attributed to a worker's carelessness. Difficulties in explaining the causes of the actual accident and the lack of a safety policy of the enterprises also seem to indicate that safety activities are not a priority. It is therefore fair to conclude that, because the owners as well as their workers and apprentices are fatalistic, (believing that workplace accidents and injuries are an unavoidable part of their work), little has been done in terms of putting in place mechanisms and measures to ensure the reduction and prevention of accidents and injuries. The paper recommends, that city authorities should consider a re-engineering of the entire workplace of the artisans by planning and demarcating the structure in accordance with standard practice to enable work to be done in a safe and healthy environment as well as the need for artisans to be educated on the need and importance of PPEs in their work activities

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