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## DETERMINANTS IN EFFECTIVE MANAGEMENT OF OCCUPATIONAL HEALTH AND SAFETY MEASURES IN THE JUA KALI SECTOR IN NAIROBI COUNTY: A CASE OF THE METAL WORKERS IN KAMUKUNJI CLUSTER

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**Abstract:** *The Jua Kali sector plays a key role in providing a source of livelihood to a large number of job seekers. It has been identified as a key sector in the achievement of the Millennium Development Goals (MDGs) through poverty reduction and decreasing the level of dependency. Despite its importance, attention to the occupational health and safety management in the sector has not been given much attention. A key challenge in this sector is enforcement of occupational health and safety legislation. This study therefore sought to assess the determinants of effective management of occupational health and safety measures among the Jua kali workers in Nairobi County. The study used the descriptive survey design. Both descriptive and inferential data analysis techniques were used to analyse data collected for the purpose of this research. The study found out that training of Jua kali sector workers, O.H.S standards in the sector, workers level of awareness of the O.H.S legislation and the attitude of the Jua kali enterprise managers all determine how well O.H.S is managed in the sector. Training of workers in O.H.S, creating awareness of the O.H.S legislation among the workers and a change in the Jua kali enterprise managers' attitude towards O.H.S management are among the recommendations made by the study.*

**Keywords:** *Jua kali sector, Occupational Health and Safety, training in Occupational health and safety management, legislation in Occupational Health and Safety, enforcement of occupational health and safety legislation.*

### INTRODUCTION

In the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, entrepreneurs ran their businesses as they saw fit to make profit. Employee safety and health were not their concern. In fact, in official terms the



health and safety issues were nobody's concern. In the U.S. injured employees had to litigate to obtain compensation for their injuries. The cost of doing so effectively prevented employees from going to court. Besides, employees were rarely successful since, under common law, if the employee knew of the hazards the job entailed or if the injuries were brought about as a result of the negligence of the employee or a co-worker, the employer was not liable (International Labour Organisation, 2005)

The International Labour Organisation (ILO) (2005) indicated that from these origins, there has emerged an approach and practice with regard to health, safety and welfare issues. The national safety council was established in 1913 in the U.S. after safety conscious managers and engineers spearheaded the founding of occupational health services. Occupational health and safety is a cross-disciplinary area concerned with protecting the safety, health and well-being of people engaged in work or employment. Health and safety programmes, as noted by Armstrong (2009), are concerned with protecting employees, and other people affected by what the company produces and does, against hazards arising from their employment or their links with the company. According to ILO (2005), organizational health and safety focuses on the development of specific measures and programmes, aimed at protecting employees in the course of performing their duties to maximize productivity and improve the overall organizational performance.

Occupational accidents severely deteriorate human capital, hence negatively affecting productivity and competitiveness of organizations (Armstrong, 2009). As Pilbeam and Corbridge (2006) rightly assert, people are a major source of competitive advantage for any organization. Employees of any organization are more motivated to contribute fully to the performance of the organization when they feel valued by the organization. Safety constitutes one of the essential human needs, as postulated by Abraham Maslow in his theory of needs hierarchy formulated in 1943. Feeling safe at work ranks as a very important factor in job satisfaction (Akpan, 2011). Making employees to feel physically and psychologically safe is the easiest demonstration of how much they are valued (Pilbeam and Corbridge, 2006). Unfortunately, this is not always the case. It is reported that around 270 million people in the world fall victim to occupational injuries, fatal and non-fatal every year (Bernadin, 2007). In the United States of America, Health and Safety Executive (2005) reports that approximately 2 million people suffer ill health caused or aggravated by work



activities. The situation is not any better in the United Kingdom where the Royal Society for Prevention of Accidents estimates that every year, there are about 350 fatalities and 36 million days lost due to work related accidents and ill health (Armstrong, 2009).

The situation in the developing countries is even worse since issues of occupational health and safety are taken very casually, largely due to lack of awareness, non-enforcement of relevant safety laws and lack of a structure to guide the establishment of sound occupational health and safety management systems (Khisa, 2003). One of the areas often neglected by management, especially in the third world countries is the provision of safe work environment for workers (Akpan,2011). In Nigeria, as is the case in almost all other African countries, there is no organized regulatory agency charged with the responsibility of conducting regular monitoring and checks in organizations to ascertain compliance with occupational and safety rules and procedures (Akpan,2011). Over the years, this has been the reason behind wanton degree of workplace accidents and occupational diseases in organizations. In Kenya, the Ministry of Labour reports that more than half of industrial accidents go unreported (Nyakango, 2006). This is attributed to the fact that more than half of the total employment is being generated by the informal sector, and as Nyambari (2007) states the informal sector is normally ignored when it comes to the practice of occupational health and safety inspectorates.

In Kenya there exists a parallel economy dominated by small businesses that absorbed a large number of persons that would otherwise be recorded as unemployed by economic survey( Ferej 2009). The informal sector, also known as the Jua Kali sector, is described as consisting of all small scale activities that are normally semi-organized and unregulated, undertaken by artisans, traders and operators in work sites such as open yards, market stalls, undeveloped plots, residential houses and street pavements (Ferej, 2009). The term Jua Kali, a Kiswahili word which literally means fierce sun, is used in Kenya in reference to the informal sector. The name Jua Kali stems from the fact that the workers in the informal sector work under the hot sun in open yards, market stall, undeveloped plots and street pavements, and the work involved is harsh and hard, usually done under harsh conditions unsuitable for labour; neither regulated nor safe. This sector that has been referred to as the informal sector to distinguish it from the modern sector is described as consisting of all small-scale activities that are normally semi-organized and unregulated (Komollo, 2010).



The informal sector plays a central role in the social economic spheres in most African countries (Baiya, 2003). According to Maundu (1997), a large number of primary and secondary school leavers are not able to obtain gainful employment in the formal sector, thus joining the informal sector. It is reported that the sector contributes about 55% of sub-Saharan Africa's GDP and 80% of the labour force. In East Africa, it is the source of 85 – 90 % of all non-farming employment (Baiya 2003). He further states that in Kenya the sector grew by 18%, and 20% in Uganda while the formal sector grew by 2% in the same period. Kinyanjui (2009) reports that in Nairobi alone, it employs more than 500,000 people. In the Medium Term Plan, the Government of Kenya reports that in 2007, the informal sector created 426,900 new jobs. This constituted about 90 per cent of all new jobs created outside small scale agricultural sector and pastoralists activities. In the 4<sup>th</sup> Kenya Human Development Report (2005), the United Nations Development Programme reports that the informal sector accounts for a third of the countries national income. The potential of the informal sector and the Jua Kali movement, not only as a vehicle for employment generation, but also as a tool for wealth creation, was first recognized in the ILO Report of 1971 (Ferej, 2009). One of the important findings of the ILO (1972) report in Kenya is that a substantial proportion of urban workers are self-employed in small enterprises (Komollo, 2010). The liberalization and privatization processes have resulted to the states failure to be the key employer, and this role being taken over by the private sector, which has not been able to absorb the growing number of jobseekers, leaving the Jua Kali or informal sector to fill this gap (Nabuteya, 2007).

Accidents and ill-health affect workers quality of life, impairs performance and results in loss of working days (Pilbeam and Corbridge, 2006). According to Akpan (2011), organizations incur high costs due to poor safety and health programmes and efforts. In Kenya, though the Jua kali sector has been recognized for its contribution in generation of employment opportunities for many Kenyans and for its contribution to the growth of the national economy, enforcement of legislation on health and safety in the sector has not been clearly documented.

## **PROBLEM STATEMENT**

The legislation governing health and safety of workers is rarely applied to the Small and Medium Enterprises or the informal sector, resulting in hazardous and poorly paid



employment. Policy focus in the formal economy has overshadowed the informal sector. The absence of clear policies has relegated the informal sector to fragile working environments and competitive disadvantage (Komollo, 2010). For example, the ILO Guidelines on occupational safety and health management systems recommend that tailor made national policy be designed with the consideration of the size, infrastructure, type of hazard and degree of risk in an organisation. However, the Occupational Health and Safety Act enacted in 2007 in Kenya is vague on its application to the informal sector despite the statement that the Act is applicable to all workplaces where any person is at work whether permanently or temporarily. While it stipulates clearly what should be done in the management of health and safety at the workplace, it fails to acknowledge the needs of the informal sector, where the employees work for short durations usually on daily wage contracts, that may not allow them to group into health and safety committees. It also requires that health committees be established in organizations that employ more than twenty employees without stating what should be done in organizations with fewer employees, where most informal sector enterprises fall.

Jua Kali workers operate in premises that expose them to harsh weather conditions such as the hot sun, rain and cold because they lack proper shelters. The equipment they use is usually improvised and they work in incorrect postures during long working days. Many of them are also exposed to hazardous materials such as dust, acids, automotive sprays, carbon monoxide, asbestos as well as lead. Despite these potential hazards in the Jua Kali Sector, and although the labour and occupational law does not discriminate against the informal sector, the sector is normally ignored in practice by the labour and O.H. S inspectorates (Nyambari, 2007).

## **RESEARCH METHODOLOGY**

The study used the descriptive survey research design, which involved investigating a population by selecting samples to analyse and discover occurrences. According to Kombo and Tromp (2006) this study design provides information about naturally occurring characteristics of a particular group and does not involve manipulation of the environment. Orodho (2003) states that this design is suitable to a study that involves interviewing or use of questionnaires for data collection, thus being appropriate for this study. The choice of this design was also informed by the fact that this design could enable the researcher to



collect data within a short duration and also because it is easy to generalize findings of a sample of a population to the entire population.

## **SUMMARY OF THE FINDINGS**

The respondents' characteristics were important to this study in that it helped to establish the respondents' differences and find out how they may affect the outcome of the results. Most of the respondents were aged between 16-25 year, which indicates that the greatest percentage of workers in Jua kali at Kamukunji comprises of young people. It was established that poverty and inability to access education is a driver to many young people to get into the labour market prematurely as workers in the Jua kali sector. Majority of the respondents were engaged in the tinsmiths activities, blacksmith, welding and the rest were in mechanics. This indicates that the majority of the respondents were involved in tinsmiths activities with very few engaging in mechanics in the area. Majority of the workers had worked for a period below 5 years, which indicates that most of the respondents had worked long enough to understanding the working environment and hence issues of occupational health and safety in the establishment where they worked. On the level of education it was noted that majority of the Jua kali workers were primary school leavers, this is true as many artisans are usually those people with low level of education. On whether they had trained for the job they are doing majority of them indicated that they had been trained, with most indicating they undertook their training on the job with only a few indicating that they had a formal training for their jobs. This agrees with the findings of ILO 1972 where it was reported that skills for the informal sectors are acquired outside formal education, only a small portion of informal sector workers receive formal training. This means that most of the workers in the Jua kali sector may have limited knowledge of the occupation health and safety in their work as they have not attended a formal training where the issues of O.H.S are covered in the training curriculum. This is an indication that the workers are working and exposing themselves to danger due to their ignorance

## **TRAINING AS A DETERMINANT OF O.H.S MANAGEMENT IN THE JUA KALI SECTOR**

The first objective of the study sought to establish whether training affects O.H.S management among the workers in the Jua kali sector. The study noted that training would equip the workers with skills to enable them identify hazards in the work place as well as be



able understand the kind of occupational health and safety problems associated with their work. As such they would be in a better position to take necessary precautions. The results indicate that majority of the respondents strongly disagreed with the fact that employees working in the Jua kali sector were trained on the O.H.S in their work, meaning they had not been trained on O.H.S in their work. It was noted that the mean of 1.37 of the response indicated that majority of the respondents did not have knowledge on O.H.S law, the standard deviation was high at 0.71 meaning that there was a high variation in the responses among the respondents a fact that justifies that the employees at the Jua kali sector have not been trained on O.H.S.

Majority of the employees also agreed that protective equipment and clothes reduce the risk of work health and safety majority of the employees agreed with the statement, the mean responses were 4.42 with a standard deviation of 3.88 which indicates that there was consistency in the respondents, there was little variation in the respondents meaning that the majority of the respondents believed that the protective equipment and clothes can help to reduce the occupational health and safety risks in the Jua kali sector. However they said that they don't use equipment and protective cloth always. This indicates that the employees neither used their protective tools nor clothes during their operation a fact that exposes them to risk.

The relationship between training in occupational health and safety and O.H.S management among the Jua kali workers, Pearson's correlation was used to determine the correlation. The results of the study indicated that there was a significant relationship with a Pearson correlation ( $r$ ) of 0.541 at a 5% significant level. This shows that training as a determinant of occupational health and safety management has a positive relationship with occupational health and safety management in the Jua kali sector as shown in table 4.6. Although the relationship is not strong, it is very significant. This indicates that when employees are trained on O.H.S they are able to take measures in improving effectiveness of O.H.S management.

The results of regression show that occupational health and safety management in the Jua kali sector can be explained by 23.3% of the change in Jua kali workers training on O.H.S. According to Mugenda and Mugenda (2003), if a relationship between independent and



dependent variables is explained by a value below 30%, then the relationship is weak. Since the current relationship is explained by an R-square of below 30% then the study notes that the occupational health and safety management in the Jua kali sector can only be explained to very small extent by them understanding the training of Jua kali workers on O.H.S. This was also justified by the small value of  $R = 0.503$ .

#### **THE LEVEL OF AWARENESS OF THE EMPLOYEES AS A DETERMINANT OF EFFECTIVE O.H.S MANAGEMENT MEASURES AMONG THE WORKERS IN THE JUA KALI SECTOR.**

The study sought to establish the level of awareness of the employees as a determinant of the O.H.S management in the Jua kali sector. In establishing whether there was any variation in the response it was noted that majority of the respondents disagreed that the work environment has been designed in a way that reduces risk. This means that the work environment is not designed to reduce the risk. The employees also disagreed with the fact that they miss work frequently as a result of work related injuries. It was also noted that majority of the employees disagreed with the fact that they get paid for sick off from work related injuries and again employees get adequately compensated for injuries and sicknesses resulting in their duties it is noted that majority disagreed. This shows that the health and safety measures are not taken into consideration adequately by the employers and that the employees have to bear the entire burden in case they get injured in the course of duty. The results of the study indicated that there was a significant relationship with a Pearson correlation ( $r$ ) of 0.113 at a 5% significant level. Although the relationship is not strong but it is not significant since the value of significance was 0.115 which is more than the 0.05 that was considered for the test. This indicates that being aware of the O.H.S management does not mean that the O.H.S will be observed. This indicates that there are other factors that must be in place besides level of employees' awareness of O.H.S legislation. Similarly the results show that O.H.S management in the Jua kali sector can be explained by 23.3% of the change in Jua kali workers levels of awareness of employees. According to Mugenda and Mugenda (2003), if a relationship between independent and dependent variables is explained by a value below 30%, then the relationship is weak. Since the current relationship is explained by an R-square of below 30% then the study notes that





the O.H.S management of the Jua kali workers can only be explained to very small extent by their level of awareness of O.H.S. This was also justified by the small value of  $R = 0.113$ .

### **O.H.S STANDARDS LEVEL AS A DETERMINANT OF EFFECTIVE O.H.S MANAGEMENT MEASURES IN THE JUA KALI SECTOR**

The third objective of the study sought to establish whether O.H.S standards level is a determinant of O.H.S management in the Jua Kali sector in Kamukunji Nairobi County. To examine whether the O.H.S standards is a determinant in the O.H.S management in the Jua kali sector, majority of the respondents disagreed that the organizations were keeping records of occupational accidents. This indicated that it was not possible for the enterprises to have standard upon which they could base their future references. It was also noted that the workers were exposed to the hazards and hence it was not possible to talk about having O.H.S standards in the enterprises. It was therefore noted that since there was no training of the workers on O.H.S on frequent basis, then the enterprises could not talk of O.H.S management in their respective enterprises. On whether the management helps me understand the nature of occupational illness suffered at the place of work and has put in place appropriate measures to help avoid them. The study results showed that majority of the respondents were not sure. This shows that Jua kali enterprises have not taken seriously the issue of occupation health and safety for their employees, therefore, O.H.S standards can be considered as playing a role in the occupation and health and safety management among the Jua kali workers.

In order to confirm on the descriptive analysis, the Pearson's correlation analysis was computed to establish whether there was a relationship or not between O.H.S standards as a determinant of O.H.S management. The value of the correlation was established to be 0.244; and a p-value of 0.001 at a confidence level of 95% this indicated that there was a significant linear relationship between O.H.S standards as a determinant of O.H.S management. This indicates that the management of O.H.S among the Jua kali enterprises can be improved if the enterprise owners can put in place appropriate O.H.S standards.

### **ATTITUDE OF ENTERPRISE MANAGERS TOWARDS THE O.H.S OF WORKERS**

The findings of the study showed that majority of the respondents strongly disagreed with the fact that Jua Kali enterprise managers support workers training on O.H.S management. It was also important to establish whether Jua kali enterprise managers support the



formation of O.H.S management committees. The results showed that majority of the respondents strongly disagreed and disagreed respectively that the managers support the formation of the O.H.S. This shows that there was a large variation in the responses but majority of the respondents. The study therefore indicates that since the Jua kali enterprise managers do not support the formation of O.H.S management committees then it means their attitude towards the O.H.S is poor. The results also indicated that the respondents were not sure whether the management kept the records and hence they were not sure of the attitude of the management towards O.H.S management in the organization it was also noted that shows that the Jua kali enterprise managers do not support periodic training for the workers in O.H.S management. The results showed that there was a linear relationship between the attitude of the management and O.H.S management among the Jua kali sector workers. The Pearson Correlation was 0.167 and was found to be significant at 0.01 with a significance value of 0.019. This shows that as the management attitude towards O.H.S improves there will be better management of O.H.S in the Jua kali sector.

## **CONCLUSIONS**

Based on the results of the study, it can be concluded that training of Jua kali workers on O.H.S, their level of awareness and compliance to legislation on O.H.S, the O.H.S standards level in the sector as well as the attitude of managers in the Jua kali sector O.H.S management determine the occupational health and safety management in the sector. Each of the factors is significant in determining O.H.S management in the Jua sector; though the relationship between these dependent variables and the independent variable is weak meaning they only affect to small extent the management of O.H.S in the Jua kali sector. The study also concluded that the variable with the highest level of significance is the attitude of the managers on workers health and safety. If enterprise managers have a positive attitude towards the management of O.H.S they will significantly determine how the workers carry out the O.H.S management in their enterprises, ensure the standards of O.H.S are high, provide training opportunities on O.H.S for the workers and create awareness of the O.H.S legislation among the workers, thus affecting the other determinants under study positively. Therefore the study concludes that all the variables under study contribute to the O.H.S management in the Jua kali sector, but the attitude of the managers of the Jua kali enterprises towards occupational health and safety of the is the most significant and a change in it will have a bearing on how effectively Jua kali workers manage O.H.S in their



places of work. However, seeing that the variables under study only affect to a small extent the management of O.H.S in the Jua kali sector, the study concludes that there are other factors besides those under study that determine the management of O.H.S in the sector.

## **RECOMMENDATIONS**

From the findings of the study it is recommended that the owners of the Jua kali enterprises should ensure that there is appropriate training of the workers in O.H.S management so as to improve on their participation in O.H.S management at work. Lack of proper training was cited as a factor that affects the management of O.H.S by the workers in the sector.

It is also noted that the level of awareness of O.H.S management legislation is very low and therefore the study recommends that the workers should be sensitized on the O.H.S legislation so that they can take all the necessary measures to identify and eliminate hazardous situations and practices in order to minimize cases of O.H.S accidents and illnesses in the sector.

It is also recommended that O.H.S standards which are very important for the management of the O.H.S issues should be clearly stipulated among the Jua kali workers.

About the attitude of enterprise managers towards the O.H.S of workers the study recommends that there is need to have a change in the attitude of the managers who should be able to effectively put in place appropriate measures that will bring about improvement in the management of O.H.S by the workers in the sector.

## **AREAS FOR FURTHER STUDIES**

Further study should be undertaken to establish other determinants of O.H.S management in the Jua kali sector seeing that the factors under study only affect it by 29.9%. Further study is also needed to establish the reason for low levels of awareness and enforcement of O.H.S legislation among the Jua kali workers besides training.

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