

## **CHAPTER FIVE**

### **DISCUSSION**

#### **5.1 Accidents during the Last Five Years.**

The results highlighted the serious bad situation where 68.2 % of the participants in the survey had accidents in their construction projects during the last five years. In general, the result in Khartoum very high accidents, due to the respondents during the last five years executed so many projects with the different size and the different nature of the projects during the last five years. That is why the number of the accidents it's so high with the respondents to other respondents, it is also the results in Khartoum seem convergent and nearly when compared with other countries. A study of Hassouna (2005) in Gaza strip which found out 75% of respondents had accidents in their construction projects during the five years.

#### **5.2 The Degree of the Injures.**

The type of the injures among the respondents the last five years it's so high, due to the numbers of executed the projects is high, and the natural of works without any legislation form the respondents, and also to care about the workers in the construction sites. The injures among the respondents, 65.5% of the them had death cases, 16.3% .

16.4 them had injuries that caused permanent inability, and 9.8% of them had partially inability, and 75% of them had light injury, and . in general the Khartoum ,there were difficulties in obtaining records from the respondents to understand the rates and the causes of fatalities and injuries. These difficulties were due to the lack of records kept by respondents and the entire respondents do not recording the accidents just the real injuries, due to the lack of reporting accidents.

However, in some cases, when the records were available, there was difficulty in finding or obtaining them .The results in Khartoum is very high when compare with the other countries, a study of Hassouna (2005) in Gaza strip which found out 10% of the respondents had death cases, and 14% of them had injuries that caused permanent inability and more than 40% of them had temporary injuries and the majority of contractors had a very high number of light injuries.

### **5. 3 Recording Accidents.**

In Tripoli city all the respondents 61% of all the respondents do not keep records of the Size, nature, Cause, and results of the injury just the real injuries (See figure 4.6) .That main problems of the respondents in the construction projects in Khartoum. This problems can be interpreted to three reasons; the first all the respondents do not have knowledge about the method that can improving the

safety performance in the construction projects, the second reason, the safety is not priority of them, the third the number of accidents it so high that is why they did not have the recording accidents. The results in this study the similar with the Study of Godwin (2011), in Nigerian which found out accidents and injuries are not reported and clients, consultants and contractors give little or no attention OHS. Also similar with the results Kartam, et al. (2000). In Kuwait, in Hassouna (2005). Found out that most of contractors in Kuwait did not have a safety record. The study in Tripoli city disagreed with the results of Hinze and Wilson (1996). In USA, in Hassouna (2005). And Poon, et al. (2003). In Hong Kong, in Hassouna (2005). Which found out that majority of respondents of their survey in the three countries record and investigate construction injuries and all of them agreed that Accidents investigations were vital to improved safety performance. While in Khartoum, there is shortage and unaware about the importance of the safety issues form the government, owners, consultants, and contractors. However, recording accidents is considered weak in construction in the Khartoum. The investigation and recording accident of an accident can provide meaningful to reduce the number of accidents on the construction project.

#### **5.4 Accidents Rates on Construction Site Perspective**

A high percentage of the respondents believed that the high accidents rates on Construction site were due to the first management carelessness with the percentage 28% (see figure 4.8) they said the rate increased. The respondents believed that the high accidents rates on the construction site the management careless of many things. Such as there is no the training of workers in the construction projects, and how to use the equipment in the construction sites, and also there is no orientation for the workers, the results in this study agreed with the results of Tam et al (2004), in China, in Hassouna (2005). which found out that the causes of accidents were due to poor safety awareness for top leaders. Also the results in this study disagreed with the results of Hinze and Harrison (1981), in USA, in Hassanien (2007). Surveyed that nature of safety programs in the largest 100 construction firms in the USA, and concluded that larger firms had more formal safety programs they also had the safest performance, lower injury rates were in companies that provided workers with formal safety orientation.

#### **5.5 The Major Reasons of Accident on Site**

The respondents of survey believed that the unsafe behavior of all the construction firms in the Khartoum participates in increasing accidents rates due to lack employs of safety officer with the percentage 73.8 (See table 4.3: the unsafe

behavior ).The respondents Khartoum believed that the high accidents rates on the construction site the lack employs of safety officer of many things. Such as there is no employee officer to care about the safety performance on the construction sites, and they did not have experience about their works, and without any knowledge to follow up the safety performance the construction projects, and the other hand the cost of the construction safety is not enough to cover the requirements of the safety on the construction site.

Other countries. The results of Tam et.al (1998), in Aksorn (2009). These studies were conducted to evaluate the influence of safety program on improved construction safety performance and reveal that successful safety program, however, do not need extensive elements, but should at least include the critical elements including safety policy, safety committee, safety inductions, safety training, safety inspections.

## **5.6 The Role of Institutions in Improving Construction Safety**

Based on the results, 55.7 % all the respondents agreed that there is no t institution that follow up safety in construction, enlightenment of the construction employs, in applying safety legislation. In khartoum there is on government follow up to take care about the safety performance in the construction site that is why the number of accidents so mach during the last five years, the study of (Godwin 2011) in Nigeria the similar with study of Khartoum. which found out the

industry has no legislation governing OHS, on regulatory authority on construction projects. The results in this study it need improve if compare with other study.

The results in this study also similar with the results of (Jannadi et al. 1998) in Saudi Arabia found out. The practice of safety in Saudi Arabia is not regulated by any government agency. Construction projects in the USA is regulated by government agencies such as the Occupational safety and Health Administration (OSHA), which provides strict rules and regulations to enforce safety and health standards on job sites (OSHA, 1999). In Kuwait, every contractor is required to contact the safety Department of the Kuwait municipality when starting new projects and submit necessary documents (Kartam, etal.2000), in Hassouna(2005).

### **5.7 Safety Improvement**

(figure 4.15, 4.16 and 4.17) shows that the score for three questions mentioned in the table are more than (34.) disagreed there is employ satisfaction and 42.6 % of the respondents implementation of safety regulation helps in reducing accidents, and they also agreed that all construction professionals should play more active roles in sustaining constriction safety, and also construction professionals should play more active for construction workers.

The results in Khartoum agreed with a study Hassouna (2005) in Gaza strip. Which found out all respondents (83) 100% agreed that implementation of safety regulation helps in reducing accident with a study of Kartam et al. (2000) in Kuwait, in Hassouna (2005). which found out there were a consensus among the respondents of their surveys that safety regulations is significant in reducing accidents in the construction sites.