

## Chapter one

### Introduction

#### 1.1 backgrounds.

The construction industry has earned the reputation of being a dangerous or highly hazardous industry because of the disproportionately high incidence of accidents and fatalities that occur on construction sites around the world (The Business Roundtable, 1983; Churcher and Alwani-Starr, 1996; Brown, 1996; Rowlinson, 2000; Smallwood and Haupt, 2000).

Dangerous refers to being risky, hazardous, or unsafe. Situations, tools, or other elements may be either imminently dangerous referring to an impending or immediate risk such as a bare electrical cord, or inherently dangerous such as poisons.

Construction worldwide is a significant employer of labor as large proportions of its activities and operations have labor-intensive characteristics (Haupt, 1996). In Europe, for example, the construction industry employs about 7.5% of the total industrial workforce (some 11 million workers). European construction accounts for 17.5% of all work-related accidents and injuries (some 1 million accidents per year). Construction is responsible for about 22.5% of all occupational deaths, representing some 1500 fatal accidents per year (Berger, 2000; Dias and Coble, 1999). For many years construction has consistently been among those industries with the highest injury and fatality rates (Khalid, 1996; Hanna et al., 1996).

The prevention of construction accidents usually entails predicting future accidents and their nature under given circumstances. The making of such predictions is based on knowledge about past accidents. The major causes of accidents in the construction industry are related to the unique nature of the industry, human behavior, difficult work-site conditions, and poor safety management which result in unsafe work methods and procedures.

Due to the fact that accident rates in construction are high when compared to other industries, the construction and projects managers need to be fully prepared to deal with accidents when they occur, undertaking proper investigations and reporting procedures afterwards. Accident statistics represent not only terrible human tragedies but also substantial economic costs. This is because accidents cause damage to plant equipment and the loss of productive work time until the normal site working rhythm and morale are restored. Accidents can also cause work disruption and reduce the work rate (Enshassi et.al. 2007).

## **1.2 Feature of construction industry in Sudan**

The construction industry in Sudan and especially in the Khartoum state, by its inherent nature and tremendous infrastructure, is susceptible to potentially dangerous conditions that affect the safety of all personnel working on construction projects and the company. Thus there has been an increase in the number of accident, death and injury during the last five years.

Generally, the image of the construction industry in Sudan needs improvement. That is why many Sudanese people do not like working in the construction industry;

But there are also factors affecting the construction safety in Sudan, especially in the Khartoum State, in the negative way, such as the severe competitive tendering methods, the age of the workers, experience, the lack of training on workers and the main concern of the management on productivity with ignorance of safety issues. Safety is one of the obstacles in the direction to developing the construction industry in Sudan. The concern should be addressed along the way to improve the safety performance in the construction industry in the Khartoum State.

### **1.3 Aim of Study**

The aim of this study is to examine the safety performance of the construction projects in the Khartoum State.

### **1.4 The objectives of Study**

The objectives of the study are:

- To realize the real safety problems and danger of injuries that occurs in Khartoum State.
- To investigate safety procedures, regulations, policies, and accident prevention
- Methods related to the construction projects in the Khartoum State.

- To provide methods and suggestions to improve the safety performance in construction projects in the Khartoum State.

### 1.5 Research Significance

Construction accidents have been causing many human tragedies, loss of life, productivity, and delay projects. The main reason for selecting this topic was the need for improving safety performance in the Khartoum State other reasons for would be:

- The lack of studies about the safety issues of construction professionals in Sudan especially in the Khartoum state.
- To provide some ways to help companies for improve safety performance on the construction sites.

### 1.6 Structure of the Thesis

**Chapter 1:** Outlines the by giving information of the area, and the objective of study and the research significance and expected outcomes also structure used for the Presentation of the dissertation.

**Chapter 2:** Reviews the global construction safety performance scenario, and construction safety performance in developing countries, and methods used to improve safety performance in the constructions industry.

**Chapter 3:** The methodology use of the research. The data collection will mainly depends on designing a questionnaire. The respondents will be owners, consultants, and contractors. The data will then be analyzed by using descriptive methods.

**Chapter 4:** Results

**Chapter 5:** discussion.

**Chapter 6:** Conclusion and recommendations.

**Chapter 7:** References.