

PERPUSTAKAAN UMP



0000092412

THE EFFECTIVENESS

THE SAFETY AND

HEALTH PRACTICES AT CONSTRUCTION SITE IN KUANTAN

IFFAH BILLAH BINTI NOR HASHIM

A thesis submitted in fulfilment of the requirements
for the award of the degree of
Bachelor of Civil Engineering

Faculty of Civil Engineering
UNIVERSITI MALAYSIA PAHANG

JANUARY 2014

ABSTRACT

In the era of technology advancement and sophisticated, Malaysia is among of the developing country with the increasing of residents. There are many of new project being launched include with the construction. The types of construction consist of residential, heavy projects, industrial and building. The observation of fifty five (55) construction sites at Kuantan in 2013 was investigated for the state of safety and health. The questionnaires have been distributed to the 98 respondents and the data analyzed throughout the relative average index. At each site, the workers, construction projects and the physical environment of the site were evaluated and inspected against safety and health taken from the literature. The results tell that the ~~accident reported cases in construction site in Kuantan, is serious even though the~~ number is low compared to other industries, ~~and it should be taken seriously.~~ Interviews with workers indicated that injuries and accidents are common on sites. While the frequencies of accident happen is one in a month during the construction project time. It may be different from the data collected from SOSCO it is because the employer did not make a report.

ABSTRAK

Di dalam era teknologi yang maju dan canggih, Malaysia adalah salah sebuah negara yang membangun dengan peningkatan penduduk. Terdapat banyak projek baru yang dilancarkan termasuklah dalam bidang pembinaan. Jenis-jenis pembinaan termasuklah perumahan, pembangunan berat/lebu raya, perindustrian dan bangunan. Daripada pemerhatian di lima puluh lima (55) kawasan pembinaan di seluruh daerah Kuantan pada tahun 2013 disiasat untuk keadaan keselamatan dan kesihatan. Borang soal selidik telah di edarkan kepada 98 orang responden dan data telah dianalisis menggunakan indeks purata relative. Di setiap kawasan pembinaan, para pekerja, projek pembinaan dan keadaan persekitaran fizikal kawasan telah di nilai dan diperiksa untuk keadaan keselamatan dan kesihatan yang diambil daripada kajian literatur. Keputusan yang diperoleh daripada kemalangan yang dilaporkan di kawasan pembinaan di daerah Kuantan, adalah serius walaupun kadar frekuensi nya adalah rendah berbanding dengan sektor-sektor yang lain, dan ia haruslah diberi perhatian yang lebih serius. Temuramah dengan pekerja juga menunjukkan kecederaan dan kemalangan adalah satu perkara yang biasa di kawasan pembinaan. Walaupun kadar frekuensi kemalangan yang berlaku adalah sekali dalam sebulan ketika masa projek pembinaan. Data yang diperoleh daripada Jabatan Kesihatan dan Keselamatan di Kuantan berbeza berbanding dengan data yang diperoleh daripada siasatan di kawasan pembinaan, ini adalah kerana pihak majikan tidak membuat laporan kepada pihak yang berkuasa.

TABLE OF CONTENT

CHAPTER	TITLE	PAGE
	DECLARATION	ii
	DEDICATION	iii
	ACKNOWLEDGEMENT	iv
	ABSTRACT	v
	ABSTRAK	vi
	TABLE OF CONTENT	vii
	LIST OF TABLES	x
	LIST OF FIGUREURES	xi
1	INTRODUCTION	
	1.1 Introduction	1
	1.2 Problem Statement	3
	1.3 Objectives Of The Study	4
	1.4 Scope Of Study	4
2	LITERATURE REVIEW	
	2.1 Introduction	5
	2.2 The Meaning of Workers' Safety and Health	5
	2.2.1 Safety and Health	5
	2.2.2 Hazard	6
	2.2.3 Risk	6
	2.2.4 Danger	7
	2.2.5 Accident	7
	2.3 The Importance of Awareness of Safety and Health	7
	2.4 Frequencies of Accidents Occurrence	9
	2.5 The Types of Accidents	12
	2.6 Contributing Factors in Construction Accidents	16

3	METHODOLOGY	
3.1	Introduction	22
3.2	Selection of Research Field	22
3.2.1	Preliminary Study	22
3.3	Literature Review	23
3.4	Data Collection	23
3.4.1	Questionnaire Survey	23
3.4.2	Structure Interviews	24
3.5	Data Analysis	24
3.6	Conclusion and Recommendation	25
3.7	Research Methodology Chart	26
4	RESULT AND DISCUSSION	
4.1	Introduction	27
4.2	Types of Construction Project	27
4.3	Seriousness of Accident Rates in Construction Industry	28
4.4	Types of Accidents Occurred at Construction Site	29
4.5	The Awareness	31
4.5.1	The Vision of Safety and Health	31
4.5.2	Responsible about Safety and Health of the Employees	32
4.5.3	The Safety and Health Rule	33
4.5.4	The Cause Will Be Taken	34
4.5.5	Safety and Health Briefing in a Week	35
4.5.6	Safety Officer	36
4.5.8	Involvement Employees in Accident	37
4.6	Comparison of All Accident in Industry Sectors in Kuantan	37
5	CONCLUSION AND RECOMMENDATIONS	
5.1	Introduction	39
5.2	Conclusion	39
5.3	Recommendations	40

REFERENCES

LIST OF TABLES

TABLE NO	TITLE	PAGE
2.1	The Statistic of Industrial Accidents Reported by Industry and Type of Accidents for the Year 2012	10
2.2	Summary of Major Accidents in Malaysia's Construction Sites	13
2.3	The Statistic of Industrial Accidents Reported by Cause of Accidents for the year 2012	17
4.1	Distribution of Response about the Types of Accidents in Construction	30
4.2	Statistics Report on Accidents Reported to SOCSO Kuantan	38

LIST OF FIGUREURES

FIGUREURE NO	TITLE	PAGE
3.1	Research methodology flow chart	26
4.1	Frequency Types of Construction Project	28
4.2	Proportion of Response about the Seriousness of Accident Rates	29
4.3	Frequency Type of Construction Accident	30
4.4	Frequency of the Vision of Safety and Health	31
4.5	Frequency of Responsible about Safety and Health of the Employees	32
4.6	Frequency of the Safety and Health Rule	33
4.7	Frequency of the Cause Will Be Taken	34
4.8	Frequency of Safety and Health Briefing in a Week	35

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The construction industry loses millions of dollars every year, it is because of work-site accidents. Work related injuries, sickness and deaths have caused untold human misery and suffering. Project delays and budget overruns from construction injuries and fatalities are huge and worksite accidents erode the overall morale of the crew. This industry plays huge role in the development process of a country where successful development would contribute towards the economic growth generating additional demands for construction activities (Abdullah, 2011).

In the United Kingdom, over 70 deaths a year occur on construction sites – of which massive 70% are whilst working on small construction projects. In addition, over 4000 major accidents are reported each year (fractures, amputations, unconsciousness, loss of sight, electric shocks, etc). One of the reasons for the construction industry to set its own targets to reduce the rate of fatal and major injuries by 66% by 2009/10. According to National Safety Council, there are an estimated 2,200 deaths and 220,000 disabling injuries each year.

According to Rahman, workplace violence is a hazard and risk in the workplace because it is threat to a safe system of work. As a result, workplace violence needs to be addressed effectively. In Malaysia, the researchers propose the use of the Occupational Safety and Health Act (OSHA) 1994 to complement other legal mechanisms as a means of addressing the issue and preventing workplace violence in Malaysia.

Because of the negative implementations that workplace violence has to the overall safety and well-being of the organization, it is imperative that workplace violence be controlled and prevented effectively. According to Shamsudin, in Malaysia there exist a number of statutory legislations that can be used for this purpose. However, it is our contention to suggest that reliance on those legislations alone is insufficient to do the work effectively since they do not specifically address the issue of safety in the workplace. Instead, we wish to argue that Occupational Safety and Health Act 1994 (OSHA) can be used in conjunction with other legislations to ensure more effective handling and tackling of the issue of workplace violence.

As the name suggests, workplace violence refers to any of violence that occurs in the place of work. In Malaysia, a definition of workplace violence has been offered in a document titled The Guidance of Prevention of Stress and Violence at Workplace, published by the Department of Occupational Safety and Health (DOSH) in 2001. According to Di Martino (2001) here, violence is defined as “incidents where employees are abused, threatened, assaulted or subject to other offensive behaviour in circumstances related to their work”.

The introduction of a comprehensive Occupational safety and Health Act (OSHA) 1994 was in response to the need to cover a wider employee base and newer hazards introduced in the workplace. Under the OSH Act 1994, National Council for Occupational Safety and Health was established. This council comprised of 15 council members with tripartite representation from Government, employers, employees and OSH professionals (with at least one woman member). The legislation also contains provision for formulation regulations and Code of Practices (COPs), which indicates “what should be done” and thus assists the employer to comply with the Act.

In conjunction with above situations, this study is carry out to investigate on the effectiveness of implementation of the safety and health practices at workplaces which may have benefit of improving the workplace violence sentiments in our country.

1.2 PROBLEM STATEMENT

In Malaysia, National Institute of Occupational Safety and Health (NIOSH) chairman Tan Sri Lee Tam Thye said the country recorded 6.7 accidents per 1,000 workers in 2005 while the average in developed nations stood at only three to four accidents per 1,000 workers. Construction workers are two to three times more likely to die on the job than workers in other industries while the risk of serious injury is almost three times higher.

The higher incidence of injuries in the construction sector and the higher fatalities rates among construction workers has generally due to the fact that construction involves many activities associated with different hazards, weather condition and different jobs during the construction phase (Marchel, 1996). This sector is also called 3D industry namely dirty, dangerous and dusty. (Malaysian Trade Union Congress)

The common work hazards during construction are movement of vehicle (back hoe, trucks, tractors, forklift and cars); lifting vehicle (crane); working at height (scaffold and ladder); power tools and hand tools; electrical shock and burns; and roof work. Occupational health issues common to construction workers are manual handling that causes body strain and pain; heat stress; excessive noise exposure; dust exposure and insect bites where the construction site is an endemic area for dengue.

With all the problems that are stated above, this study is on the safety and health implementation at workplaces is conducted to ensure the effectiveness of OSH Act 1994 legislations in the construction industry.

1.3 OBJECTIVES OF THE STUDY

In order to implement this study, I have listed several objectives that need to be achieved in the final stage of this study. The main objectives of this study are:

- i. To obtain the statistical data of injuries and illness cases that is occurred in the construction sectors compared to another sectors.
- ii. To investigate the awareness of workers and employers on their responsibilities of ensuring safety and health practices at workplaces.
- iii. To investigate the frequencies of accidents occurrence and the types of accident in construction site.

1.4 SCOPE OF STUDY

The scopes of study consist of the following terms:

- i. Location of study: The study will be conducted at the sites area around Kuantan.
- ii. This study will focus on the method or system of safety and health practices that is implemented at workplaces.
- iii. It is also related to the responsibilities of employers, employee and authorities in ensure the safety and health practices at workplaces are implanted effectively.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Literature review is very important in the research before doing the next step. In this chapter, it will be discussed on the meaning of safety and health of the workers. Besides that, we will be discussed on the frequencies of accidents occurrence in construction site, the types of accidents, and contributing factors of construction accidents. These theories are really important in achieving the objectives in this study. After literature review is done, questionnaire form will be distributed. The result in this study will be discussed in the next chapter.

2.2 THE MEANING OF WORKERS' SAFETY AND HEALTH

There are a lot of meanings to know and understand. There are:-

2.2.1 Safety and Health

According to Wikipedia website, safety can be defined as, to be control of recognized hazards to achieve an acceptable level of risk. While according to Merriam-Webster dictionary, safety is the condition of being safe from undergoing or causing hurt, injury or loss. Furthermore, health can be described as the condition of being sound in body, mind, or spirit, especially freedom from physical disease or pain. The definition of safety and health is a cross-disciplinary area dealing with protection mainly in safety, health and indeed the welfare of people engaged in employment or work. The aim of safety and health programs is to foster a safe working environment.

2.2.2 Hazard

Hazard is a thing that can be dangerous or cause damage (Oxford dictionary). According to Occupational Safety and Health Assessment Series 18002 (OHSAS 18002) and ISO/IEC Guide 51:1999 described a hazard is any situation, activity, event or environment that could potentially cause injury or ill health. The building operations and works of engineering construction industries in Malaysia have made tremendous progress in recent years and the increase in their activities have affected the general public's safety and health. Construction sites create a risk not only for the construction worker, but also for the public who move around the site or who may live adjoins them. Examples of the hazards created are:

- i. Changes to the surface level;
- ii. Excavations, holes and trenches;
- iii. Falling material and debris;
- iv. Plant and equipment;
- v. Dust, vapours or other hazardous substances;
- vi. Noise;
- vii. Vibration; and
- viii. Movement of vehicular traffic

The general public must be protected from the hazards associated with construction work that may be carried out in a public area or adjacent to such area.

2.2.3 Risk

Risk combines three elements: it starts with a potential event, and then combines its probability with its potential severity. In the context of Occupational of Health and Safety, the concept of risk asks two future oriented questions:

- i. What is the probability that a particular hazardous event or exposure will actually occur in the future?

- ii. How severe would the impact on health and safety be if the hazardous event or exposure actually occurred?

A high risk hazardous event or exposure would have both a high probability of occurring and a severe impact on Occupational Health and Safety if it actually occurred. A high risk event or exposure is one that is likely to cause severe injury or ill health.

2.2.4 Danger

Danger is the possibility of something happening that will injure, harm or kill or damage or destroy something, and it is related to hazard. For example, someone is always expose with hazard is more dangerous situation compared to one that is not expose to hazard.

2.2.5 Accident

Accident is described as something that happens unexpectedly and is not planned in advance.

2.3 THE IMPORTANCE OF AWARENESS OF SAFETY AND HEALTH

The awareness of health and safety is very important to avoid and minimize probability of accident and illness to the workers. Moreover, the workers can work well in a good and comfortable condition and they can finish their work within the time given. The importance of health and safety is to ensure the smooth progress of works at construction sites. It is because, if something unwanted is happen, all the works at construction site will be delayed due to an investigation from the authorities. This in turn will increase the cost of construction. Besides that, it is also for saving properties, such as logistic, machines and all the construction equipments from damage or loss. If something happen, more cost had to spent on machine or other equipment. The important of health and safety is also to boost employee productivity and cost-saving construction. When planning method of work, a suitable and sufficient assessment should be carried out and recorded. Method, materials, and equipment should be

selected to remove or minimize risk from work. Employers are responsible to carry out the risk assessment.

The need to increase efforts to curb accidents in the workplace is now very urgent and must be expedited collectively. The construction area is one of the places is susceptible to environment accident. Therefore, every employee who is in accident-prone areas should take precautions so that no accidents will happen is inevitable. Basically, there are three reasons why the accident at the construction site should be prevented.

Among them are:

i. Humanity Attitude

Every employer shall prepare and as often as may be appropriate revise a written statement of his general policy with respect to the safety and health at work of his employees and the organization and arrangements for carrying out that policy, and to bring the statement and any revision of it to the notice of all of his employees. (Occupational Safety and Health Act 1994)

The main contractor of a worksite in which forty or more persons are for the time being employed (whether by him or by other contractors employed by him or the client) shall establish a safety and health committee (on which both employees and management are represented) for the purpose of keeping under review conditions in the worksite which may affect the safety and health of the persons employed therein or the public. (Occupational Safety and Health (Safety And Health Committee) Regulations 1997)

ii. The Law

The Department of Occupational Safety and Health (DOSHS) and other government agencies have regulations that lay down the legal requirements to ensure the safety and health of not only the workers at the place of work but also for the public as well. This guidelines apply to all places of work in building operation and work of

engineering construction activity in Malaysia covered by the Occupational Safety And Health Act 1994 (Act 514), the Factories And Machinery Act 1967 (Act 139), and all the regulations made there under. It is designed to serve as a handy reference and to be read together with the above mentioned legislations and other industry codes of practice. (Guidelines for Public Safety and Health at Construction Sites)

If the person has failed to follow the guideline, he will be punished with the law and it will take a lot of times which is the construction project will be affected and the project can be hanged for a while.

iii. Economy

To prevent any damage caused by an accident occurring during the execution of the building in terms of medical expenses if someone is injured or sick, the cost of damages in the event of destruction of goods or plant construction and it also makes wastage of time. This has shown that the economic impact is most important. It takes place directly or indirectly in any payment of damages can be categorized as direct loss. In addition, the closure of the investigation site is also translated into a loss of money, time and quality.

2.4 FREQUENCIES OF ACCIDENTS OCCURENCE

Based on the statistics report by Labour and Human Resources (2012), industrial accidents in construction sector on category of fatal was reported to have fourth highest number of death case (103 people) if being compared to other sector, such as manufacturing (173 people), wholesale and retail trade; repair of motor vehicles and motorcycles (166 people), while public administration and defence; compulsory social security (160 people), accidents in category of fatal still can be considered as high and serious. Table 2.1 shows the statistic of industrial accidents reported by industry and type of accidents for the year 2012.

Besides that, in the same table 2.1, for the statistic for the category of disablement, the reported case was 5,074, and was behind manufacturing with 16,511,

public administration and defence; compulsory social security with 5,999 cases and other service activities with 5,386 cases.

According to New Straits Times' newspaper, workers are compulsory to have green card to stay in the workforce. Human Resources Minister Datuk Dr S Subramaniam said, employees holding the green card would help reduce the occupational accident especially in the construction industry. Besides that, he said the construction industry holds the highest percentage of occupational accidents. In 2010, 57,639 accidents were reported, out of these 4,665 cases of accident or 8.1 per cent of this amount occurred in the construction sector. While in 2011, 33,551 cases were recorded and in the same period, there were 4,937 accidents in the construction industry. He said the measures taken must also include having adequate budget for safety and health provisions for employees. Subramaniam said about 200 cases were taken to court yearly for failing to comply with certain safety procedures, and nearly 80 per cent were found guilty for not following strict procedures of occupational safety and health.

Table 2.1: The Statistic of Industrial Accidents Reported by Industry and Type of Accidents for the Year 2012.

Industry	Fatal					Disablement				
	2008	2009	2010 (Interim)	2011	2012	2008	2009	2010 (Interim)	2011	2012
Agriculture, Forestry and Fishing	-	-	-	-	55	-	-	-	-	2,212
Mining and Quarrying	-	-	-	-	9	-	-	-	-	417
Manufacturing	-	-	-	-	173	-	-	-	-	16,511
Electricity, Gas, Steam and Air Conditioning Supply	-	-	-	-	5	-	-	-	-	651
Water Supply, Sewerage, Waste Management and Remediation	-	-	-	-	3	-	-	-	-	132

Industry	Fatal					Disablement				
	2008	2009	2010 (Interim)	2011	2012	2008	2009	2010 (Interim)	2011	2012
Construction	-	-	-	-	103	-	-	-	-	5,074
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	-	-	-	-	166	-	-	-	-	9,736
Transportation and Storage	-	-	-	-	81	-	-	-	-	3,308
Accommodation and Food Service Activities	-	-	-	-	33	-	-	-	-	2,096
Information and Communication	-	-	-	-	8	-	-	-	-	610
Financial and Insurance/Takaf ul Activities	-	-	-	-	10	-	-	-	-	1,078
Real Estate Activities	-	-	-	-	4	-	-	-	-	307
Professional, Scientific and Technical Activities	-	-	-	-	21	-	-	-	-	1,529
Administrative and Support Service Activities	-	-	-	-	64	-	-	-	-	3,447
Public Administration and Defense; Compulsory Social Security	-	-	-	-	160	-	-	-	-	5,999
Education	-	-	-	-	4	-	-	-	-	353
Human Health and Social Work Activities	-	-	-	-	5	-	-	-	-	712
Arts, Entertainment and Recreation	-	-	-	-	8	-	-	-	-	231
Other Service	-	-	-	-	64	-	-	-	-	5,386

Industry	Fatal					Disablement				
	2008	2009	2010 (Interim)	2011	2012	2008	2009	2010 (Interim)	2011	2012
Activities of Households as Employers; Undifferentiated Goods-And Services-producing Activities of Households for own Use					5					562
Activities of Extraterritorial Organizations and Bodies	-	-	-	-	2	-	-	-	-	218
					983					60,569

2.5 THE TYPES OF ACCIDENTS

According to Chai (2011), the number of accidents occurrence in the United Kingdom alone saw a highly dominated figure coming from the construction sectors from the year 1995 to 2000. In the United States, accidents accounted for alone within the construction industry remains the most worrying and dangerous sector although there was a substantial decrease in the year 1999. However, its statistics remains above the average. In other Asian countries, Hong Kong reported a significant high level of injuries and fatalities encountered also in the construction industry followed by Japan. Malaysia, recorded a worrying increase in the numbers of accidents occurring at the construction sites by the Social Security Organization (SOCSSO) indicating the number of permanent disabilities and fatalities from year 1996 to 2008. Although the construction industry is not the highest contributing industry towards the accident statistics in Malaysia, however, its figures showed a very high rate in the year 2000. With such unpredictable figures reported, accidents in this industry have captured the attention and concerns from both governmental and non-governmental organizations. Summary of major accidents in Malaysia's construction sites is tabled in Table I.

Table 2.2: Summary of Major Accidents in Malaysia's Construction Sites

2005	2006	2007	2008
<p>1) Tower crane broke into two and fell onto four Indonesian construction workers at a construction site building apartment located at Batu 14, Puchong.</p>	<p>1) Landslide occurred at a construction site located at Taman Desa, Kuala Lumpur buried; killed a 35 year old Indonesian man at about 3.30pm while he was working on some iron steel beam foundations for the five block 609 units' condominium complexes.</p>	<p>1) Death of two workers and severe injuries on ten workers at The Pavillion Kuala Lumpur, Jalan Bukit Bintang construction site where the cables of the workmen's lift at the posh condominium and shopping complex project snapped and plummeted 15 metres to the ground.</p>	<p>1) Two Malaysian Construction workers were buried alive by excavated sand pile in a 3.6m-deep sewer trench at Taman Merbau phase two construction site in Changlun</p>
<p>2) Iron mould weighing almost two tonnes fell from 20 storey condominiums under construction onto Dr. Liew Boon Horng's BMW; killed him</p>	<p>2) Negligence of three construction companies, led to the death of another Indonesian worker on 15 May 2006 located at Lot 206, Section 63, Lorong Binjai where a 32-storey of</p>	<p>2) Death of two Malaysian construction workers buried alive four meters deep in a landslide while working on the fencing located at Taman Merbau 2, Fasa III at Kubang,</p>	<p>2) Twenty five foreign workers escaped without major injuries when the structure they were standing gave way in one of the Construction sites in Kuching.</p>

<p>and severely injured his wife and the driver at Plaza Damas located along Jalan Hartamas.</p>	<p>100 units apartment was to be built.</p>	<p>Pasu.</p>	
	<p>3) Two sides collapsed of a bridge that was under construction at 3.2 kilometers of the Klang Valley Highway that caused the death of two Bangladesh workers.</p>	<p>3) One foreign Construction site worker died; another Colleague severely injured at the Construction site of the prestigious KK Times Square Commercial complex after piles of sand fell on them in Kota Kinabalu.</p>	
		<p>4) Three Indonesian Construction workers fell from scaffolding to their deaths when they slipped from the top floor of a 21-storey condominium under construction and landed on the</p>	

		fifth floor at Taman Tampoi Indah.	
		5) Bricks fell from the construction site in Taman Bukit Angkasa, Kerinchi on several cars parked at the nearby flats during a three hour downpour	
		6) Eight huge concrete beams with a measurement of at least 40m long and 70 tonnes weight of an uncompleted flyover near Nilai collapsed, which narrowly missed a motorist and his aged parents	

2.6 CONTRIBUTING FACTORS IN CONSTRUCTION ACCIDENTS

Today, industry in construction in Malaysia is very complex and large, because of this the rapid growth has led to a shortfall in terms of safety and health aspects of the workers in construction site. It happened because of the largely due to lack of formal organizations and a combination with a gap in terms of suitable standards and legislations and their implementation.

An employer shall notify the nearest Department of Occupational Safety and Health office of any accident, dangerous occurrence, occupational poisoning or occupational disease which has occurred or is likely to occur at the place of work (Occupational Safety and Health Act 1994). Method of notification and reporting an accident shall comply with Occupational Safety and Health (Notification of Accident, Dangerous Occurrence, Occupational Poisoning and Occupational Disease) Regulation 2004.

Based on the statistic of industrial accidents reported by cause of accidents for the year 2012, reported by Labour and Human Resources (2012), the accident caused of stepped on or struck by objects excluding falling objects has highest total 23,023 accidents. Furthermore, the second highest total of 15,382 accidents was the fall of persons. The total of 8,806 accidents and the third highest was other types of accidents not elsewhere classified. The fourth highest of accidents was over-exertion, or strenuous. While for the struck by falling objects, caught in or between objects, exposure to or contact with high temperature, exposure to or contact with harmful substances and exposure to or contact with electricity have 4,487, 4,278, 433, 149 and 51 number of accidents.