

Safety in maldives construction industry construction essay



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Construction industry is a very unique industry in terms of all aspects and stages compare to other fixed workplace like factories. Most of the actual work is done by using human labor. Construction industry has been considered as a highly hazardous industry because of the high incidence of accidents and fatality rate. To improve the image of the industry, stakeholders should follow an accepted standard guideline of health and Safety (H&S) in construction industry. Providing a safe and health workplace is a key to success in business (B. Ahmodn et al, 2006). Accidents and property damage create great impact to stakeholders of the project such as delays in operation and also directly and indirectly incur cost. Therefore, it's an obligation of the construction companies to provide a health and safe workplace for their employees and for public.

International Labour Organization (ILO) Constitution sets forth the principle that workers should be protected from sickness, disease and injury arising from their employment (ILO. ORG). According to ILO estimates, 55, 000 people suffer fatal injuries every year. She also mentioned main cause of fatal injuries in construction in any country is by falling from heights, and this is principally due to the lack of proper edge protection in a variety of construction tasks (Fiona, 2002).

This research is based on the health and safety in Maldives construction industry, and will provide an overview about the health and safety in develop and developing country.

1. 2 Problem Statement

Construction industry is an important sector in Maldives economy. But accidents, injuries, fatalities continue to occur on construction site, generally construction industry have lack of awareness on the importance of health and safety. Health and safety in construction industry is far extensive than a worker wearing a safety helmet and safety shoes at site. Health and safety is a attitude that identifies and reduces job site hazardous throughout the lifecycle of a work project.

Major concern need to be deal with is the lack of national regulations outline health and safety obligation at nation's construction sites. There are no laws encouraging construction companies to adopt in workplace.

Most stakeholders of the industry have overlooked on occupational safety and health (OSH) due to lack of regulation or guideline to follow. Little or no attention is given to health and safety, as stakeholders are not setting aside money to ensure health and safety is being met. Furthermore, most construction project meetings do not address health and safety as an agenda item, which is a further indication of lack of commitment to health and safety.

1. 3 Aim of the Research

The aim of this research is to describe develop a standard health and safety guide line for Maldives construction industry.

1. 4 Research Objectives

The objectives of this study are:

To identify construction industry health and safety in a developing country and a developed country.

To determine the health and safety in Maldives construction industry.

To develop a standard guideline for health and safety in Maldives construction industry.

1. 5 Scope of Research

Scope of the research is based on Maldives capital city Male'. The research focuses on the health and safety awareness and current practice of health and safety in Maldives construction companies.

CHAPTER 2: LITERATURE REVIEW

TO IDENTIFY CONSTRUCTION INDUSTRY HEALTH AND SAFETY IN A DEVELOPING COUNTRY AND A DEVELOPED COUNTRY.

2. 1 Introduction

Major sources of the difference of health and safety performance in developing and developed countries are management commitment, supervisory environment, training and competence level (Teo, Haupt & Feng 2008: 497).

A study done in Tanzania, a developing country, suggest that the main reason for the awful situation of health and safety on construction sites are due to the lack of necessary commitment from key stakeholders that include the government. Study also indicated that the government and its agencies have been weak in monitoring and enforcing the laws governing health and

safety on construction sites and also lack of human and financial resources has disperse from developed countries (Mwombeki, 2006: 426).

Research carried out in developing countries that included African countries, such as Egypt, Malawi, Nigeria, Botswana and South Africa revealed that (Cibb & Bust, 2006: 65-77):

Lack of support from clients on health and safety ideas;

Priority on health and safety is not same as developed countries;

Health and safety regulations are inadequately enforced by authorities.

This chapter will describe an overview of health and safety in Malaysia as a developing country and UK as a developed country.

2. 2 Health and Safety in Malaysia Construction Industry

In today's modern society, occupational safety and health has become an important subject in terms of financial, ethical and legislative. To survive in the global competitive market, companies are adopting to safeguard occupants health and safety. Most company's strong safety and health programs may actually mean survival.

According to 3rd June 2012 Boreno Post online news, Social Security Organization (SOCSO) is targeting five per cent reduction in workplace accidents this year. Branch manager Dundang Undong stated that a total of RM4. 3million was made out in compensation claims for 1, 497 cases of workplace accidents last year. SOCSO 2003 report on construction industry shows that 4, 654 accident cases were reported. The total death cases are

882 from all industries and out of that 92 cases are from construction industry which is 11.56% of total death percentage of the industry. SOSCO report only involves Malaysian workers and not included foreign workers (SOSCO, 2003).

A study by Chai G. Mei on “An analysis of accidents statistics in Malaysia construction sector” tabled a summary of major accidents in Malaysia’s construction industry as in table 1. The study also mentioned of about rise of accidents in the construction industry occurred every month on year 2007.

Table 1: Summary of major accidents in Malaysia’s construction industry from 2005-2008

2005

2006

2007

2008

1) Tower crane broke into two and fell onto four Indonesian construction workers at a construction site building apartment located at Batu 14, Puchong.

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 fiveblock 609 units’ condominium complexes

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.

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.

2) Iron mould weighing almost two tonnes fell from 20 storey condominiums under construction onto Dr. Liew Boon Horng's BMW; killed him and severely injured his wife and the driver at Plaza Damas located along Jalan Hartamas.

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 100 units apartment was to be built.

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, Pasu

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.

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.

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.

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 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.

Occupational Safety and Health Act (OSHA) enacted in year 1994 by the Government of Malaysia. Section 4, objective of act under OSHA 1994 mentioned:

to secure the safety, health and welfare of persons at work against risks to safety or health arising out of the activities of persons at work;

to protect persons at a place of work other than persons at work against risks to safety or health arising out of the activities of persons at work;

to promote an occupational environment for persons at work which is adapted to their physiological and psychological needs;

The Department of Occupational Safety and Health (DOSHS) Ministry of Human Resources and other government agencies have regulation and legal requirement to ensure the safety and health of not only workers, but also the public. . DOSHS policy consists of:

To prepare and preserve a workplace with a safe and healthy working system

To ensure that all staff are provided with the relevant information, instruction, training and supervision regarding methods to carry out their duties in a safe manner and without causing any risk to health;

To investigate all accidents, diseases, poisonous and/or dangerous occurrences, and to have action to ensure that these occurrences will not be repeated;

To comply with all requirements of legislations related to safety and health as stated in the Occupational Safety and Health Act 1994, as well as regulations and codes of practice which have been approved; ([www. dosh. gov. my](http://www.dosh.gov.my)).

Construction site create risk not only for the construction workers, but also for the public. Therefore the general public must be protected from hazards associated with the construction work that may be carried out in a public area or adjacent to such area (DOSHS).

Department of Occupational Safety and Health Guidelines for Public Safety and Health at Construction Sites:

DOSH, “ Guidelines for Public Safety and Health at Construction Site”, is a guideline endorsed by the Department’s Jawatankuasa Semakan Dasar chaired by the Director General of the Department of Occupational Safety and Health. The purpose of these guidelines is to provide guidance to employers on how good work practice can be carried out on every activity in the construction to prevent accidents to the workers and public.

Below describes some of the sections of the guideline:

Section 4 “ Notification of an Operation” describes the section 35 under Factories and machineries Act 1967 that every work or engineering construction must inform DOSH not less than seven days before commencement of work unless the work can be completed within six days.

Section 6 of the guidelines is about the” Safety and Health Organization” and under this section it has mentioned about the employers obligation to prepare written general policy with respect to the safety and health at work of his employees and the organization and arrangements to carry out the policy.

Following are the sub sections for section 6:

6. 1- Safety and health Policy

6. 2- Safety and Health Committee

6. 3- Occupational Safety and Health System

6. 4- Safety and Health Officer

6. 5- Site Safety Supervisor

6. 6- Contractor Safety Supervisor

Section 7 describes the “ General Duties of the Employers” according to the section 16, of OSHA 1994.

Section 8 describes the “ General Duties of the Architects, Engineers and Designers” stating that a safe design and construction must be considered to the safety of the workers and the public. Designers, architects should not include anything in the design that leads to unsafe construction procedure and create undue hazards. Section 8 also describes about the safety and health facilities to be included in design for such work to be performed with minimum risk.

Section 9: Hazard Identification, Risk Assessment and Risk Control (HIRARC)

Section 10: Emergency Response Plan

Section 11: Hoarding

Section 12: Movement of Vehicular Traffic

Section 13: Disconnection of Utilities

Section 14: Demolition

Section 15: Blasting and use of Explosive

Section 16: Removal of Debris

Section 17: Site Clearing

Section 18: Excavation Work

Section 19: Piling Work

Section 20: Superstructure

20. 1 Scaffolds

20. 2 Safety Nets and Peripheral Nets

20. 3 Catch Platforms

20. 4 Concrete Work

Section 21: Finishes

Section 22: Use of Hoisting Equipment

22. 1: General

22. 2: Erection

22. 3: Jacking

22: 4: Operation

22. 5: Inspection and Testing

22. 6: Maintenance and Repair

22. 7: Dismantling

22. 8: Crane Storage (DOSH Ministry of Human Resources)

Table 2 shows the number of occupational death rates from 2007 to 2011 within the 10 industries. The death rate in the construction industry is the highest in year 2007, the total number of 95 deaths. But statistic has dropped to 51 in year 2011 which is a good phenomenon for the construction industry.

Table 2: Number of Occupational Death Rates 2007-2011

Industrial Categories / Year

Number of Occupational Death Rates

2007

2008

2009

2010

2011

Manufacturing

63

76

63

59

45

Mining & Quarrying

9

6

3

1

7

Construction

95

72

71

66

51

Agriculture

30

42

44

30

41

Utility

10

19

23

11

5

Transport / Communication

2

8

18

14

11

Trade

3

0

0

0

1

Hotel & Restaurant

0

1

0

0

2

Financial & Insurance

4

4

1

1

6

Public Services

3

2

1

3

7

Total**219****230****224****185****176**

Source: DOSH 2011

Figure 1 shows the statistic by DOSH on occupational accidents by sector in 2011. It shows that 51 deaths, 43 non permanent disability and 5 permanent disability in construction industry.

Figure 1: Statistic of occupational accidents by sector 2011- source DOSH

In the Construction Industry Master Plane (CIMP) 2006-2015 highlighted about “ Strive for the highest standard of occupational safety and health’. It stated that, long term development of the industry requires accountability of the stakeholders to achieve the highest standard of occupational safety and health. To achieve this standard, stakeholders awareness must be increase and to implementation of occupational safety and health management system (OSHMS). Furthermore, to develop occupational safety and health

program need to raise awareness, education and training, enforcement of legislation, guide line and codes (CIDB : 2008).

2. 3 Health and Safety in Great Britain Construction Industry

Great Britain has a 150 years history of health and safety regulation. The current health and safety act is called Health and Safety at work (HSW) Act 1974. This Act has been modified in 2008 to provide integrated institutional structure and legal framework for health and safety regulation.

Health and safety law is enforced by health and safety executive (HSE) in many workplaces ranging from health and safety in nuclear installation and mines through to factories, school and hospitals.

According to HSE guide, health and safety inspectors have important statutory power as they can enter any premises without any warning. And if they are not satisfied with the level of health and safety, they can issue information and advice, issue improvement notices requiring problems to be put right within a specified time, serve a prohibition notice stopping activity either with immediate or deferred effect, and (in England and Wales) prosecute for the most serious failings (hse. gov. uk).

According to HSE statistic, there is a significant reductions in the number and rate of injury over the last 20 years or more. Yet, construction remains a high risk industry. Although it accounts for only about 5% of the employees in Britain it still accounts for 27% of fatal injuries to employees and 9% of reported major injuries. In 2010 to 2011 there were 50 fatal injuries to workers. The number of fatality injures to employees has been reduced by <https://assignbuster.com/safety-in-maldives-construction-industry-construction-essay/>

two-thirds compared with 20 years ago. It also stated that over 5000 occupational cancer cases are estimated to arise each year as a result of past exposures in the construction sector (HSE, 2011).

Figure 2: 20 year trend in worker fatalities- source: www. hse. gov. uk

CHAPTER 3 : LITERATURE REVIEW

TO DETERMINE HEALTH AND SAFETY IN MALDIVES CONSTRUCTION INDUSTRY

3. 1 Introduction

This chapter will provide some information and facts about Maldives in general and also will determine the health and safety in Maldives construction industry.

3. 1. 1 General Information on Maldives

Table 3: General information of Maldives

Government Type

Republic

Independence

July 26, 1985 (formerly a British protectorate)

No of Atolls

20

Area

<https://assignbuster.com/safety-in-maldives-construction-industry-construction-essay/>

Spread over 115, 300 sq. km square kilometers in the Indian Ocean southwest of India

The capital

Male'

Population

(2009 est.): 314, 000 (plus 80, 000 expatriate workers who are not counted in the census).

The life expectancy

74 years

Language

Dhivehi (official); English considered as second language

Currency

MVR 15. 50 (Rufiyaa) = USD 1

GDP

2010 total USD 926 million, USD 2896 per capita.

Weather and Climate

Tropical, two monsoon in a year, annual mean temperature 28. 3°C

Literacy

<https://assignbuster.com/safety-in-maldives-construction-industry-construction-essay/>

97%

Sources: Department of National Planning 2010, UNDP, 2011

3. 1. 2 Geography

For administrative purpose 1, 192 (Inhabited 194, Uninhabited 998) islands are further divided in to 20 atolls (Department of National Planning, 2010). Among these islands, only four islands have a population of 5, 000 or more and only 10 islands are larger than 2. 5sq km (R. Bassam 2011).

3. 2 Maldives Construction Industry

The construction industry has contributed 10 percent of the GDP and accounts for 5 percent of the national employment data (The World Bank, 2006). With the growth of tourism, and the Tsunami-reconstruction activities, construction industry to the economy is to expect to grow significantly (Seventh National Development Plane 2006-2010).

Of the total labor force of the construction industry, more than 70 percent is provided by expatriate labor; particularly at the skilled and unskilled levels. Most of the top level managers have university degree or diploma-level training in addition to work experience in the industry. Of the total employment about 10 percent are professionals (Architects, Engineers, QS or PM), while the rest consists of 34 percent skilled and 56 percent unskilled workers. (The World Bank, 2006).

3. 2. 1 Maldives Association of Construction Industry (MACI)

Construction companies of Maldives with the support of Maldives

Government established MACI on 30th October 2001. MACI is the official representative of construction industry in Maldives with 46 members actively involved in improving the construction industry. Objective of MACI is to combine all relative services in construction to develop and promote a united industry. The Association aims to achieve greater professionalism and quality in construction industry (www. business. com. mv)

3. 3 Health and Safety in Maldives Construction Industry.

On September 30th 2012, a local newspaper reported that the small number of building site deaths recoded in the Maldives recent years is more the result of “ good fortune” rather than industry commitment to safety. The report was regarding the death of a Bangladeshi national working in the capital Male’ fell from the sixth floor of a building site on 19th June 2012. The employee was not believed to be wearing any safety gear when he died (Minivan News, 2012).

President of the MACI, Mohamed Ali Janah told Minivan News that he believed a lack of national regulations outlining health and safety responsibility at the national building sites. He mentioned that judging the standard of occupational health and safety in Maldives construction sites there were very few places in the world that would approve the way the work is conducted. (Minivan News, 30th Sep 2012).

Health and safety has been an issue for years in Maldives construction industry. Clients are also not setting aside money to ensure health and safety measures are being met and stakeholders do not understand the importance of health and safety in site (MACI, 2012).

All project stakeholders have a responsibility of ensuring health and safety, starting from the government and the people that actually initiate projects. Health and safety must be achieved by the commitment from all construction project clients, all level management, and equal commitment by construction workers (Coble and Haupt, 1999).

MACI requested to Ministry of Economic and Development, Ahmed Mohamed, for a solution to the problem of safety measures on the construction sites (sun. mv, 14th October 2012)

According to Seventh National Development Plane 2006-2010, stated that “ to implement the building code of the Maldives” under construction policies and strategies, item 2. 1 as a strategy and item 2. 7 stated that “ Enable formulation of construction industry related to health and safety regulations and established database on health and safety issues” (Ministry of Planning and National Development, 2008).

3. 3. 1 Maldives Building Code 1st Edition 2008

Maldives Building Code was published on August 2008 by Ministry of Construction and Public Infrastructure to ensure that:

the safety of the built environment

To provide flexibility in design

The building code will be empowered from a set of building regulations which itself will be bound by a building act. However a building act has not yet been passed (Ministry of Construction and Public Infrastructure, 2008).

Section F of the Building Code is Safety of Users, which defines the following contents:

Hazardous agent on site

Hazardous building materials

Hazardous substances and process

Safety from falling

Construction and demolition hazards

Lighting for emergency

Warning system

Signs (The Building Code 2008)

CHAPTER 4: REASARCH METHODOLOGY

4. 1 Introduction

The purpose of this chapter is to describe and explain the methodology used in this research in order to accomplished the aim of the research.

4. 2 Research Design

The researcher will distribute 100 questionnaires to different stakeholders in the construction industry of Maldives. Such as clients, consultants and contractors in Male' city.

Researcher will interview with a company in Male' city regarding occupational health and safety.

4. 3 Research Method

The researcher will distribute 100 questionnaires by using emails and by the use of Google documents.

4. 4 Primary Data and Secondary Data

Primary data is the data that will be collected from the distribution of questionnaires to the targeted respondents. In this case, the clients, consultants and contractors are the target.

Secondary data is the data that will be collected from the literature review, such as books, journals, newspaper, internet and others.

4. 5 Data Analysis Technique

Data receives from the respondents will be analysis by using Google documents software