AENSI Journals

Advances in Environmental Biology

ISSN-1995-0756 EISSN-1998-1066

Journal home page: http://www.aensiweb.com/AEB/

A Survey On Safety Awareness Among Quarry Workers At East Cost Malaysia.

[1]Siti Hajar A.A., Ahmad Rasdan I. and [2]Mohd Rashid A.H.

[1,2]Faculty of Technology, Universiti Malaysia Pahang, 26300 Gambang, Pahang, Malaysia.

ARTICLE INFO

Article history:
Received 25 July 2014
Received in revised form
8 August 2014
Accepted 15 September 2014
Available online 25 October 2014

Keywords:
Safety awareness, quarry and mining workers.

ABSTRACT

Lack of safety awareness among quarry workers caused a number of accidents in quarry industries. The objective of this study is to reveal the awareness of quarry workers towards safety. A survey was distributed randomly among quarry workers at Pahang, Terengganu and Kelantan. The survey consist 6 questions regarding safety at workplace. Results revealed that there is 56.9% respondent agree and totally agree that the health and safety suggestion made was given consideration and used. As many as 79.3% respondent admitted that they obey all the safety rule stated at the workplace and 86.3% respondent said they always focus and give full attention during completing their task. 88% respondents agreed that all accident will be reported to responsible person while 77.6% respondents agree that all personal protective equipment will be used suitable with the task given and 86.2% respondents said they doing their task following the safe operation procedure that provided by the company.

© 2014 AENSI Publisher All rights reserved.

To Cite This Article: Siti Hajar A.A., Ahmad Rasdan I., Mohd Rashid A.H. A Survey On Safety Awareness Among Quarry Workers At East Cost Malaysia. ***Adv. Environ. Biol., 8(15)****, 195-198, 2014*

INTRODUCTION

Over the past century there has been the rapid development in every country around the world, government are increasing the quality, health, and safety requirement in several occupations. In the new global economy, Occupational Safety and Health has become a central issue for quarry and mining industry in Malaysia. Recent evident shows that Malaysia's identified several type of mineral resources. During the 20th century, mineral production played an important role in Malaysia's national economy, after many years of exploitation such mineral had decreased significantly in recent years. In terms of its contribution to the country's economy, the mining and quarrying sector accounted for 7.0% of the Gross Domestic Product in 2010 compared in the mining and quarrying sector in 2009 [1].

The quarry and mining industry plays a very important and necessary role in the development of the country. The industry act as main supplier and continues supply of raw materials to the construction, building and manufacturing sectors for the economic development of the country. The Environmental and social impact of quarrying and mining activities may affecting land, water, air, wildlife and vegetation and economic, affecting the supply and demand, revenues, employment and so on besides health and safety implications for both individuals and communities. Mining and Quarrying Safety and Health Act 1999 stated that quarry is a place on land where operations are carried on, continuously or from time to time, to produce construction or road building material. Meanwhile the meaning of mine is any of the following places a place where operations are carried on, continuously or from time to time, within the boundaries of land the subject of a mining tenure, a place where operations are carried on, continuously or from time to time, on land adjoining, adjacent to, or contiguous with, the boundaries of land the subject of a mining tenure and within which is a place mentioned in paragraph, a place where operations are carried on, continuously or from time to time, unlawfully because land at the place is not the subject of a mining tenure, a place that was a mine while works are done to secure it after its abandonment, a place where tourism, education or research related to mining happens that is declared under a regulation to be a mine.

The failure by employers to provide safe and conducive work environment, or the inability to use these facilities appropriately by employees, has cost implications on individuals, organizations, and the society [12]. The adoption of a helath and safety management system demonstrate in practical terms, the readiness of an organization to minimize the frequency and severity of work related accidents, ill health, and damage to property. This is because the provisions and requirements of health and safety management system encourage

Corresponding Author: Ahmad Rasdan I. Faculty of Technology, Universiti Malaysian Pahang, 26300 Gambang, Pahang, Malaysia.
Tel: +9095492741; E-mail: shajaraziz@gmail.com

greater awareness of responsibilities and aspects of health and safety standards on the performance on organizations [2].

In practical terms, risk- awareness is developed in organizations through programs that encourage workers to think of working safely and have the mind set of safety before they start their task [5]. Risk-awareness programs, is an approach which not only encourage the employee but also involving the organization to create a safety environment at the workplace [5,8]. For example, supervisor may ask workers at toolbox or other meetings to give their opinion on the safety level in the organization and method to improve. In turn, managers may ask supervisors to report the results of these meetings back to them and so on up the organisation's safety reporting system.

Besides training or campaign provided by management, common sense also play role in shaping safety culture and what it means to be risk-aware. For example, workers may use their common sense knowledge of what it means to work safely as a proxy for risk-awareness.

Hopkins [4,5,6] identifies that there are three reasons for promoting risk-awareness. The first reason is that it is too many type of situation that might happen that need to cover to write a safety rule. Other than that, workers who are risk- aware will appreciate the limitations of safety rules have their own effort to work safely rather than mindlessly follow the rule. The second reason is that workers who are risk-aware will report more safety able to identify ways in which things might go wrong and know the action that the need to take intead of ignoring it [5]. Hopkins describes risk-awareness programs as a "mini risk assessment" [7]

MATERIAL AND METHODS

In conducing this study, Fig 1 shows the flow chart of the study those carried out. From Fig. 1, this academic undertaking research initiated with identifies and chose quarry company randomly from three east cost state which are Pahang, Terengganu and Kelantan as study site, questionnaire consisted a set of Likert-type scales multiple choice items [13]. The questionnaires were distributed to the subjects individually. The questionnaire comprised 43 questions divided into five parts : (1) demographic, (2) safety awareness, (3) safety knowledge, (4) safety implementation, (5) safety attitude. However, this study will present on part one which is contribute to the environmental factors. Each workers was asked to complete the questionnaire in a room at the site. In the study questionnaire were distributed to both employer and employee to answer the question relating to get data dan statistic about their personal information, their safety awareness, safety knowledge, safety implementation and safety attitude.

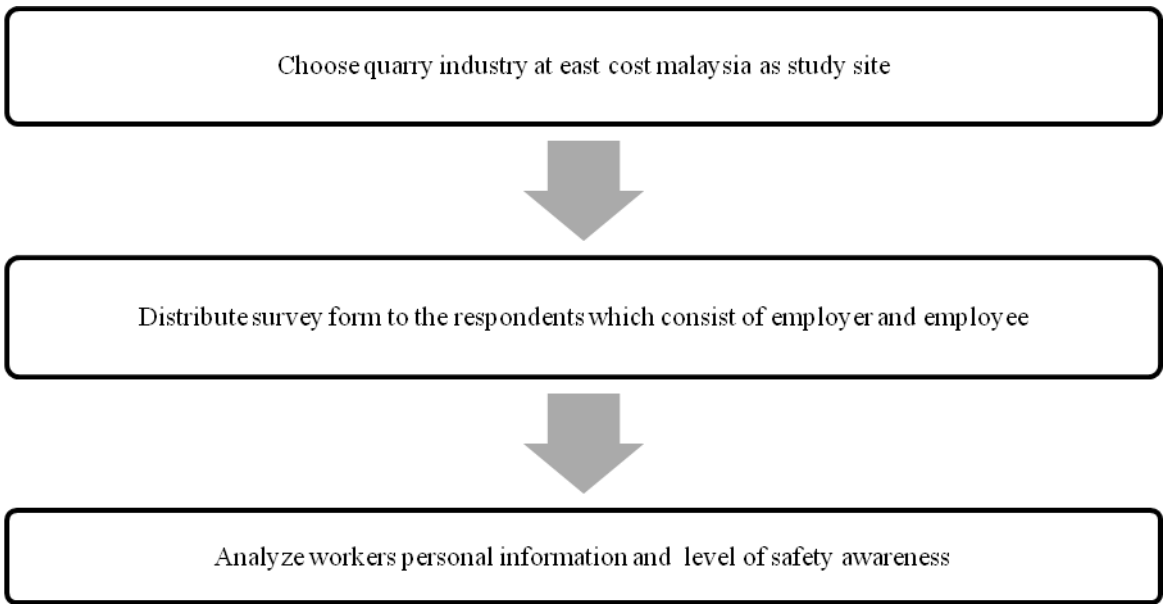

Fig. 1: Flow chart of the study

Later, personal information of the workers were analyzed and the level of safety awareness is studied. After analysis carried out, the level of safety awareness was determined and all data were analyzed to achieve the objective of this study.

RESULTS AND DISCUSSION

Demographic data:

About 58 workers were included in the study. Data gathered were classified as personal information of workers base on gender, age, education and position aspect. Table 1 shows thedetails analysis of respondent background. In this study, majority of respondent constitute male 72.4% and 27.6% were women. Base data acquired, age mode of workers is around 20 to 29 years old (51.7%) while their level of education is SPM level (48.3%). From the survey form, there were 72.4% are employee and 27.6% are employer.

Reliability measures:

Questionnaire reliability was tested using Cronbach's alpha (α) as shown in Table 2 which derived from the average correlation of all the item on the scale [13]. Out of 4 reliability test that had been done, 3 had reliabilities above 0.7. One item had reliability measures of at least 0.4. The results indicated that the reliability measures were high for safety implementation which is 0.892. Reliability measures for level of safety awareness and attitude towards safety were also high with 0.829 and 0.882 respectively.

Study of level of safety awareness among quarry workers:

Question part A focus on the level of safety awareness at workplace. There were 6 variable of safety awareness were studied and result from questionnaires were described through table 3.

Table 1: Characteristics of the sample

Characteristics	Category	Frequency	Percentage (%)	Mean±SD
Gender	Male	42	72.4	1.28±0.451
	Female	16	27.6	
Age	< 20	1	1.7	31.78±9.030
	20 – 29	30	51.7	
	30 – 39	14	24.1	
	40 – 49	11	18.97	
	>50	2	3.4	
Education	SPM	28	48.3	2.24±1.315
	Sijil	4	6.9	
	Diploma	10	17.2	
	Ijazah	16	27.6	
Position	Employer	16	27.6	1.72±0.451
	Employee	42	72.4	

Table 2: Reliability measures using Cronbach's alpha for tested factor

Tested factors	Cronbach alpha (α)
The level of safety awareness at the quarry and mining	0.829
The perception of workers knowledge on safety and health at workplace	0.506
The perception of carrying out safety and health programme by workers at the workplace	0.892
The safety attitude of workers towards safety	0.882

Analysis made to level of safety awareness show that there is 56.9% respondent agree and totally agree that the health and safety suggestion made was given consideration and used. As many as 79.3% respondent admitted that they obey all the safety rule stated at the workplace and 86.3% respondent said they always focus and give full attention during completing their task.

For variable from number 4, as many as 88% respondents agreed that all accident will be reported to responsible person. As many as 77.6% respondents agree and totally agree that all personal protective equipment will be used suitable with the task given and 86.2% respondents said they doing their task following the safe operation procedure that provided by the company.

From the result mention above we can conclude that quarry workers has high level of safety awareness when more than half agreed on those six different variables. However, Guo Wei-ci and Wu Chao [3] stated that one of the cause of accident in quarry is lack of safety awareness among the workers. this different perception might be effected by different country which consist of different educational background since most of workers in Malaysia finish their school. Furthermore, the results show that 79.3% respondent follow the rule at their workplace. Therefore the number of accident in this industry should be lower. However, based on statistic made by Pertubuhan Keselamatan Sosial (PERKESO) (2013) number of accident in mining and quarry sector was 341 cases including 14 fatality accidents on 2012 compare to 305 accident cases and 8 fatality accidents in the year before. This show that even the workers follow the rule and always report the accident and have high level of safety awareness, accident can still happen since quarry is one of hazardous workplace [9].

Overall, the level of safety awareness that maximum is 88% which the workers are aware that all accident occurred at workplace must e reported to responsible person.

Table 3: The Percentage of respondents distribution on safety awareness

	N	TD (%)	D (%)	NS (%)	A (%)	TA(%)	Mean	SD
Health and safety suggestion given consideration and used..	58	0.0	1.7	41.4	41.4	15.5	3.71	0.749
I obey all the safety rule stated at the workplace.	58	0.0	3.4	17.2	56.9	22.4	3.98	0.737
I am focus and give full attention during completing my task.	58	0.0	0.0	13.8	46.6	39.7	4.26	0.690
All accident will be reported to responsible person	58	1.7	1.7	8.6	48.3	39.7	4.22	0.817
All PPE provided will be used suitable with the task given.	58	0.0	3.4	19.0	44.8	32.8	4.07	0.814
I done my work by following the safe operation procedure that provided by the company..	58	0.0	1.7	12.1	56.9	29.3	4.14	0.687

Conclusion:

Industrial development seems to be going towards further globalization, distributed quarry and mining industry and increased the flexibility of production and continuous speedy changes in the future. It is always related with safety awareness which highly related with safety culture in this industry besides good safety management. Other than that, such a useful finding for intervention program on improving the level of safety awareness among quarry workers. Hence, the companies must have a particularly important role to play in establishing more safety program in order to improve the safety awareness and to create program that can induce good safety common sense inside the workers.

ACKNOWLEDGEMENT

This study was funded by Faculty of Technology Universiti Malaysia Pahang and the author would like to express gratitude to Occupational Safety and Health Management Office Universiti Malaysia Pahang for providing funding to this research.

REFERENCES

[1] Department of statistics, 2011, yearbook of statistics Malaysia 2010: Kuala Lumpur, Malaysia, Department of statistics, June, p: 367.
[2] Diugwu, I., 2008 A Framework to Evaluate Critically the Health and Safety Strategies in Supple Chains in the UK. Coventry University, Coventry.
[3] Guo Wei-ci & Wu Chao, 2011. Comparative Study on Coal Mine Safety between China and the US from a Safety Sociology Perspective.
[4] Hopkins, A., 2002. Safety, culture, mindfulness and safe behavior: Converging ideas. Unpublished manuscript, Canberra.
[5] Hopkins, A, 2005a. Safety, culture and risk. Sydney: CCH Australia.
[6] Hopkins, A., 2005b. What are we to make of safe behavior programs? Paper presented at the Behavioural Approaches to Managing OH&S, Melbourne.
[7] Hopkins, A., 2006. What are we to make of safe behavior programs? Safety science, 44(7): 583-597.
[8] Hopkins, A., 2007. Lesson from Gretley: Mindful leadership and the law. Sydney: CCH Australia.
[9] Leger, J.P., 1991. Trends and causes of fatalities in South African mines. Safety Science, 14: 169-185.
[10] Mining and Quarrying Safety and Health Act 1999. (2012), (January).
[11] Pertubuhan Keselamatan Sosial (PERKESO), 2013. Statistik kemalangan sehingga.
[12] Pickvance, S., 2003. "Arguing the Business Case for Occupational Health" Occupation Health Review.
[13] Rodeghier, M., 1996. Survey with Confidence: A Practical Guide to Survey Research Using SPSS. 1st Edn., SPSS Inc., Chicago, IL., pp: 178.