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ACULTY OF ARCHITECTURE, PLANNING & SURVEYING UNIVERSITI TEKNOLOGI MARA PERAK BRANCH SERI ISKANDAR CAMPUS

organised by

IMPACT OF CONSTRUCTION ACTIVITIES TOWARDS COMMUNITY

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Abstract:

A construction project involves a lot of physical activities. The Government has urged to professional bodies and developers to take proactive actions to promote the sustainability concept within their domain and be responsive to the need for better environmental and social protection. However, a construction project can give benefits and harms directly or indirect not only to the country but also to the neighborhood as well. The aim of this research is to determine the impacts of construction project towards neighborhood in the urban area. The objective of the research is to identify the impacts of the construction project on the community surrounding the construction site. To achieve this, the questionnaires were distributed to the community around the construction site at Kota Bharu, Kelantan. A total of 84 out of 100 respondents have returned their responses by completing all the questionnaires. The data will be analysed in the form of descriptive analysis by using the latest version of SPSS. It is found that impacts can be divided into three; environmental impact, social impact, and economy impacts. However, the economy gives the greatest impact to the neighborhood. The result of this study is beneficial for the construction managers and other parties involve in the construction site to become aware of the construction activities.

Keywords:

Impact; Construction Activities; Neighbourhood

1.0 INTRODUCTION

The construction industry is crucial to the Malaysian economy and its growth. The construction industry currently contributes 4% to the Malaysian Gross Domestic Product (GDP) and is expected to contribute 5.5% to the Malaysian GDP up to 2020 (CIDB,2016). Each project creates a negative and positive impact on the surroundings and community around the site. These issues have become more a part of the focus on a project due to the cost and environmental awareness. Site activities include blasting, earthmoving, renovation and piling will affect the performance of the community around the site (Ayarkwa, Hackman, Acheampong, & Agyekum, 2014). A study conducted by the NAIOP Research Foundation, it was determined that pre-construction, construction, and post-construction all have a significant economic benefit to the national and local community around the sites. The construction industry also gives a social impact on the community. For example, construction of a highway enables access to many areas and boost mobility while enhancing economic sectors such as construction and tourism (Razak, Mohammed, & Tarique, 2015). However, up until now, there only a few research conducted related to the community perceptive about the construction project around them. There is a need to evaluate the community perceptive about the construction project around them because they are the community that affected the project.

2.0 LITERATURE REVIEW

The impact of construction activities on the environment has recently been recognized the world over, and the evaluation of the environmental impacts of construction activities is currently required by law in many countries (Tam et al., 2006).

2.1 Environmental impact

The accumulated amount of adverse environmental impacts like a public nuisance, water pollution, dust, and air pollution still occur during the construction process which causes serious damages to humans

and ecosystems. According to Zolfagharian et al., (2012) approximately 67.5% and 21% of the ecosystem and natural resources in Malaysia are affected by construction activities. The human health will be affected the same as to the animal by the various types of pollutants.

2.2 Social Impact

According to Hadi (2001), an increase in crime and muggings is thought to have occurred due to visitors to the area and ease of access, likes car parks can provide a place to watch and cars are a magnet for thieves. Besides, the traffic congested will changes the travel patterns of through traffic into neighborhood streets as motorists attempt to avoid a congested portion of major streets. Meanwhile, excessive noise generated on construction sites is reported to affect the health of workers, nearby residents and the visiting population. This type of work also can lead to health problems such as dermatitis, hearing loss, and the entire body vibration (Zainon, Chuing, Rahim, Aziz, & Pauzi, 2018).

2.3 Economy Impact

Construction drives demand for building materials. It also gives the short term benefits to the local businesses. In one case the site personnel brought business. The local cafe can provide food for the site canteen. Local shops, cafes, betting shops around the sites had increased business from the workmen (Hadi, 2001).

3.0 METHODOLOGY

The scope area for this research is in Kota Bharu, Kelantan while the target respondent for the study is a community around the construction site which will be selected randomly by using the simple random sampling method. The questionnaire consists of two sections which are Section A: Demographic Information of the respondent and Section B: Impact of Construction activities towards the community around the site. A total of 84 out of 100 respondents have returned their responses by completing all the questionnaires. The data will be analysed by using the latest version of SPSS.

4.0 ANALYSIS AND FINDINGS

Table 1: Environmental impact on the neighborhood								
Environmental impact	A scale of Agreement (Percentage)				Mean	Rank		
	Strongly Disagree	Disagree	Agree	Strongly Agree				
Dust creates health problems, particularly for those with respiratory problems like asthma.	1.2	3.6	28.6	66.7	3.60	1		
Construction activities produce blowing clouds of dust, with pernicious effects on people suffering from respiratory diseases	2.4	2.4	44.0	51.02	3.44	2		
Water pollution can affect the health and safety of human	2.4	8.3	33.3	56.0	3.43	3		
The vehicles, heavy equipment, and machinery on construction sites create a lot of noise.	1.2	6.0	47.6	45.2	3.37	4		

From table 1 dust pollution contributes to the most environmental impact on the community. 66.7% of respondents strongly agree that dust creates health problems, particularly for those with a respiratory problem like asthma. Dust also affect the environment and human comfort (Enshassi, et al.,2014).

rable 2: Social impact of the heighborhood								
Social impact	A scale of Agreement (Percentage)				Mean	Rank		
	Strongly	Disagree	Agree	Strongly				
	Disagree			Agree				
Construction activities can create health hazards arising from noise and dust.	2.4	7.1	44.0	46.4	3.35	1		
An increase in crime has occurred due to the existence of foreign workers nearby to the site.	1.2	21.4	47.6	29.8	3.06	2		

Table 2: Social impact on the neighborhood

From the table above, 46.4% of respondents strongly agree that construction activities can create health hazards arising from noise and dust. Excessive noise generated on construction sites is reported to affect

the health workers, nearby residents and the visiting population (Teixeira, 2005). Meanwhile, only 29.8% of respondent strongly agree that construction site will increase in crime have occurred due to the existence of foreign workers nearby to the site (Hadi, 2001).

Economy impact	A scale of Agreement (Percentage)				Mean	Rank
	Strongly	Disagree	Agree	Strongly		
	Disagree		-	Agree		
Infrastructure has always played a key role in integrating economies within a region	1.2	3.6	56.0	38.1	3.67	1
Give the job opportunity to the neighborhood	1.2	6.0	53.6	39.3	3.30	2

Table 3: Economy impact to the neighborhood

From the table above, it is shown that infrastructure has always played a key role in integrating economies within a region. Construction new roads is a great way to boost the local economy. For example, the new alignment of the ECRL rail network has the potential growth for the industrial, commercial and tourism sectors along the ECRL Corridor. The community can enjoy the facilities provided by the government (Mahalingam, 2019).

5.0 CONCLUSION

Malaysia is a country that is rapidly developed, which makes the demand for a building is high. The research shows that the construction activities give a positive and negative impact on the neighborhood. Furthermore, the risk level of impacts is an appropriate measure for understanding the impact level of construction processes on the environment, social and economy of the community around the construction site. By highlighting the impact of construction, the government must encourage the contractor and parties involved in construction to understand and follow the policies on the construction.

REFERENCES

- Ayarkwa, J., Hackman, J., Acheampong, A., & Agyekum, K. (2014). Environmental Impact of Construction Site Activities in Ghana. ADRRI JOURNAL, 1-19.
- CIDB (2016) Compilation of Environmental Acts, Laws, and Regulation Related to Construction Industry viewed on 18 April 2018, http://www.cidb.gov.my/v6/files/Comp_Envi_Acts.pdf. http://library.thinkquest.org/11353/gather/malaysia.htm
- Enshassi, A., Kochendeor, B. & Rizy, E., 2014. An evaluation project of environmental impacts of construction projects. An evaluation project of environmental impacts of construction Project, 29(3), pp. 1-15.
- Hadi, M., 2001. Sustainable construction Working with the community, United Kingdom: BRE Environment.
- Mahalingam, E. (2019). The Star Online ECRL project revival to benefit many sectors. Retrieved April 25, 2019, from https://www.thestar.com.my/business/business-news/2019/04/16/ecrl-project-revival-to-benefit-many-sectors/
- Razak, D. A., Mohammed, M. O., & Tarique, K. M. (2015). Abandoned Housing Projects in Malaysia and the Prospect of DP: An Overview. Procedia Economics and Finance 31 (2015) 813 822, 31, 813-822.
- Tam, V., Tam, C., Zeng, S., & Chan, K. (2006). Environmental performance measurement indicators in construction. Building and Environment(41).
- Teixeira, J.M.C. (2005). Construction site environmental impact in civil engineering education. European Journal of Engineering Education 30(1): 51-58.
- Zainon, N., Chuing, L. S., Rahim, F. M., aziz, N. M., & Pauzi, C. W. (2018). A Preliminary Study of Health Problem Among Construction Workers in Malaysia. Journal of Surveying, Construction and Property (JSCP), 9(1), 1-8.
- Zolfagharian, S., Nourbakhsh, M., Irizarry, J., Ressang, A., Gheisari, M., 2012. Environmental Impact Assessment on Construction Site. Construction Research Congress, pp. 1750e1759.