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Factors Influencing Waste Generation in the Construction Industry in Malaysia

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Abstract

The increasing amount of material wastes generated from construction activities is becoming a challenging issue to construction site operators. The Malaysian construction industry carries on to produce, benefiting the country's economy and providing necessary infrastructure. This paper aims to determine the current various factors causing construction waste generation in the Malaysian construction sector. The study was carried out through structured questionnaire focusing to contractors engaged in various types of construction projects in Malaysia. The list of contractors took from the CIDB directory. Data was analyzed with Statistical Software Package (SPSS). The results obtained to provided some insights for further work.

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Keywords: Construction industry; causes of waste; construction wastes; sustainability

1. Introduction

In the construction industry, waste defined as unwanted material. The waste is continually causing environmental difficulties and global warming problems to the world (Rawshan et al.,2009). The sources of construction waste are one of the waste management approaches that being applied to the construction site to reduce the amount of waste generated. On the other hand, there are other authors have discussed and produced their definition of waste in the

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construction industry. The Malaysian construction industry continues to produce, benefiting the country's economy and as long as necessary infrastructure (Nasir et al., 1998). However, this successful industry is in charge for one of the single largest waste streams in the country. The contractor attitudes and behaviors regarding waste management tend to differ based on the size of the contractor, affect waste management in the construction industry of Malaysia (Begum et. al., 2009). A majority of contractors do not practice source separation, source reduction, reuse or recycling at construction sites, nor do they dispose of their waste in a landfill. The contractor is additionally in charge of the correct handling, storing, transporting and doing away with regular wastes. Samples of normal venturous wastes unit of measure used oil, hydraulic fluid, fuel, soil contaminated with toxic or venturous pollutants, waste paints, varnish, solvents, sealers, thinners, resins, roofing cement and lots of. It is the responsibility of the contractor to satisfy the regular Waste rules below the Environmental Quality Act 1974. The responsibility covers the correct handling, storing, transporting and disposal of those wastes. The industry is under increasing pressure to implement effective working practices at all stages of construction to instigate the construction waste minimization (Ikau et. al., 2013). In other terms, waste in the building is not only focused on the amount of waste of materials on-site other than too related to several activities such as overproduction, waiting time, material handling, processing, inventories and movement of workers (Alarcon, 1994). Constructions waste has been described by the building research organization (Vijoen, 2010) as ''the difference between the quantity of materials used in a project to that purchased. Furthermore, construction waste according to Vijoen (2010) is the by-product generated and removed from construction, renovation and demolition or sites of the building and civil engineering works. Construction wastes have been mainly categorizing as, objects, labour, and equipment waste wherever the majority of the construction waste come as of non-renewable sources (Ekanayaka and Ofori, 2000).

In Malaysia, a number of policies and legislations on environmental management and waste have been introduced such as the Solid Waste and Public Cleansing Management Act 2007 (PPSPPA) governed by Ministry of Housing and Local Government, Standard Specifications for Buildings Works (SBW) governed by Ministry of Works, Environmental Quality Act 1974 (EQA) governed by Ministry of Natural Resources and Environment, Pembinaan Malaysia Act 1994 (PMA) governed by Construction Industry Development Board (CIDB), the Environmental Quality (Scheduled Wastes) Regulations in 2005, the Master Plan scheduled National Waste Minimization (MWM) in 2006, and the National Solid Waste Management Policy in 2006. Incomplete studies have been carried out to identify with the subject of construction waste nearby (e.g. Bossink and Brouwers, 1996; Tang et al., 2003; Tang and Larsen, 2004; Begum et al., 2006, & Lau et al.,2008)

The aim of this paper is to determine the current various factors causing construction waste generation in the Malaysian construction sector. Malaysia, like most of the developing countries, is facing an increase of the creation of waste and associated problems with the disposal of this waste. In tandem, with increasing demand for infrastructure projects, residential development projects, large amounts of construction waste are being produced in Malaysia (Begum et al., 2010). These conditions may give a huge impact on project costs and time due to physical and non-physical waste for Malaysian construction industry (Nagapan et al., 2012). Therefore, the issue is a cause and hence promote the importance of sustainable waste control practices.

2. Literature review

According to Begum et al. (2010), increasing the quantity of construction waste production in Malaysia considered as a significant factor in the situation of Malaysia. In unusual parts of the Malaysia huge amount of construction wastes have been produced due to the significant improvement of construction related activities in this country. Nasaruddin et al. (2008) several demands of housing caused different people in charge of construction projects to be sensitive of the construction wastes and they should consider increasing amount of construction wastes in the buildings. Yahaya and Larsen(2008) unlawful throwing away have been increased significantly during the recent years in the Malaysia. In the study that has been conducted by Rahmat and Ibrahim (2007) show that in the locality of Johor Bahru, 42% of the 46 unlawful dumping settings have been located. Another study that that has been conducted in Pinang shows that lots of unlawful construction sites continue living near the roads (Faridah et al., 2004). Several news has been reported recently that 30 tons of construction wastes have been carried to Bandar Hilir, Malacca, and unusual construction troubles have been caused in the 17 section of Petaling Jaya, these kinds of activities can cause several kinds of health problems for the people of that region(The Star, 2011). Seow and