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A Case Study of Sustainable Construction Waste Management in Saudi Arabia

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Abstract

The Gulf Cooperation Countries (GCC) consistently rank among the top 10% of per capita waste producers in the world. Collectively around 120 million tons of waste is produced annually in GCC; 55% construction and demolition (C&D) waste, 20% municipal solid waste (MSW), 18% industrial waste, and 7% hazardous waste. Like other GCC nations, the Kingdom of Saudi Arabia (KSA) generates massive amounts of MSW, C&D waste, and industrial waste. This study aims to examine 81 construction companies in the Eastern Province of KSA to determine which factors critically affect the sustainable management of C&D waste in the country. Only 39.5% of the companies studied had a pollution control plan for their projects. It was also found that only 13.6% of C&D waste is recycled and reused every year, whereas the remaining 86.4% C&D waste eventually goes to the landfills. Most of the C&D waste in the country is a promising source of potential recyclable construction materials such as gravel from debris, metals, and sand. This would not only fulfill the requirements of gravel and metal production of the KSA but also solve the waste disposal issues along with generating huge economic benefits. However, to accomplish the goal of sustainable construction waste management, it is critical to underline the various factors that might impact the construction waste management practices in the country. © 2017, Springer Science+Business Media B.V., part of Springer Nature.

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