

# **A Recent Progress on Sustainable Construction Waste Management Using 3R (Reduce, Reuse, and Recycle) Approach in Malaysia**

## **Abstract**

Application of 3R (reduce, reuse, and recycle) is important to reduce dependability for dumping C&DW at landfills, a major environmental problem. Limited legal and enforcement measures have been implemented for construction waste management in Malaysia to ensure safety and quality construction while encouraging the use of the best methods in the industry. The fundamental goal of this research is the potential of recyclable materials and the C&DW management plans are assessed using SWOT analysis. The methodology focuses mainly on four parts, database selection and bibliometric search, refining, and sample selection key concepts, and structuring of the review. C&DW is becoming one of the significant waste sources, surpassing municipal solid waste. Concrete, heavy metal, plastic, and glass are among the C&D wastes highlighted. Reduce, reuse, recycle, compost, incinerate, and dump are the six stages of the waste disposal hierarchy, from low to high. Strengths, weaknesses, opportunities, and threats (SWOT) were analyzed for C&DW management. At the end of the research, a lot of information on the application and the benefits of the 3R method for C&DW are determined.

## **Keywords**

Construction and demolition waste; Recycling; Reduce; Reuse; Sustainable; SWOT