ABSTRACT

The construction industry has expanded rapidly and has significantly contributed to the country's economy through the development of infrastructure. However, this has led to more construction and demolition waste (C & DW) being generated, which has now become the core problem of the industry. In South Africa, C & DW is estimated at around 5-8 million tons per year, of which a small amount is recycled, and the rest is disposed to landfills.

In recent years, there has been a lot of interest in the use of C&DW as recycled aggregates in the production of concrete and concrete products. However, some C&DW materials contain significant amounts of crushed clay brick, making the recovered aggregates unsuitable for high-grade application. Also, research has shown much inconsistency in the quality and variability associated with using recycled concrete aggregates for high-grade applications. One option possible is to make use of the recovered low-grade aggregates to manufacture concrete blocks. The research aims to investigate the efficacy of using C & DW such as concrete and bricks as a substitute for newly quarried aggregates in the production of bricks and blocks. This will help in reducing the cost of purchasing raw materials, as countries such as South Africa presents shortage of natural aggregates. Additionally, the C&DW is typically produced and available in all places; hence the cost of transportation will be lower than transporting natural aggregates that are usually extracted in quarries located far away from cities.