

ABSTRACT

The Kenyan government through National Environmental Management Authority has earmarked 4000 buildings to be demolished in Nairobi. This is because they are either built on riparian or grabbed land. The total value of the buildings demolished so far is estimated to be Ksh40 billion.

Considering the economic and environmental significance of these demolitions, this project set out to establish whether reinforcement bars (rebar) from the demolished buildings can be reused for safe structural design.

In this study, it was established that generally the rebar are safe for structural design after straightening. Cutting of the rebar to smaller pieces and poor demolition practices embraced by the county government account for the most devastating effect to the structural integrity of the rebar. The project also established that most problems faced during demolitions are similar to those in typical construction sites. Better demolition practices were discussed and recommended with particular emphasis on move from demolition to deconstruction.

Due to lack of well-established quality control and assurances, it was recommended that rebar from such sites should only be used for design of low rise structures. The rebar that have been cut into smaller sizes can still be effectively used to design wall footings.