ABSTRACT
In an attempt to reduce the cost of concrete production, efforts are being made to utilize part of the waste generated during rice production. This research work investigates the effects of partially replacing sand with rice husk on the structural properties of fresh and hardened concrete. Laboratory tests to determine the workability, air content, compressive strength and water absorption properties of the concrete, with varying proportion of rice husk as partial replacement of the fine aggregate, were conducted. The workability of the concrete was improved as its rice husk content increased. The unit weight and compressive strength of the concrete decreased with increasing rice husk content while the concrete specimens absorbed more water and have increased air content with increasing rice husk content. The use of not more than 12.5% rice husk, as replacement of sand, was recommended for producing concrete that will be used for load-bearing applications.

Keywords: Agricultural building; lightweight concrete; low-cost concrete; rice husk; rice hull; waste management.