

POTENTIAL OF USING STARCH FROM CASSAVA PEELS TO STABILISE OF COMPRESSED EARTH BLOCKS

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Abstract

With the increase in population, the demand for decent housing continues to rise. However the cost of construction is still quite high for a majority of the people. Thus there is a need for research into sustainable building technologies. Cassava is available in most part of the country and the peels are normally considered as a waste in many communities. In this research, the potential of using starch from cassava peels to stabilize compressed earth blocks was investigated. Compressed earth blocks were prepared by mixing cassava peels with soil in three ratios: 5%, 10% and 15% while the 0% (by weight) was used as control. The specimens of the compressed earth blocks were produced in 290mm by 140mm by 170mm mould. After 24 hours the mould was removed and the blocks allowed to cure under shade (air drying) for 28 days. The physical properties of the cured blocks namely water absorption, abrasion resistance and compressive strength, were investigated. Results indicate that the physical properties of the blocks were improved. The ratio of cassava peels influenced the physical properties of the final block. This implies that reuse of agricultural waste such as cassava peels, has potential in construction of sustainable buildings.

Key words: Agricultural waste, recycling, Stability, performance, absorption, abrasion resistance and compressive strength