

## ABSTRACT

The need for safety and reliability in the usage of local timbers as structural members became more apparent with the increasing use and demand for timbers.

This thesis investigates the physical and mechanical properties of local timbers both in small clear specimens and structural sizes. Tests were also conducted on structural frames and a model timber house for appraisal of their use. The thesis emphasizes the need to use local timbers efficiently and safely.

Their good strength properties, response to static and dynamic forces, and their behaviour when connected, qualify the local timbers as a suitable material for structural purposes. A proposed system of stress grading and a code of practice for the structural use of timbers are recommended. The need for further research on local timbers is also identified to complement the work done. Anthony Joseph

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