

TITLE: Factors Contributing to the Falling of Trees and Branches

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This project conducted is a detail study of the physical and environmental factors which contribute to the falling of trees and branches and the physics which is connected to these factors. Since trees are of various species, shape, size and form it would therefore be exceedingly impossible to list all potential causes which results in a tree or branch to fail. Due to these specifics our area of study was therefore limited and generalization of these factors was necessary.

The most important part of any structure is the foundation hence analysis of the root system is inevitable. The root penetration, strength and water absorption are key factors which are analyzed. Also the microstructure of the tree is studied since this gives essential information about tree's pore size, direction of grain growth, compactness of the fiber and so fort. A cantilever model illustrating the effect of instability on the tree was used hence the mass, volume and density was found for certain samples from the case study. The tree's tensile stress, compressive stress and modulus of rupture should be deduced so as to gain knowledge on the tree's resistance to forces and the load bearing capacity of the tree.