Abstract:

The Acacia nilotica L. plantations, growing on flooded basins along the Blue Nile in Sudan, produce valuable timber used for railway sleepers, boat building, furniture, and construction and fuel wood. Since the establishment of the plantations in 1935, the species was managed to approach normal structure and attain sustainable production. Success was achieved up to nearly mid-way of the second thirty years rotation. However, failure to maintain sustainable production could be attributed to deviation from attaining normal structure of age/area gradation, decrease in the stocking of the final felling crop from 50 trees to less than 30 trees per feddan (1 fed=0.42ha) and the decline of the mean tree size from the range of 45-65cm to 30-50 cm dbh. The production of the average tree has declined from about 2.0 to 0.8 sleepers at age 30 years. The compartment size is too large as a management unit and does not correspond to a site class. This may also lead to failure in properly managing the A. nilotica stands.