Comparat1ve vegetation characteristics and deforestation at two mangrove forests subjected to varying anthropogenic influences, Mtoni and Dege Dar es Salaam

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This study compared the vegetation characteristics and deforestation of mangroves in two mangrove forests with varying anthropogenic influences, Mtoni, situated 15 km south of Dar es Salaam city centre, which is highly subjected to various human activities, and Dege, situated 60 km southeast of Dar es Salaam city center, which is further from any large human population. The transect permanent plots method was adopted to assess mangroves quantitatively, with a total number of 31 and 48 plots being examined in Mtoni and Dege, respectively. In each plot, all mangroves were identified to species level and counted according to tree maturity categories. The girth at breast height (GBH) of trees and saplings was measured. Seedlings were identified and counted. All stumps of cut trees were counted and the girth at the top was measured. Measurements for salinity, percent saturation capacity and organic matter were taken for each plot. Mtoni had higher mangrove species diversity, richness and evenness than Dege, probably due to a wider range of substrate types being found in the former. Dege showed significantly higher mangrove density, basal area and regeneration than Mtoni. Stump density was significantly higher at Mtoni than Dege. These findings indicate the degrading effects of various anthropogenic influences at Mtoni. In Mtoni, basal area was significantly negatively correlated with both salinity and organic matter. In Dege, basal area and salinity were very significantly positively correlated. It is recommended that management interventions, involving the local communities, be undertaken. In Dege, mere protection from further exploitation is sufficient, since the forest shows good regeneration capacity. At Mtoni, active restoration through mangrove replanting is recommended.