

# Mangrove species turnover in Mida Creek over a period of 12 years

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Mida Creek is located about 100km north of Mombasa, Kenya and has a narrow opening towards the ocean. Mangrove forests are of ecological and economic importance to the local communities in Mida Creek and are therefore not pristine. There has been increasing diversified use of mangrove products such as wood for house construction, boat building, fuelwood, and charcoal. Minor uses of mangrove products include pharmaceutical and medicinal applications, furniture making and tanning material. Studies of the mangrove vegetation using sequential aerial photography have shown that autogenous changes can occur in mangrove ecosystems (Dahdouh-Guebas *et al.*, 2000). Follow-up assessment is thus important to determine the floristic composition following such human disturbance of varying magnitude and changing environmental conditions.

Belt transects of 10 meters width were established both perpendicular and parallel to the creek shores and divided into zones corresponding to vegetation types. In each zone, a square plot of 10m by 10m was established. In high-density areas, 5m by 5m sub-plots were set up while in low-density areas, 20 by 20m<sup>2</sup> plots were established. GPS coordinates were then taken in each plot. Species name, stem diameter, height, form classes based on straightness of poles, and regeneration classes of saplings and seedlings were recorded as vegetation characteristics in 150 plots. Cut tree stumps were also counted and percentage cover of the canopy estimated per plot.

The bulk data serve to determine mangrove tree density, abundance, importance values and floristic composition for adults, juveniles and young trees within and between plots. This ongoing study aims at evaluating the implemented management and utilization of the resources of the area and suggesting management practices, based on the mangrove changes over 12 years since a similar study was done (Kairo *et al.*, 2002). This will be put against the background of the role of Mida Creek as a wetland of importance both to local communities and to internationally recognized nature values.

## References

Dahdouh-Guebas F., J.G. Kairo, L.P. Jayatissa, S. Cannicci and N. Koedam. 2002. An ordination to view vegetation structure dynamics in disturbed and undisturbed mangrove forests in Kenya and Sri Lanka. *Plant Ecology* 161:123-135.

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