

# **From biodiversity to ESS research - Building on BIOTA for TREES**

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After nine years of integrated biodiversity research the BIOTA East Africa project will come to end. Although with Kakamega Forest in western Kenya having been focus, in total three East African forest areas have been studied to compare influences of different levels of disturbances, fragmentation, and human use. The project aimed at recommendations towards a sustainable use and conservation of forest biodiversity.

Within BIOTA numerous geodata have been processed. Among them are comparable land cover change timeseries, which allow us to trace changes in forest cover and types back over almost 100 years. The timeseries have been useful in modelling biodiversity change for selected faunal species/groups. We intend to apply them also for extrapolating the results of an assessment, where direct and indirect effects of three types of forest disturbance on the biodiversity and ecosystem functions of eight different functional groups in Kakamega Forest could be disentangled. Our detailed knowledge of in particular Kakamega Forest has also lead to the active involvement in participatory forest management planning.

For the TREES project we have proposed to perform an integrated analysis on land-use, ESF/ESS, the value of ESS, policy instruments and human livelihoods. Based on an assessment of a wide range of forest ESF/ESS in relation to land management, we aim at the development of a tool offering means to explore synergies and trade-offs between the various ESF/ESS provided in tropical forest landscapes, with the possibility to compare the valuation of these ESF/ESS in the view of different stakeholder groups. Through an implementation approach including the end-users, the Spatial Decision Support System will allow identifying land use options that balance ecosystem goods and service provision.