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Species Richness and Conservation Status of Some Ecologically and Economically Important Species in Sheko Forest, Ethiopia

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Abstract

The major land cover types in Sheko Natural Forest were forest, agriculture, pasture and settlement whereas the main use types were logging (traditional), grazing of livestock, and clearance for agriculture and honey production. Sheko forest was diversified natural forest, which should be considered as one of the biodiversity conservation centre in general and the forest genetic resources conservation in particular. The forest has floristic richness of about 66 woody species all belonging to 50 genera and 25 families. The total density of tree and shrub species is 1304 stems ha⁻¹ and density of species over 10 cm dbh (373 per ha) was low as compared to normal density of 600 stems per ha. In addition to this it is an important area as water catchments for the lower areas and the tributaries of Abay and Baro Rivers. Furthermore, Sheko forest is among the remnant natural forests in Ethiopia where wild coffee (*Coffea arabica*) grows naturally. Due to these facts the main conservation strategy should consider the conservation of the existing woody vegetation *in-situ*. This helps to conserve the gene pool of the species under threat and maintain original plant community with large species diversity.

A systematic sampling design was followed to collect vegetation data from a total of 45 sample plots distributed along three transects that were laid systematically. The distribution of transects were made in such a way that all aspects of the forest area could be covered. Some economically and ecologically important species had population structures that show abnormal patterns with no or few individuals at lower size classes. For example, *Albizia gummifera*, *Sapium ellipticum*, *Celtis gomphophylla*, *Marigaritaria discoidea*, *Deinbollia kilimandaschrica* and *Dombeya torrida*. *Croton macrostachyus*, *Olea capensis*, *Blighia unijugata*, *Pouteria adolfi-friederici*, *Albizia grandibracteata*, *Manilkara butugi*, *Celtis zenkeri*, *Trilepsium madascariense*, *Morus mesozygia* and *Polyscias fulva* were represented by a U-shaped population pattern. There is therefore a need to develop and implement effective forest management activities in the area to facilitate healthy regeneration and eventually guarantee the sustainable use of these species.

Keywords: Biodiversity conservation, forest management, *in-situ*, regeneration