



# Sustainable management and population structure of multipurpose species: the case study of *Sclerocarya birrea* (A. Rich.) in the Sahelian zone of Cameroon

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**Key words:** Population structure, *Sclerocarya birrea*, land use, agroforestry systems, Sahelian area, Cameroon.

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## 1 ABSTRACT

Indigenous tree species were widely known as multipurpose. The study aims to record the main uses of the *Sclerocarya birrea* (cider tree); understand its management patterns, assess its population dynamics and the influence of the land-use on the species distribution in the Sahelian zone of Cameroon. The study was carried out using ethnobotanical and quantitative ecological methods. The results showed that the species was multipurpose and produced six different products and services like medicine, handicraft, human food, animal feed and firewood. The local communities indicated that this species have become rare. The quantitative inventory supported this view: the species had a low density (25 individuals/ha) and a weak Sized Class Distribution (SCD) with calculated least-squares regression slopes of  $a_1 = -0.029$  (Agroforestry systems) and  $a_2 = -0.031$  (Sahelian area). The SCD plots showed that the population was essentially young and presented an "L" shape. The agroforestry system contained an important density of adult individual and constituted an ideal area for conservation. The species appeared to be overexploited and poorly conserved. Respondents claimed that they were not encouraged to conserve it because the propagation materials lacked. The sensitization and the domestication of the plant should be considered urgently.

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