Vulnerability of woody plants in the agrosystems of the Mandara Mountains, Cameroon

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1 ABSTRACT

The aim of this work is to contribute to the long-term survival of woody plants in the agrosystems of the Mandara Mountains for their sustainable management. In order to understand the vulnerability of woody plants in the agricultural production systems of the Mandara Mountains, ethnobotanical surveys followed by floristic inventories were carried out in four zones, each subdivided into four collection units (Tokombere, Guider, Mogode and Mokolo). A total of 335 people were surveyed and 96 plots were set up to determine which individuals had died or been cut down in the agrosystems. The results show that poor farming practices alone degrade almost 51% of plant cover in the entire study area. This is followed by logging, sometimes accompanied by bush fires, and the felling of trees for charcoal and firewood. Gathering the bark, leaves and flowers of edible plant families is a practice responsible for habitat imbalance. The mortality rate of trees varied greatly depending on the area and plant formation. The dead individuals were highest in the fields of Mogode (17.01%), followed by the fields of Tokombere (16.04%). Nearly 29.81% of the species used have a vulnerability index greater than or equal to 2 and relative frequencies of between 10 and 50%. They are therefore said to be vulnerable. Highly vulnerable species include *Tamarindus indica* (IVu = 3.082; F=16.05%), *Diospyros mespiliformis* (IVu 3.01; F=10.09%), *Khaya senegalensis* (IVu = 3.00; F= 12.11%), *Haematostaphis barteri* (IVu = 3.00; F=10.16%) and *Balanites aegyptiaca*. This study is used in the decision-making process for sustainable strategies for preserving woody species in agrosystems.