

## Floristic Diversity, Carbon Stocks and Degradation Factors in Two Sacred Forests in the West Cameroon Region

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**Abstract :** Sacred forests play a valuable role in conserving local biodiversity and provide numerous ecosystem services in Cameroon. The study was carried out in the sacred forests of Bandrefam and Batoufam (western Cameroon). The aim was to estimate the diversity of woody species, carbon stocks and degradation factors in these sacred forests. The floristic inventory was carried out in plots measuring 25m × 25m for trees with diameters greater than 10 cm and 5m × 5m for trees with diameters less than 10 cm. Carbon stocks were estimated using the non-destructive method and the allometric equations. Data on degradation factors were collected using semi-structured surveys in the Bandrefam and Batoufam neighborhoods. The floristic inventory identified 65 species divided into 57 genera and 30 families in the Bandrefam Sacred Forest and 45 species divided into 42 genera and 27 families in the Batoufam Sacred Forest. The families common to both sacred forests are as follows: Phyllanthaceae, Fabaceae, Moraceae, Lamiaceae, Malvaceae, Rubiaceae, Meliaceae, Anacardiaceae, and Sapindaceae. Three genera are present in both sites. These are: Albizia, Macaranga, Trichillia. In addition, there are 27 species in common between the two sites. The total carbon stock is 469.26 tC/ha at Batoufam and 291.41 tC/ha at Bandrefam. The economic value varies between 15 823 877.05 fcfa at Batoufam and 9 825 530.528 fcfa at Bandrefam. The study shows that despite the sacred nature of these forests, they are subject to degradation factors such as bushfires (35.42 %), the creation of plantations (23.96 %), illegal timber exploitation (21.88 %), young people's lack of interest in the notion of conservation (9.38 %), climate change (7.29 %) and growing urbanization (2.08 %). These factors threaten biodiversity and reduce carbon storage in these forests.

**Keywords :** sacred forests, degradation factors, carbon stocks, semi-structured surveys

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