

## **BIOMASS STOCK AND DISTURBANCES IN RESTRICTED AND OPEN ACCESS FORESTS IN THE WESTERN GHATS OF INDIA**

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**ABSTRACT:** Forests that perform various ecosystem functions have been exploited over the years for a wide range of biomass products available free of cost. The present study was carried out in Uttara Kannada district in the Western Ghats with an aim to estimate the biomass stock, and to examine the disturbances in forests under the land use regimes classified on the basis of user right as forests with restricted (Reserve forest) and open access (Minor forest). Analysis of the data collected from four one-hectare plots of reserve and minor forests each showed that the difference in basal area, biomass, and species density are statistically significant between restricted and open access regimes, and on an average the reserve forest has two times greater biomass than the minor forest has. However, this generalisation is contradicted when the individual villages are considered. Furthermore, examination of disturbances showed that the reserve forests in three out of four study villages have greater instances of disturbances, which implies that the user right based classification of forests exists on the paper, but in reality the community is hardly aware of it or often does not care for it. Although the free access is one of the reasons for overexploitation of forests, the other reasons noticed are the proximity of habitation, pressure from the neighbouring town, and low awareness in the community. As a solution, curtailing biomass use by shifting to agroforestry practices, fuel-efficient stoves, and live-fencing are suggested. Awareness creation in the community about the need for forest conservation would also be beneficial.

**Keywords:** *Biomass conservation, Disturbance in the forest, Reserve and minor forests, User rights, Uttara Kannada, Western Ghats*