Geospatial Approach for Carbon Sink in the Timbered Biomass for Tropical Wildlife Reserve

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Abstract

There has been little research conducted on the potential of tree carbon storage in regions with low rainfall. Remotely sensed data are widely used in ecological applications because of its great advantages. Remote sensing provides quick, accurate, cost-effective as well as a time effective method for vegetation cover mapping and modelling. The objective of this study was to quantify the above ground biomass accumulation and carbon storages in *Anogeissus pendula, Boswellia serrata*, mixed *Anogeissus butea* and mixed *Acacia zizyphus* planted in Sariska Wildlife Reserve. Satellite data of LISS III (2010) give precise information of vegetation through reflectance value. To assess the carbon sequestration potential of plantations, individual above ground biomass models were developed and scaled to stand level. Furthermore, carbon content of the soil at three depths, the litter and the understory was assessed in sample plots. The results show that the total amount of carbon stored by *Anogeissus pendula* is higher than that stored by the trees in the other three forest type. Accordingly, the results indicate that the potential of carbon storage of thorn is higher than that of the deciduous trees in low rainfall regions.

Keywords: biomass, carbon**,** low rainfall regions, *Anogeissus pendula*