

Komposisi Floristik dan Simpanan Karbon Vegetasi Lantai di Hutan Rakyat Kabupaten Ciamis, Jawa Barat

Ardi Sumarna
20/464810/PBI/01706

ABSTRAK

Keberadaan vegetasi lantai di suatu hutan berperan penting dalam menjaga keanekaragaman hayati, kesuburan tanah dan memitigasi dampak perubahan iklim. Hutan rakyat yang dikelola dengan pola agroforestri memiliki komposisi dan keragaman tumbuhan yang lebih kompleks jika dibandingkan dengan lahan pertanian. Tingginya keanekaragaman tumbuhan pada hutan rakyat memberikan manfaat ekologis besar bagi lingkungan. Namun, sejauh mana kontribusi vegetasi lantai di hutan rakyat dalam menyimpan dan menyerap karbon masih belum banyak diketahui. Tujuan penelitian ini adalah untuk mengetahui komposisi floristik vegetasi lantai dan perannya dalam menyimpan karbon serta menyerap karbon dioksida dari atmosfer. Penelitian ini dilakukan diempat hutan rakyat di Kabupaten Ciamis, Jawa Barat, Indonesia pada ketinggian yang berbeda. Pengambilan sampel vegetasi menggunakan metode kuadrat, dengan peletakan plot sampel menggunakan teknik *stratified random sampling* didasarkan pada distribusi hutan rakyat yang tidak merata di setiap lokasi penelitian. Pengumpulan data dan sampel vegetasi dilakukan menggunakan plot 2 m x 2 m, dengan 100 plot di setiap lokasi dan total luas sampel 400 m². Data yang dikumpulkan meliputi komposisi flora, biomassa vegetasi lantai dan faktor-faktor lingkungan. Analisis vegetasi termasuk menghitung indeks nilai penting, indeks keanekaragaman, indeks kekayaan dan indeks kesamaan spesies. Hasil eksplorasi berhasil menginventarisasi 318 spesies vegetasi lantai yang masuk ke dalam 82 famili berbeda. Analisis vegetasi menunjukkan keanekaragaman vegetasi lantai termasuk dalam kategori sedang. Berdasarkan Indeks Nilai Penting (INP) diketahui bahwa lantai hutan didominasi oleh jenis rumput *Ottochloa nodosa*, *Oplismenus hirtellus* dan jenis semak *Ficus montana*, yang ketiganya mencakup 26,42% dari total keseluruhan tutupan vegetasi lantai yang ada. Nilai simpanan karbon pada vegetasi lantai di hutan rakyat Ciamis berkisar dari 10,67 hingga 23,78 Mg C ha⁻¹ dengan rata-rata 19,88 Mg C ha⁻¹. Nilai serapan karbon berkisar dari 39,16 Mg C ha⁻¹ hingga 87,27 Mg C ha⁻¹ dengan rata-rata 72,95 Mg C ha⁻¹. Hasil penelitian menunjukkan bahwa komposisi vegetasi lantai yang kompleks di hutan rakyat Kabupaten Ciamis memiliki kontribusi dalam penyimpanan karbon dan penyerapan karbon dioksida dari atmosfer.

Kata kunci: hutan rakyat, Kabupaten Ciamis, komposisi floristik, simpanan karbon.

Floristic Composition and Carbon Storage of Floor Vegetation in Community Forests of Ciamis Regency, West Jawa

Ardi Sumarna
20/464810/PBI/01706

ABSTRACT

*Floor vegetation in forests plays an important role in maintaining the health and function of ecosystems by supporting biodiversity and carbon sequestration. Community forest management with an agroforestry system tends to have a more complex plant composition and greater diversity of plants compared to agricultural land. The higher plant diversity in community forests provides significant ecological benefits to the environment. However, the extent of the contribution of floor vegetation in community forests to carbon storage and sequestration is not well known. The aim of this study was to investigate the floristic composition of floor vegetation and its role in storing and sequestering carbon from the atmosphere. The study was conducted in four community forests in Ciamis Regency, West Java, Indonesia at different altitudes. Vegetation was sampled using the quadrat method, with sampling plots placed using a stratified random technique to account for the uneven distribution of community forests in each study area. Data collection and vegetation sampling were conducted using 2m x 2m plots, with 100 plots at each location and a total sample area of 400 m². The data collected included floristic composition, floor vegetation biomass, and environmental factors. Vegetation analysis included calculating the importance value index, diversity index, richness index, and species similarity index. The results showed that the diversity of floor vegetation in community forests in Ciamis Regency is categorized as moderate, with a total of 318 species from 82 different families. Based on the Importance Value Index, the forest floor was dominated by the grass species *Ottochloa nodosa*, *Oplismenus hirtellus*, and the shrub species *Ficus montana*, which comprised 26.42% of the total floor vegetation cover. The value of carbon stored by floor vegetation in community forests ranged from 10.67 to 23.78 Mg C ha⁻¹, with an average of 19.88 Mg C ha⁻¹. In addition, carbon sequestration ranged from 39.16 to 87.27 Mg C ha⁻¹, with an average of 72.95 Mg C ha⁻¹. These results suggest that the complex composition of floor vegetation in the community forest of Ciamis Regency contributed to carbon storage and sequestration.*

Keywords: carbon storage, Ciamis Regency, community forests, floristic composition