

Potensi Biomassa dan Taksiran Nilai Ekonomi Penyimpanan Karbon Jenis-Jenis
Tumbuhan di Hutan Rakyat Desa Purwobinangun, Kabupaten Sleman,
Daerah Istimewa Yogyakarta

Oleh:

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Abstrak

Latar belakang dilakukannya penelitian ini karena belum adanya perhitungan potensi kayu dan valuasi nilai ekonomi jasa lingkungan di hutan rakyat Desa Purwobinangun. Penelitian ini bertujuan untuk: (1) mengetahui potensi volume *standing stock* berdasarkan jenis dan tingkat pertumbuhannya; (2) mengetahui potensi kandungan biomassa berdasarkan jenis dan tingkat pertumbuhannya; dan (3) mengetahui taksiran nilai ekonomi penyimpanan karbon tumbuhan di hutan rakyat Desa Purwobinangun.

Pengumpulan dan pengambilan data dalam penelitian ini dibagi dalam 2 tahap yaitu survei terhadap *stakeholders* (pengumpulan informasi sekunder) dan survei lapangan (persiapan dan pengambilan data). Metode pengolahan data yang dipakai yaitu metode estimasi dan allometrik untuk menduga potensi biomassa. Metode analisis data yang dipakai adalah analisis deskriptif kuantitatif dan analisis deskriptif kualitatif.

Hasil penelitian menunjukkan potensi jenis-jenis tumbuhan penyusun hutan rakyat Desa Purwobinangun yaitu: (1) potensi volume *standing stock* sebesar 53,32 m³/ha, (2) potensi kandungan biomassa berdasarkan metode estimasi, allometrik hutan rakyat, dan allometrik Brown sebesar 33,40 ton/ha; 14,69 ton/ha; dan 54,17 ton/ha, (3) potensi penyimpanan karbon dari ketiga metode sebesar 16,70 ton/ha; 7,34 ton/ha; dan 27,09 ton/ha, (4) taksiran nilai ekonomi penyimpanan karbon dari ketiga metode sebesar Rp4.364.460,90; Rp1.919.109,50; dan Rp7.078.986,10.

Potensi kayu dan nilai jasa lingkungan yang telah ditaksir pada penelitian ini menunjukkan bahwa hutan rakyat Desa Purwobinangun prospektif untuk dikembangkan sebagai pemasok bahan baku kayu perkakas dan penjualan karbon (*carbon trading*).

Kata kunci: hutan rakyat, *standing stock*, biomassa, karbon, karbon dioksida (CO₂), nilai ekonomi.

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The Potential of Biomass and Economic Value Estimation of Carbon Storage of Various Plant Species in Purwobinangun Community Forest, Sleman District, Yogyakarta Special Region

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Abstract

The background why this research was conducted is because there hasn't been any calculation of timber potential and economic valuation of environmental service at Purwobinangun village community forest. This research aims to: (1) determine the standing stock volume potential based on plant type and its growth rate; (2) determine the biomass content potential based on plant type and its growth rate; and (3) determine the carbon storage's estimated economic value of plants in Purwobinangun village community forest.

The data collection and retrieval in this research were divided into two stages, namely a survey on stakeholders (secondary information collection) and a field survey (data preparation and collection). The data processing methods used were estimation and allometric methods to estimate biomass potential. The data analysis used were descriptive quantitative and descriptive qualitative analyses.

The research results showed the potential various plant species in Purwobinangun village community forest, they are as follows:

(1) the potential of standing stock volume was 53,32 m³/ha, (2) the potential of biomass content based on estimation method, community forest allometry, and Brown's allometry were 33,40 ton/ha; 14,69 ton/ha; and 54,17 ton/ha, respectively, (3) the potential of carbon storage from the three methods were 16,70 ton/ha; 7,34 ton/ha; and 27,09 ton/ha, respectively, and (4) the estimated economic value of carbon storage from the three methods were Rp4.364.460,90; Rp1.919.109,50; and Rp7.078.986,10, respectively.

The potential of wood and the value of environmental services were estimated in this study indicate that the Purwobinangun community forest is prospective to be developed as a supplier of tool wood raw materials and for carbon trading.

Keywords: community forest, standing stock, biomass, carbon, carbon dioxide (CO₂), economic value.

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