

ABSTRAK

KAJIAN KETERSEDIAAN BIOMASSA HUTAN ALAM DI AREAL ARBORETUM KONSESI PERIZINAN BERUSAHA PEMANFAATAN HUTAN-HUTAN TANAMAN (PBPH-HT)

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Aksi mitigasi GRK pada sektor kehutanan menjadi penting bagi Indonesia dalam agenda *climate actions global* yang tertuang dalam dokumen *Enhanced Nationally Determined Contribution* (ENDC). Penelitian ini penting dilakukan di perusahaan PBPH-HT yang memiliki kawasan lindung karena selain melakukan pemanenan, perusahaan juga turut andil dalam menjaga potensi simpanan karbon melalui mekanisme Nilai Ekonomi Karbon (NEK). Penelitian ini bertujuan mengetahui struktur dan komposisi vegetasi, mengestimasi nilai ketersediaan biomassa atas tanah (*Above Ground Biomass*) dan mengestimasi nilai simpanan karbon. Pengumpulan data menggunakan rumus penentuan *sampling* Cochran dengan *margin error* 20% dan metode non-destruktif dengan melakukan inventarisasi tegakan. Hasil penelitian ini menunjukkan di lokasi penelitian Arboretum PT. Arara Abadi terdapat 911 individu dan 35 jenis spesies dengan indeks keanekaragaman 2,18 (kategori sedang). Sebaran DBH (diameter setinggi dada) berkisar antara 5,10 cm – 85,99. Hasil perhitungan nilai total rata-rata biomassa pohon adalah sebesar 525,23 kg/ind dan total rata-rata simpanan karbon sebesar 159,31 [142,63; 176] tC/ha dengan *sampling error* 10,47%. Hasil uji regresi linear sederhana menjelaskan nilai kerapatan bidang dasar (KBD) pohon mempengaruhi jumlah simpanan karbon sebesar ($R^2=0,5506$) yang dimana kerapatan bidang dasar berpengaruh sebesar 55,06% terhadap jumlah simpanan karbon.

Kata kunci: Mitigasi Gas Rumah Kaca, Simpanan Karbon, Non-destruktif, Arboretum.

ABSTRACT

(Study Of The Availability Of Natural Forest Biomass In The Arboretum Areas For Licensing Concessions For The Utilization Of Plant Forests (PBPH-HT)

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GHG mitigation action in the forestry sector is important for Indonesia in the global climate actions agenda in the Enhanced National Determined Contribution (NDC) document. This research is important in PBPH-HT companies that have a protected area because in addition to harvesting, the company also contributes to maintaining the potential for carbon savings through the carbon economic value mechanism (NEK). This study aims to determine the structure and composition of vegetation, estimate the availability of biomass on land (above-ground biomass) and estimate the value of carbon savings. Data collection uses the formula for determining Cochran sampling with 20% margin error and non-destructive methods by carrying out stand inventory. The results of this study showed that at the Arboretum Research location of PT. Arara Abadi There are 911 individuals and 35 species with a diversity index of 2.18 (medium category). DBH distribution (chest height diameter) ranges from 5.10 cm - 85.99. The calculation of the total value of the average tree biomass is 525.23 kg/ind and the total average carbon deposit is 159.31 [142.63; 176] TC/ha with an error sampling of 10.47%. Simple linear regression test results explain how the value of the tree's basic field density (KBD) affects the number of carbon deposits ($R^2 = 0.5506$) where the basic field density affects 55.06% of the number of carbon deposits.

Kata kunci: GHG Mitigation Action, Carbon Storage, Non-destructive, Arboretum.