

**SIMPANAN DAN NILAI EKONOMI KARBON BAMBU BALKU  
(*Bambusa balcooa*) di PT. BAMBU NUSA VERDE SLEMAN DAERAH  
ISTIMEWA YOGYAKARTA**

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**INTISARI**

Penelitian ini bertujuan untuk (1) Mengestimasi potensi produksi biomassa dan simpanan karbon jenis *Bambusa balcooa* di PT. Bambu Nusa Verde, (2) Mengestimasi potensi serapan karbondioksida jenis *Bambusa balcooa* di PT. Bambu Nusa Verde, (3) Menghitung nilai ekonomi dari serapan karbondioksida jenis *Bambusa balcooa* di PT. Bambu Nusa Verde. Metode destruktif dengan pengeringan sampel pada suhu  $103\pm 2^{\circ}\text{C}$  digunakan untuk perolehan nilai biomassa. Konversi biomassa menjadi karbon dilakukan berdasarkan rata-rata persentase nilai karbon organik yakni 42,698% terhadap biomassa. Nilai ekonomi karbon bambu balku (*Bambusa balcooa*) diperoleh menggunakan tetapan *International Monetary Fund* dengan metode benefit transfer.

Hasil penelitian diperoleh persamaan alometrik model *power* yang diperoleh untuk menghitung biomassa total adalah  $B_T = 0,857\text{Dbh}^{1,772}$  dengan  $R^2$  sebesar 0,964. Potensi biomassa total sebesar 1676,99 ton/ha, dan simpanan karbon total sebesar 715,57 ton/ha. Potensi serapan gas  $\text{CO}_2$  sebesar 2623,76 t. $\text{CO}_2$ /ha, dan nilai ekonomi Rp 961,543,644,90/ha.

*Kata Kunci: Bambu balku, Biomassa, Karbon, Alometrik, Serapan  $\text{CO}_2$*

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***CARBON STOCK AND ECONOMIC VALUE BALKU BAMBOO (*Bambusa balcooa*) in PT. BAMBU NUSA VERDE SLEMAN YOGYAKARTA***

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**ABSTRACT**

*This study aims to (1) calculate the potential for biomass and carbon storage, (2) determine the absorption potential of CO<sub>2</sub>, and (3) determine the economic value of carbon uptake in balku bamboo (*Bambusa balcooa*). The destructive method was used to obtain biomass by drying the sample at a temperature of 103±2°C. The conversion of biomass to carbon is carried out based on the average percentage value of organic carbon, which is 42.698% of biomass. The economic value of carbon in *Bambusa balcooa* bamboo is obtained using the International Monetary Fund constants through benefit transfer method.*

*The results showed that the allometric equation power model obtained of total biomass was  $B_T = 0,857Dbh^{1,772}$  with  $R^2$  of 0,964. The total biomass is 1676,99 ton/ha, and total carbon stocks is 715,57 ton/ha. The potential for CO<sub>2</sub> absorption is 2623,76 t.CO<sub>2</sub>/ha, and it has an economic value Rp 961,543,644,90/ha.*

*Keywords: Balku bamboo, Biomass, Carbon, Allometric, CO<sub>2</sub> absorption*

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