SIMPANAN DAN NILAI EKONOMI KARBON BAMBU BEEMA (*Bambusa balcooa var. capensis*) DI PT BAMBU NUSA VERDE KECAMATAN PAKEM SLEMAN YOGYAKARTA

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INTISARI

Bambu beema (*Bambusa balcooa var. capensis*) merupakan bambu hasil super klon dengan ketebalan dinding, kandungan biomassa dan serapan karbon yang tinggi. Bambu ini berpotensi dalam pengurangan emisi karbon dioksida dari atmosfer dan berpeluang dalam kancah *carbon credit* di era meningkatnya gas rumah kaca (GRK) dan mengurangi dampak dari perubahan iklim global (*global climate change*). Penelitian ini bertujuan untuk mengetahui potensi biomassa, simpanan karbon, serapan karbondioksida dan nilai ekonomi dari bambu bema di PT. Bambu Nusa Verde, Harjobinangun, Pakem, Kabupaten Sleman, Daerah Istimewa Yogyakarta.

Penelitian ini menggunakan metode destruktif (*destructive method*) melalui pemanenan bambu beema (*purposive*) dalam satu rumpun untuk menyusun persamaan allometrik biomassa bambu. Kandungan biomassa tiap organ bambu diperoleh dengan cara mengeringkan sampel sampai mencapai berat kering konstan pada suhu ±103^{o}C untuk organ batang, cabang/ranting, dan akar. Khusus untuk organ daun dan pelepah (slumpring) yang kondisinya relatif tipis dikeringkan dengan suhu ±60^{o}C. Kandungan karbon dari biomasanya dianalisis di Laboratorium BPTP Yogyakarta. Nilai ekonomi karbon bambu beema diperoleh dengan mengalikan harga per ton CO_2-eq sebesar USD 25/ton CO_2-eq (*International Monetary Fund*, 2021).

Hasil penelitian ini menunjukkan bahwa persamaan allometrik yang diperoleh untuk menduga biomassa total bambu beema adalah persamaan power $TB = 1{,}044DBH^{1{,}537}$ dengan R^2 sebesar 0,907. Potensi biomassa total bambu beema sebesar 122,314 ton/ha; simpanan karbon sebesar 47,323 ton/ha; serapan CO_2 sebesar 173,677 t.CO_2/ha; dan nilai ekonomi sebesar Rp. sebesar Rp. 65.215.596,- /ha.

Kata Kunci : Bambu beema, Biomassa, Serapan CO_2, Allometrik

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CARBON STOCKS AND ECONOMIC VALUE OF BEEMA BAMBOO (*Bambusa balcooa var. capensis*) IN PT BAMBU NUSA VERDE PAKEM DISTRICT SLEMAN YOGYAKARTA

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ABSTRACT

Beema bamboo (Bambusa balcooa var. capensis) is a super clone bamboo with high wall thickness, biomass content and carbon absorption. This bamboo has the potential to reduce carbon dioxide emissions from the atmosphere and has the opportunity to become a carbon credit in an era of increasing greenhouse gases (GHG) and reduce the impact of global climate change. This study aims to determine the potential of biomass, carbon storage, carbon dioxide absorption and economic value of bema bamboo at PT Bambu Nusa Verde, Harjobinangun, Pakem, Sleman Regency, Daerah Istimewa Yogyakarta.

This study used the destructive method by harvesting beema bamboo (purposive) in one clump to develop an allometric equation for bamboo biomass. The biomass content of each bamboo organ was obtained by drying the sample until it reached a constant dry weight at ±103oC for stem, branch/twig and root organs. Particularly for leaf and sheath organs (slumpring), which are relatively thin, they are dried at ±60oC. The carbon content of the biomass was analyzed at Laboratorium BPTP Yogyakarta. The economic value of beema bamboo carbon is obtained by multiplying the price per ton of CO2-eq by USD 25/ton CO2-eq (International Monetary Fund, 2021).

The results of this study indicate that the allometric equation obtained to estimate the total biomass of beema bamboo is the power equation TB = 1.044DBH1.537 with an R2 of 0.907. The total biomass potential of beema bamboo is 122.314 tons/ha; carbon storage of 47.323 tons/ha; CO2 absorption of 173.677 t.CO2/ha; and economic value of IDR. 65,215,596,-/ha..

Keywords: Beema bamboo, Biomass, CO_2 absorption, Allometric

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