SIMPANAN KARBON, POLA PEMANENAN, DAN PEMANFAATAN BAMBU AMPEL, APUS, DAN WULUNG DI HUTAN RAKYAT DUSUN BULAKSALAK, DESA WUKIRSARI, CANGKRINGAN, SLEMAN

Yustinus Malloy Stanislaus[1], Ris Hadi Purwanto[2]

INTISARI

Bambu merupakan tanaman yang mudah dijumpai di hutan rakyat Dusun Bulaksalak, Desa Wukirsari, Cangkringan, Sleman dengan fungsi sebagai penyimpan karbon dan meningkatkan pendapatan masyarakat. Jenis bambu pada penelitian ini adalah bambu ampel, apus, dan wulung. Penelitian ini bertujuan untuk (1) menghitung potensi kandungan biomassa, simpanan karbon, dan serapan gas CO_2, (2) mengidentifikasi pola pemanenan bambu, serta (3) mengidentifikasi pemanfaatan dari bambu ampel, apus, dan wulung oleh masyarakat di Dusun Bulaksalak, Desa Wukirsari, Cangkringan, Sleman.

Penelitian ini dilakukan menggunakan metode destruktif dengan memanen bambu ampel, apus, dan wulung yang tua sebanyak 10 batang pada masing-masing jenisnya sehingga total ada 30 sampel batang bambu untuk penyusunan alometrik biomassa. Kandungan biomassa organ batang diperoleh dengan mengeringkan sampel hingga berat kering tanur pada suhu 103°C ± 2°C. Kandungan karbon untuk masing-masing jenis bambu adalah 44,53% untuk jenis ampel, 48,84% untuk jenis apus, dan 51,34% untuk jenis wulung. Pola pemanenan dan pemanfaatan bambu dilakukan dengan menggunakan metode survey di lapangan (wawancara).

Hasil penelitian ini menunjukkan alometrik penduga biomassa batang bambu ampel, apus, dan wulung berturut-turut adalah $B_b = e^{2,724+(-399,018/D2H)}$ dengan R^2 sebesar 0,889; $B_b = e^{3,063+(-702,249/D2H)}$ dengan R^2 sebesar 0,914; dan $B_b = 0,03D^2H^{0,865}$ dengan R^2 sebesar 0,985. Potensi biomassa bambu ampel, apus, dan wulung berturut-turut sebesar 35,258 kg/m^2; 42,085; dan 75,484 kg/m^2. Potensi simpanan karbon bambu ampel, apus, dan wulung berturut-turut sebesar 15,7 kg/m^2; 20,554 kg/m^2; dan 38,754 kg/m^2. Potensi serapan gas CO_2 bambu ampel, apus, dan wulung berturut-turut sebesar 57,568; 75,366 kg/m^2; dan 142,097 kg/m^2. Pemanenan bambu ampel, apus, dan wulung yang dilakukan oleh masyarakat Dusun Bulaksalak masih bersifat konvensional dengan sistem tebang butuh. Waktu pemanenan bambu dilakukan pada bulan Maret. Pemanfaatan bambu oleh masyarakat Dusun Bulaksalak diprioritaskan untuk kepentingan ekonomi (kerajinan, konstruksi, dan dijual) dan kepentingan konservasi (penahan erosi tepi sungai).

Kata Kunci: Biomassa Bambu, Simpanan Karbon, Serapan CO_2, Persamaan Alometrik, Hutan Rakyat

---

[1] Mahasiswa Fakultas Kehutanan UGM

2 Staff Pengajar Fakultas Kehutanan UGM

CARBON STORAGE, HARVESTING PATTERNS, AND UTILIZATION OF AMPEL, APUS, AND WULUNG BAMBOO IN THE COMMUNITY FOREST OF BULAKSALAK HAMLET, WUKIRSARI VILLAGE, CANGKRINGAN, SLEMAN

Yustinus Malloy Stanislaus[1], Ris Hadi Purwanto[2]

ABSTRACT

Bamboo is a plant that is easily found in the community forests of Bulaksalak Hamlet, Wukirsari Village, Cangkringan, Sleman with its function as a carbon storage and increasing people income. The species of bamboo in this study were ampel, apus and wulung bamboo. This study aims to (1) calculate the potential for biomass, carbon storage, and CO_2 absorption, (2) identify bamboo harvesting patterns, and (3) identify utilization of ampel, apus, and wulung bamboo by the community in Bulaksalak Hamlet, Wukirsari Village, Cangkringan, Sleman.

This study was obtained using destructive method by harvesting 10 old ampel, apus, and wulung bamboo culms in each species, resulting in a total of 30 bamboo culm samples to construct allometric equation for biomass. The biomass of stem was obtained by drying the samples until they reached a constant dry weight at temperature 103°C ± 2°C. The carbon content for each bamboo species is 44.53% for ampel species, 48.84% for apus species, and 51.34% for wulung species. Harvesting patterns and utilization was obtained using field survey (interview) method.

The results of this study show that the allometric estimates of stem biomass of ampel, apus, and wulung bamboo were $Bb = e^{2.724+(-399.018/D2H)}$ with R^2 of 0.889; $Bb = e^{3.063+(-702.249/D2H)}$ with R^2 of 0.914; and $Bb = 0.03D^2H^{0.865}$ with R^2 of 0.985, respectively. The biomass potential of ampel, apus, and wulung bamboo were 35.258 kg/m^2; 42.085 kg/m^2; and 75.484 kg/m^2, respectively. The carbon storage of ampel, apus, and wulung bamboo were 15.7 kg/m^2; 20.554 kg/m^2; and 38.754 kg/m^2, respectively. The CO_2 absorption of ampel, apus, and wulung bamboo were 57.568 kg/m^2; 75.366 kg/m^2; and 142.097 kg/m^2. The harvesting of ampel, apus, and wulung bamboo carried out by the people of Bulaksalak Hamlet is still conventional with 'tebang butuh' system. Bamboo harvesting time is carried out in March. The utilization of bamboo by the people of Bulaksalak Hamlet is prioritized for economic interests (crafts, construction, and sale) and conservation interests (riverbank erosion control).

Keywords: Bamboo Biomass, Carbon Storage, CO_2 Absorption, Allometric Equation, Community Forest.

1 Student of Faculty of Forestry UGM , 2 Lecturer of Faculty of Forestry UGM