

## ABSTRACT

### BIOMASS ESTIMATION AND CARBON SINK OF THE SENDANGSARI VILLAGE'S COMMUNITY FOREST , PAJANGAN DISTRICT, BANTUL REGENCY

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The community forest is has a range of benefits such as furniture and firewood, and has capacity to store carbon that play an important role in the global carbon cycle. Carbon is transformed into biomass by plants. This benefit reduce the greenhouse effect. Each forest type has a different capacity to store carbon depends on the amount of trees, area, age, and type of this forest componens. This study aims to identify the componens of community forest in Sendangsari village, to quantify the potential volume of biomass and carbon content of this forest. The sample was selected with stratification random sampling for farmer fields in community forest. Potential biomass was calculated using the kind of trees species allometric from the other results. Carbon stocks was calculated with 50% estimate from the total of biomass.

The results showed there are 26 species of trees in the community forest of Sendangsari village. The dominant type is Teak (47.85%) and Mahogany (33.85%). The volume of community forest with an area of 366.03 hectares is 811.941 m<sup>3</sup>. The highest volume is 388.27 m<sup>3</sup> for Teak, Mahogany type followed by 253.98 m<sup>3</sup>, and mixture species 169.72 m<sup>3</sup>. The average biomass of community forest in Sendangsari Village is 0,48 tonnes/ha, consisting of Teak 1,03 tonnes/ha, Sonokeling 0,65 tonnes/ha, and a mixed species 0,60 tonnes/ha. Total biomass in community forest of Sendangsari village is 1063,24 tons. Total content of biomass can be used to estimate carbon stocks. The average carbon stock in community forest is 0,24 tonnes/ha, consisting of Teak 0,52 tonnes/ha, Sonokeling 0,32 tonnes/ha, and the mixture species 0,31 tonnes/ha. Total content of carbon stock in community forest of Sendangsari village is 531,62 tons.

Keywords : Biomass, carbon sink , community forest

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