

## ESTIMATION OF STORED CARBON ABOVE SOIL SURFACE IN POST-ROTATIONAL CULTIVATION LAND OF DAYAK COMMUNITY

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**ABSTRACT** The development of global warming is one of the main causes of climate change. The increase in greenhouse gasses causes global warming which affects the earth's ecosystem. The imbalance of CO<sub>2</sub> concentration in the atmosphere with the availability of vegetation is also one of the causes of climate change. Loksado District, which is located around the Meratus Mountains, with the majority of its people being the Meratus Dayak Tribe, still applies local wisdom owned by the local community by farming using a rotational system. This has resulted in the existence of former community cultivation lands which are divided into balukar anum, jurungan, and mixed gardens. The ability to store carbon is different for each land due to the variation in the types of vegetation that make up each land use. Therefore, this study was conducted to analyze and calculate the potential for carbon storage in each ex-cultivated area. Calculation of tree biomass during the research analysis used the allometric formula for estimating carbon content in natural forests. The percentage of carbon stored in a tree species in natural forest stands can be estimated at 47% of the total biomass. The mixed garden area had more species found than the other two areas. The highest average diameter and base area in the ex-cultivated area for the pole level are in the mixed garden area in Haratai Village, while the lowest value is in the Balukar anum area in Haratai Village. From the total biomass per hectare for each ex-cultivated area it can be seen that the biomass is greater at the tree level than at the pole level. The highest carbon estimate is in the mixed garden area in Lok Lahung Village, which is 61,097 tons/ha. Meanwhile, the lowest estimated carbon value is found in the anum balukar area in Haratai Village, which is 1,045 tons/ha.

**KEY WORDS:** Biomass, carbon, balukar anum, jurungan, mixed gardens.