SUMMARY

DIAN WULANSIH S. Allometric Equation Model Of Tree Biomass and Carbon Mass Estimation Of Tropical Natural Moist Forest (Case Study in IUPHHK-HA PT Suka Jaya Makmur, West Kalimantan). Under supervision by ELIAS

Global warming is one of greenhouse effect phenomena which cause by increasing the concentrations of greenhouse gases (GHG) emissions in the atmosphere, such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆). Forests can absorb CO₂ from the air and store in the trees. Tropical natural moist forest is one of the forest types, which can absorb CO₂ very well so it has quite high potential carbon stock.

This studies was conducted in IUPHHK-HA PT Suka Jaya Makmur, West Kalimantan. The main goal of this study is to get tree biomass and carbon allometric equations of tropical natural moist forest in IUPHHK-HA PT Suka Jaya Makmur. Sampling conducted by purposive sampling. Laboratory analysis of sample materials were done in the Laboratory of wood chemistry, Department of Forest Product, Faculty of Forestry to determine the carbon content in each part of the tree. The best equations was selected based on the highest R²(adj) and the smallest standard deviation (s) value. Estimation of biomass and carbon mass were done on roots, stems, branches, twigs, and leaves of the tree.

The results of this study indicate that the carbon content of every part of the trees (roots, main stems, branches, twigs and leaves) are very significant difference. Allometric equations for tree biomass was selected Btot=0.2729D².53Tbc⁻⁰.³³², and model allometric equations to estimate potential carbon Ctot=0.1503D².57Tbc⁻⁰.³⁵⁷. The potential of biomass and carbon mass location of each study is 68.35 ton/ha and 41.69 ton/ha.

Key words: Biomass, carbon, IUPHHK-HA, allometric equations.