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CARBON STOCK ESTIMATION ON SOME LAND COVER: SECONDARY FOREST, AGROFORESTRY, PALM OIL PLANTATION AND PADDY FIELDS

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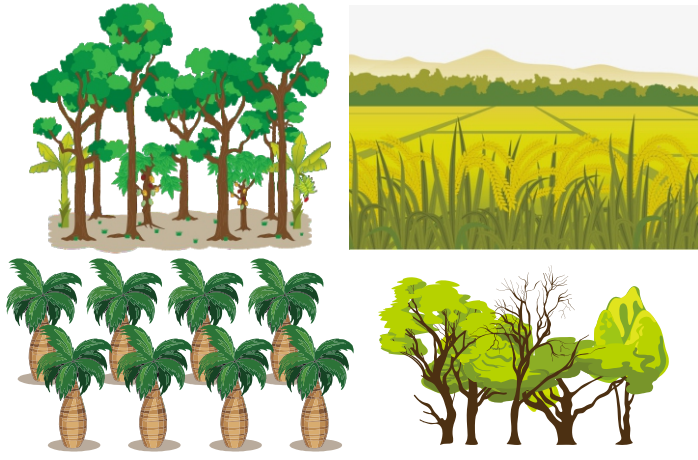
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Introduction

The diversity of plant in some land uses at East Luwu Regency has potential to absorb and store carbon, which varies due to the plant different constituent. The differences of carbon stored of each land cover need to calculate in order to find the amount of carbon stock available. This study aims to estimate carbon stocks in the land cover of secondary forest, agroforestry, oil palm plantation and rice fields.



Method

The research use sample plot size 20 x 50 that taken 9 times for each land cover. Biomass data was collected using non-destructive sampling, since for undergrowth and necromass using destructive sampling by cutting and taking all the undergrowth and litter that are in a 1 x 1 meter quadrant. There are two kinds of soil sampling that collected; disturbed soil and intact soil.

Result

Land cover	Carbon Stock (Ton/ha)						Total
	Tree	Plant under	Necromass	Litter	Root	Land	
Forest	165.17	0.20	2.41	2.14	41.34	54.60	265.86
Agroforestry	57.13	0.18	-	1.56	14.33	58.13	131.31
Oil palm	32.16	0.21	-	1.04	8.09	59.38	100.89
Rice fields	-	-	-	-	-	70.50	70.50

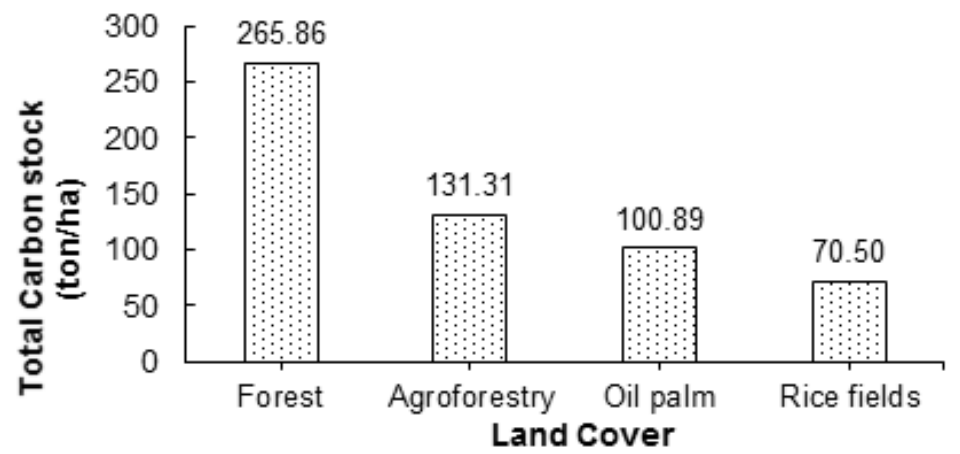


Figure 1. Total Land Cover Carbon Stock chart

Table 1 and figure 1 above show that land cover that has the highest carbon storage capacity is secondary forest while the rice fields as the lowest carbon store. The amount of carbon stored in these land covers varies due to the diversity of plant species, plant diameter, plant density, plant height, plant spacing, soil type, and land management.

Conclusion

The value of total carbon stock is the sum up of the carbon stock value that stored on the surface of the soil i.e. tree, lower plant, necromass, litter and soil carbon stocks of the roots and soil. The results of this research show that the value of total carbon stocks on various land cover in East Luwu district varies for each land cover. Land cover that has been storing the largest carbon kneel down as follows; secondary forest, agroforestry, palm oil plantation and rice field. This research is expected to be a source of information and material consideration in utilizing and managing land cover. In addition, it can be additional to the understanding of the potential knowledge of carbon stocks on various land cover secondary forest, agroforestry, palm oil plantation and paddy fields, also as a valuation material and calculation basis for the community and local governments in future carbon sales.

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