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**Simpanan dan Penentuan Nilai Ekonomi Karbon Dengan Metode Benefit Transfer Hutan Kota Kabupaten
Klaten, Jawa Tengah**
YULIANA INDAH SARI, Ris Hadi Purwanto;Agus Affianto
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# SIMPANAN DAN PENENTUAN NILAI EKONOMI KARBON DENGAN METODE *BENEFIT TRANSFER* HUTAN KOTA KABUPATEN KLATEN, JAWA TENGAH

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## INTISARI

Meningkatnya gas karbon dioksida di wilayah perkotaan Kabupaten Klaten disebabkan oleh aktifitas transportasi dan penggunaan energi yang menyebabkan keberadaan hutan kota penting untuk dikembangkan. Hutan kota merupakan salah satu upaya startegis dalam mengurangi gas karbon dioksida di perkotaan dalam peranan menyerap gas $CO_2$ secara efektif dan disimpan dalam bentuk biomassa pada jaringan organ tanaman. Tujuan dari penelitian ini untuk menentukan potensi biomassa, simpanan karbon dan serapan $CO_2$ serta taksiran nilai ekonomi karbon di hutan kota Kabupaten Klaten.

Penelitian dilakukan dengan metode *non destructive* yang diawali dengan pengambilan data inventarisasi jenis-jenis penyusun hutan kota secara sensus dan penentuan sampel bilangan bentuk pohon. Kemudian dilakukan analisis biomassa menggunakan metode estimasi, analisis simpanan karbon, serapan $CO_2$, dan taksiran nilai ekonomi karbon. Taksiran nilai ekonomi karbon dihitung dengan menggunakan metode *benefit transfer*.

Hasil penelitian menunjukan potensi biomassa, simpanan karbon dan serapan $CO_2$ di hutan kota Kabupaten Klaten mempunyai rata-rata secara berturut-turut sebesar 289,306 ton/ha; 144,653 ton/ha; dan 530,877 ton/ha. Kemudian untuk taksiran nilai ekonomi karbon di hutan kota Kabupaten Klaten sebesar USD 8.328,07, jika dirupiahkan maka setara dengan Rp. 118.400.155,92.

Kata Kunci: Hutan Kota, Biomassa, Karbon, Serapan Gas Karbon Dioksida ($CO_2$), Nilai Ekonomi

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# DETERMINATION OF STOCK AND ECONOMIC VALUE OF CARBON USING THE BENEFIT TRANSFER METHOD IN URBAN FOREST OF KLATEN DISTRICT, CENTRAL JAVA

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## ABSTRACT

Increase in carbon dioxide level surrounding the city area of Klaten District, caused by the activities of transportation and energy usage, draws us to the importance of developing urban forests. Urban forest is one of the strategic attempts in decreasing carbon dioxide level around city areas. This is because an urban forest is capable of effectively absorbing $CO_2$ and convert it into biomass, which is then stored inside the plants' tissues. The purpose of this research is to determine the potential of the biomass, carbon stock, $CO_2$ absorption rate, as well as the estimated economic value of the carbon in urban forest at Klaten District.

This research was conducted using a non-destructive method, which began with data collection to create an inventory of the urban forest content based on census. At this stage, the sample numbers, which is based on the shape of trees, was determined. Afterwards, a biomass analysis was conducted using the estimation method. Other analyses include a carbon stock analysis, $CO_2$ absorption analysis, and calculating the estimated economic value of carbon using the benefit transfer method.

Analysis results show, in order, that the biomass potential, carbon stock and $CO_2$ absorption in Klaten District urban forest had an average of 289,306 tons/ha; 144,653 tons/ha; and 530,877 tons/ha. Subsequently, the estimated economic value of carbon in Klaten District urban forest is at USD 8.328,07 (IDR 118.400.155,92).

Keywords: Urban Forests, Biomass, Carbon, Carbon Dioxide ($CO_2$) Absorption, Economic Value.

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