

# ANALISIS MANFAAT POHON PENEDUH SEBAGAI PENYERAP EMISI GAS KARBON DIOKSIDA (CO<sub>2</sub>) DARI KENDARAAN BERMOTOR DALAM STUDI KASUS DI JALAN DR SEMERU

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## ABSTRAK

Jalan Dr Semeru adalah salah satu jalur hijau yang ada di kota Bogor. Jalan Dr Semeru terletak di kecamatan Bogor Barat yang menghubungkan antara area pemukiman warga dengan pusat kota. Jalan Dr Semeru didominasi oleh pohon peneduh jenis kenari sebanyak 88% dan pohon mahoni 12%. Pohon peneduh di jalan Dr Semeru diharapkan dapat mereduksi emisi CO<sub>2</sub> yang dihasilkan oleh pengguna jalan khususnya pengendara kendaraan bermotor. Jenis kendaraan bermotor yang melintas di jalan Dr Semeru dibagi kedalam tiga klasifikasi, yaitu motor, mobil, dan bus/truk. Analisis ini dilakukan dengan cara menghitung jumlah kendaraan yang melintas selama 7 hari dan jumlah pohon peneduh di jalan Dr Semeru yang dibagi kedalam dua zona wilayah. Kemampuan daya serap pohon dianalisa menggunakan metode analisis karbohidrat *by difference*. Beban Emisi CO<sub>2</sub> didapat dengan menggunakan rumus dari IPCC (2006). Berdasarkan hasil penelitian maka didapatkan kemampuan daya serap pohon mahoni sebesar 1486,3 g/jam dan pohon kenari sebesar 351 g/jam. Beban emisi CO<sub>2</sub> tertinggi terjadi di hari kedua di zona B yaitu sebesar 425.894 g/jam. Beban emisi CO<sub>2</sub> terendah terjadi pada hari ketiga di zona A yaitu sebesar 152.371 g/jam. Hasil yang diperoleh dari analisis penyerap CO<sub>2</sub> didapatkan pohon peneduh disemua zona tidak mencukupi dalam mereduksi emisi CO<sub>2</sub>. Sisa Emisi tertinggi terjadi pada hari kedua di zona B yaitu sebesar 342.109 g/jam. Sisa emisi terendah terjadi pada hari ketiga di zona A yaitu sebesar 41.079 g/jam.

**Kata Kunci:** daya serap, emisi gas karbon dioksida, sisa emisi

## ABSTRACT

*Dr Semeru street is one of the green routes in Bogor city. Dr Semeru street is located in West Bogor district which connects residential areas with the city center. Dr Semeru street is dominated by shade trees of walnuts as much as 88% and mahogany trees by 12%. The shade trees on Dr Semeru street are expected to reduce CO<sub>2</sub> emissions produced by road users, especially motorists. The types of motorized vehicles passing on Dr Semeru street are divided into three classifications, namely motorbikes, cars, and buses/trucks. This analysis was carried out by counting the number of vehicles passing for 7 days and the number of shade trees on the Dr Semeru street which were divided into two regional zones. The absorption capacity of trees was analyzed using the method of analysis of carbohydrates by difference. CO<sub>2</sub> emission load is obtained using the formula from the IPCC (2006). Based on the results of the study, the absorption capacity of mahogany trees was 1486.3 g / hour and walnut trees was 351 g / hour. The highest CO<sub>2</sub> emission load occurred on the second day in zone B, which was 425,894 g / hour. The lowest CO<sub>2</sub> emission load occurred on the third day in zone A which was 152,371 g / hour. The results obtained from the analysis of the CO<sub>2</sub> absorber found that the shade trees in all zones were insufficient to reduce CO<sub>2</sub> emissions. The highest remaining emission occurs on the second day in zone B, which is 342,109 g / hour. The lowest remaining emission occurs on the third day in zone A, which is 41,079 g / hour.*

**Keywords:** absorption, carbon dioxide emissions, residual emissions