Estimasi Serapan Gas Karbon Dioksida (Co_2) dan Strategi Pengembangan RTH Publikdi Kabupaten Sleman DIY

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INTISARI

Kabupaten Sleman memiliki jumlah penduduk tertinggi di Provinsi D. I. Yogyakarta dan menjadi penyangga Kota Yogyakarta. Keadaan tersebut berdampak terhadap peningkatan emisi karbon dioksida (CO_2). RTH Publik merupakan salah satu realisasi pembangunan yang berkelanjutan dalam rangka menjaga kualitas lingkungan. Keberadaan ruang terbuka hijau mampu menjadi solusi berbasis alam dalam mitigasi perubahan iklim, yaitu mampu melakukan penyerapan dan penyimpanan karbon. Tujuan penelitian ini adalah menaksir potensi biomassa, simpanan karbon, dan serapan karbon dioksida (CO_2); mengetahui kontribusi kelas tutupan lahan dalam menyerap karbon dioksida (CO_2); serta merumuskan strategi pengembangan RTH Publik dalam mengurangi emisi karbon dioksida (CO_2) di Kabupaten Sleman.

Penelitian ini menggunakan data primer dan data sekunder. Pengumpulan data primer dilakukan dengan inventarisasi pohon penyusun RTH Publik dengan metode *non destructive sampling,* inventarisasi dilakukan secara sampling dengan menggunakan metode *proportional stratified random sampling,* dan wawancara kepada informan menggunakan metode *purposive sampling*. Pengumpulan data sekunder diperoleh dari instansi yang menyediakan informasi dan data pendukung. Metode analisis data menggunakan analisis deskriptif kuantitatif, meliputi perhitungan biomassa, simpanan karbon, dan serapan karbon dioksida (CO_2) serta analisis SWOT (*Strengths, Weaknesses, Opportunities,* dan *Threats*) untuk merumuskan strategi pengembangan RTH Publik dalam mengurangi emisi karbon dioksida.

Hasil penelitian menunjukkan bahwa keberadaan RTH Publik mampu menyimpan karbon sebesar 90,08 ton/ha yang termasuk dalam kategori sedang. Keberadaan RTH Publik eksisting mampu menyerap emisi karbon dioksida 4,88% atau 59.886,90 ton CO_2 dari total emisi karbon dioksida 1.227.794,88 ton CO_2-eq dan baru terpenuhi sebesar 0,5% dari ketiga jenis RTH Publik terhadap proporsi 20% yang diwajibkan. Strategi pengembangan RTH Publik dalam mengurangi emisi karbon dioksida (CO_2) yang diprioritaskan salah satunya pada penegakan regulasi terhadap Perda terkait RTH Publik dan realisasi Perda pembangunan yang memperhatikan Koefisien Dasar Bangunan.

Kata Kunci: RTH Publik, Biomassa, Simpanan Karbon, Serapan Gas CO_2, Strategi Pengembangan

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Estimation of Carbon Dioxide (CO_2) Gas Absorption and Public Green Open Spaces Development Strategy in Sleman Regency DIY

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ABSTRACT

Sleman Regency has the highest population in Yogyakarta Province and is a buffer for Yogyakarta City. This situation has an impact on increasing carbon dioxide (CO_2) emissions. Public Green Open Space is one of them realizing sustainable development to maintain environmental quality. The existence of green open space can be a nature-based solution in mitigating climate change, which is able to absorb and store carbon. The purposes of this study were to assess the potential of biomass, carbon storage, and carbon dioxide (CO_2) absorption; determine the contribution of land cover classes in absorbing carbon dioxide (CO_2); and formulate a strategy for developing public green open spaces in reducing carbon dioxide (CO_2) emissions in Sleman Regency.

This research used primary and secondary data. Primary data collection was carried out by inventorying characteristics using non destructive sampling method, sampling inventory using proportional stratified random sampling method, and interviewing informants using purposive sampling method. Secondary data collection is obtained from agencies that provide information or data as supporting. The data analysis method uses quantitative descriptive analysis, including the calculation of biomass, carbon storage, and carbon dioxide absorption; and SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) to formulate strategies for developing public green open spaces in reducing carbon dioxide emissions.

The results showed that the existence of public green open spaces can store carbon at 90.08 tons/ha which is included in the medium category. The existence of existing public green spaces can absorb carbon dioxide emissions of 4.88% or 59,886.90 tons of CO_2 from the total carbon dioxide emissions of 1,227,794.88 tons of CO_2-eq and has only been fulfilled by 0.5% of the three types of public green spaces against the required 20% proportion. One of the priority strategies for developing public green open spaces in reducing carbon dioxide emissions is enforcing regulations on regional regulations related to public green open spaces and realizing development regulations that pay attention to KDB.

Keywords: Public Green Open Space, Biomass, Carbon Storage, CO_2 Gas Absorption, Development Strategy

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