

Model hubungan emisi dan kualitas kawasan hijau perkotaan (Kajian hubungan sebaran pencemar primer dan kualitas kawasan hijau di DKI Jakarta) = Model of relationship between emission and quality of green area (Study of relationship between primary air pollutant distributions and quality of urban green area in Jakarta)

Syafrin Liputo, author

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Abstrak

Perkembangan perkotaan secara spasial (ruang) dan peningkatan aktivitas ekonomi kota, telah meningkatkan beban pencemaran udara yang dikeluarkan ke atmosfer. Kendaraan bermotor yang menjadi alat transportasi, memberikan kontribusi sebagai sumber polusi udara di perkotaan sebesar 70% dimana penyebaran emisi kendaraan bermotor mempunyai pola penyebaran spasial yang meluas. Disisi lain, penggunaan lahan perkotaan membawa konsekuensi negatif terhadap aspek lingkungan, dimana lahan yang tadinya merupakan ruang terbuka hijau, dengan bertambahnya kebutuhan penduduk akan ruang menyebabkan terjadinya konversi lahan hijau menjadi kawasan terbangun. Jakarta, dengan luas lahan terbuka sebesar 33%, termasuk lahan belum terbangun, seharusnya dapat memperbaiki mutu udara akibat kendaraan bermotor. Namun, kenyataannya lahan terbuka tersebut tidak sepenuhnya membantu memperbaiki kualitas udara Jakarta. Penelitian ini bertujuan membangun model hubungan emisi dengan curah hujan, volume lalu lintas dan kualitas kawasan hijau perkotaan.

Berdasarkan metoda Korelasi Kolmogorov-Smirnov dan Analysis of Variance, ditemukan pengaruh curah hujan, volume lalu lintas, luas RTH, sebaran RTH, kerapatan dan jenis tanaman terhadap konsentrasi zat pencemar primer CO, HC, NO₂, SO₂, PM₁₀, TSP di Provinsi DKI Jakarta, selain itu ditemukan juga bahwa kondisi topografi wilayah kajian berpengaruh terhadap konsentrasi dan sebaran pencemar primer.

Berdasarkan hubungan sebaran pencemar primer dan kualitas kawasan hijau tersebut ditemukan 6 model hubungan antara emisi dengan curah hujan, volume lalu lintas dan kualitas RTH berdasarkan karakteristik wilayah penelitian.

.....The development of urban spatial and an increase in economic activity of the city, has increased the burden of air pollution released into the atmosphere. Motor vehicles as a means of transport, contribute as a source of urban air pollution by 70% where the spread of motor vehicle emissions have a widespread pattern of spatial distribution. On the other hand, urban land use have serious negative consequences on environmental aspects, where the land was once an open green space, with increasing space needs of the population will lead to the conversion of green land into developed space. Jakarta, with an area of open land by 33%, including undeveloped land, supposed to improve air quality as a result of a motor vehicle. However, in reality the open space is not fully helped improved the air quality in Jakarta. This study aims to build a model of the relationship of emissions and quality of urban green areas.

Based on methods of the Kolmogorov-Smirnov correlation and data analysis of variance, it was found the effect of rainfall intensity, traffic volume, area and distribution of green space, density and type of plants to the concentration of primary pollutants CO, HC, NO₂, SO₂, PM₁₀ and TSP in Jakarta Capital City.

Furthermore, it was also found that the topographical of study area was also effect to concentration and distribution of primary pollutants. Based on the relationship between primary pollutants distribution and

quality of the green areas, it was found 6 models of the relationship between emissions and the intensity of rainfall, traffic volume and quality of urban green areas based on the characteristics of the study area.