



## **KAJIAN KAPASITAS INFILTRASI DAN SIFAT FISIK TANAH PADA RUANG TERBUKA HIJAU (RTH) DI KOTA YOGYAKARTA**

Rifky Faisal Achmad

[Rifky.faisal.a@mail.ugm.ac.id](mailto:Rifky.faisal.a@mail.ugm.ac.id)

### **INTISARI**

Ruang Terbuka Hijau (RTH) merupakan komponen penting bagi kawasan perkotaan. RTH memiliki berbagai fungsi diantaranya fungsi sosial budaya, estetika, fisik kota, ekologis, dan nilai ekonomis. Selain itu RTH juga dapat bermanfaat untuk mengurangi genangan dengan proses infiltrasi. Walaupun memiliki fungsi yang penting RTH seringkali menjadi korban akibat alih fungsi lahan di kawasan perkotaan. Ketersediaan RTH di Kota Yogyakarta terus menurun dari sekitar 33% di tahun 2000, 32% di tahun 2013%. Infiltrasi merupakan proses meresapnya air kedalam tanah. Infiltrasi dipengaruhi oleh beberapa faktor diantaranya sifat fisik tanah, curah hujan, vegetasi, kadar air awal, dan pemupukan. Penentuan RTH dilakukan dengan deleniassi menggunakan citra secara langsung dan melakukan validasi lapangan. RTH yang dikaji meliputi RTH pekarangan, RTH bantaran sungai, dan RTH kuburan. Dari keseluruhan RTH dilakukan kuota sampling untuk mengetahui pengukuran dan pengambilan sampel di masing-masing RTH. Kapasitas infiltrasi dihitung menggunakan metode Horton. Variabel lain yang diukur dan dicatat diantaranya porositas, tekstur tanah, permeabilitas, dan vegetasi. Luas RTH pekarangan, bantaran sungai, dan kuburan seluas 525,78 hektare atau seluas 16,18% dari luas Kota Yogyakarta. Luasan tersebut merupakan RTH yang dapat meresapkan air dengan hasil validasi sebesar 88,5%. Selain itu, persebaran RTH (pekarangan, bantaran sungai dan kuburan) yang ada di Kota Yogyakarta lebih banyak berada di bagian pinggiran wilayahnya. Nilai kapasitas infiltrasi dari terbesar berturut-turut adalah RTH kuburan, RTH pekarangan, dan RTH bantaran sungai. Variabel yang berpengaruh terhadap nilai kapasitas infiltrasi adalah permeabilitas, tektur tanah, dan vegetasi, sedangkan porositas tanah tidak berpengaruh.

**Kata Kunci:** Infiltrasi, Kota Yogyakarta, Ruang Terbuka Hijau.

## **STUDY OF INFILTRATION CAPACITY AND PHYSICAL PROPERTIES OF SOIL IN GREEN OPEN SPACE (GOS) IN YOGYAKARTA CITY**

Rifky Faisal Achmad

[Rifky.faisal.a@mail.ugm.ac.id](mailto:Rifky.faisal.a@mail.ugm.ac.id)

### **ABSTRAK**

Green Open Space (RTH) is an important component for urban areas. Green open space has various functions including socio-cultural, aesthetic, urban physical, ecological, and economic values. In addition, green open space can also be useful for reducing puddles with infiltration processes. Even though it has an important function, green open space often becomes a victim due to land conversion in urban areas. The availability of green open space in the city of Yogyakarta continues to decline from around 33% in 2000 to 32% in 2013%. Infiltration is the process of absorbing water into the soil. Infiltration is influenced by several factors including soil physical properties, rainfall, vegetation, initial water content, and fertilization. The determination of green open space is carried out by directly using image delineation and field validation. The green open space studied included green open space for yards, open green open space for riverbanks, and open green open space for cemeteries. A quota sampling was carried out from the entire green open space to determine measurements and sampling in each green open space. Infiltration capacity was calculated using the Horton method. Other variables that are measured and recorded include porosity, soil texture, permeability, and vegetation. The area of green open space for yards, riverbanks and cemeteries is 525.78 hectares or 16.18% of the area of Yogyakarta City. This area is an open green space that can absorb water with a validation result of 88.5%. In addition, the distribution of green open space (yards, riverbanks and cemeteries) in the city of Yogyakarta is mostly located on the outskirts of the area. The value of infiltration capacity from the largest respectively is the green open space for cemeteries, green open space for yards, and green open space for riverbanks. Variables that affect the value of infiltration capacity are permeability, soil texture, and vegetation, while soil porosity has no effect.

**Keyword :** Infiltration, Yogyakarta City, Green Open Space.