

## **Komposisi dan Keragaman Jenis Tumbuhan Berkayu Tiga Dekade Pasca Penanaman Gamal (*Gliricidia sepium*) di Petak 5 Wanagama I Gunung Kidul**

Oleh:  
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### **Intisari**

Hutan Wanagama I merupakan hutan yang awalnya merupakan lahan kritis bekas kegiatan eksploitasi berlebihan yang kemudian dilakukan kegiatan rehabilitasi dengan pembelukaran lahan menggunakan gamal (*Gliricidia sepium*). Selanjutnya dilanjutkan penanaman lahan dengan jenis tanaman hutan lain yang ditanam di beberapa plot. Jenis-jenis tersebut menjadi sumber benih untuk permudaan secara alami. Hutan Wanagama I merupakan representasi dari lahan kritis bekas hutan yang berhasil dalam rehabilitasi lahan sehingga menjadi tolak ukur untuk melakukan rehabilitasi lahan kritis di daerah lain.

Penelitian ini dilakukan di Petak 5, Hutan Wanagama I, Gunung Kidul, Yogyakarta. Metode pengambilan sampel yang digunakan adalah transek-kuadrat (*nested sampling*) yang dibuat sepanjang kontur. Petak pengamatan dikategorikan menjadi 3 berdasarkan ketinggian. Tumbuhan berkayu dalam plot pengamatan diidentifikasi dan dihitung. Hasil inventarisasi digunakan untuk mengetahui komposisi jenis, dominasi, keragaman, dan pola persebaran jenis tumbuhan. Diameter batang digunakan untuk menaksir pertumbuhan tegakan. Kondisi lingkungan (suhu, kelembaban udara, dan intensitas cahaya) diambil selama 2 hari dengan 3 kali ulangan per harinya.

Komposisi tegakan tumbuhan berkayu di Petak 5 Wanagama I bervariasi. Tumbuhan yang dominan yaitu *G. sepium*, *Acacia mangium*, *A. villosa*, *A. auriculiformis*, *Schleichera oleosa*, dan *Eugenia cumini*. Keragaman jenis tumbuhan berkayu adalah sedang dengan nilai Indeks Keragaman setiap petak ukur antara 1 hingga 3. Komposisi jenis tumbuhan berbeda pada petak pengamatan pada ketinggian yang berbeda. Sedangkan mayoritas pola persebaran setiap jenis pada setiap petak ukur yaitu teratur (uniform). Asosiasi tumbuhan yang terjadi yaitu adanya kompetisi antar jenis dalam memperoleh ruang tumbuh dan kondisi lingkungan.

Kata kunci: Wanagama I, komposisi, keragaman, tumbuhan berkayu, ketinggian.

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## **Woody Plant Composition and Diversity Three Decades After Plantation of Gamal (*Gliricidiasepium*) at Compartment 5 of Wanagama I Gunung Kidul**

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### **Abstact**

Wanagama I forest was originally a critical land due to over exploitation which have been rehabilitated using *Gliricidia sepium*. Then it was continued by plantation of other plant species in several certain plots. Those plants became seed source for natural regeneration in the area. Wanagama I forest is a representation of successful critical land rehabilitation, thus it become a benchmark for critical land rehabilitation at other places.

This research was conducted in compartment 5, Wanagama I forest, Gunung Kidul, Yogyakarta. The samples were observed in squared nested plots made a long transect lines perpendicular to the contour line. The plots were then categorized into 3 based on the altitude. All woody plants in the plot were indentified and measured. Inventory results were used to composition, determine dominance, diversity and distribution pattern of plants. Trunk diameter was used to estimate stand growth. Environmental conditions (temperature, air humidity, and light intensity) were measured twice (in two days) with three replications per day.

The stands composition of woody plants in compartment 5 Wanagama I varied. The dominant tree species were *G. sepium*, *Acacia mangium*, *A. villosa*, *A. auriculiformisas*, *Schleichera oleosa*, and *Eugenia cuminias*. Diversity index of woody plant was moderate with diversity value of species between 1 to 3. Plots at different altitude, however, was composed by different plant species. Meanwhile the majority of the distribution patterns of each species in each plot is uniform. Plant association occured was competition in gaining growing space and environmental conditions.

Key words: Wanagama I, composition, diversity, woody plants, altitude.

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