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RAGAM AGROFORESTRI DAN KEARIFAN SILVIKULTUR TRADISIONAL PADA SISTEM PEKARANGAN DI TURGO, LERENG SELATAN GUNUNG MERAPI

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INTISARI

Sistem agroforestri pekarangan merupakan bentuk pengelolaan lahan tradisional tertua di Pulau Jawa yang mengintegrasikan komponen kehutanan, pertanian, dan peternakan. Dusun Turgo, yang berada di zona penyangga Taman Nasional Gunung Merapi (800–900 mdpl), memiliki keunikan ekologis akibat dinamika erupsi vulkanik. Penelitian ini bertujuan menganalisis struktur, komposisi, diversitas, dan multiguna vegetasi agroforestri sistem pekarangan, serta mengidentifikasi kearifan silvikultur tradisional yang berkembang di Dusun Turgo.

Metode yang digunakan pada penelitian ini yaitu survei lapangan berbasis observasi terstruktur melalui pengukuran biofisik pada sistem agroforestri pekarangan. Penentuan unit lahan menggunakan *purposive sampling* dengan pembagian tiga kelas luasan: sempit (<150 m²), sedang (150–300 m²), dan luas (>300 m²). Pengambilan data dilakukan melalui sensus vegetasi pada 12 lahan dan wawancara mendalam terhadap 30 responden. Analisis meliputi Indeks Nilai Penting (INP), Indeks Diversitas Shannon-Wiener (H'), visualisasi struktur vegetasi dengan SExI-FS, serta klasifikasi multiguna berdasarkan jangka panen.

Vegetasi tersusun dari 80 jenis tanaman dengan struktur vertikal mencapai Stratum C–D. Nangka (*Artocarpus heterophyllus*) mendominasi tingkat tiang dan pohon di semua kelas luasan (INP 63,93–124,54), sedangkan kopi (*Coffea canephora*) dan alpukat (*Persea americana*) mendominasi semai dan pancang. Indeks diversitas berada pada kategori sedang (H' = 1,213–2,509). Sistem multiguna terdiri atas multiguna jangka pendek, jangka menengah, dan jangka panjang yang menjamin ketersediaan produk sepanjang tahun. Kearifan silvikultur tradisional yang mencakup pengaturan jarak tanam empiris, penggunaan pupuk organik eksklusif, dan teknik stimulasi buah lokal. Penelitian menyimpulkan bahwa agroforestri sistem multiguna yang adaptif, mandiri, dan memiliki ketahanan ekologis tinggi melalui integrasi silvikultur tradisional dalam pengelolaan sumber daya.

Kata Kunci: agroforestri, pekarangan, *buffer zone* merapi, multiguna, kearifan silvikultur tradisional.

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AGROFORESTRY DIVERSITY AND TRADITIONAL SILVICULTURE WISDOM IN THE HOMEGARDEN SYSTEM AT TURGO, SOUTHERN SLOPES OF MOUNT MERAPI

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ABSTRACT

The homegarden agroforestry system is the oldest form of traditional land management on the island of Java, integrating forestry, agriculture, and livestock components. Turgo Hamlet, located in the buffer zone of Mount Merapi National Park (800–900 meters above sea level), has ecological uniqueness due to the dynamics of volcanic eruptions. This study aims to analyze the structure, composition, diversity, and multiple uses of vegetation in the homegarden agroforestry system, as well as to identify traditional silvicultural wisdom that have developed in Turgo Hamlet.

The method used in this study is a field survey based on structured observation through biophysical measurements on homegarden agroforestry systems Land units were determined using purposive sampling with three size classes: small (<150 m²), medium (150–300 m²), and large (>300 m²). Data collection was carried out through vegetation census on 12 plots and in-depth interviews with 30 respondents. Analysis included Importance Value Index (INP), Shannon-Wiener Diversity Index (H'), visualization of vegetation structure using SExI-FS, and multifunctional classification based on the harvest period.

The vegetation consists of 80 plant species with a vertical structure reaching Stratum C–D. Jackfruit (*Artocarpus heterophyllus*) dominates the pole and tree levels in all area classes (INP 63.93–124.54), while coffee (*Coffea canephora*) and avocado (*Persea americana*) dominate seedlings and saplings. The diversity index falls into the medium category (H' = 1.213–2.509). The multipurpose system consists of short-term, medium-term, and long-term uses that ensure product availability throughout the year. Traditional silvicultural wisdom include empirical planting distance arrangements, exclusive use of organic fertilizers, and local fruit stimulation techniques. The study concludes that home agroforestry in Turgo is a multipurpose system that is adaptive, self-sufficient, and has high ecological resilience through the integration of traditional silviculture in resource management.

Keywords: agroforestry, homegarden, Merapi buffer zone, multifunctional, traditional silviculture wisdom.

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