Model Agroforestri Untuk Penyangga Ekosistem di Lereng Selatan Taman Nasional Gunung Merapi

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INTISARI

Perkembangan praktik agroforestri di kawasan zona penyangga (*buffer zone*), menjadi potensi penyangga ekosistem dan nilai jasa lingkungan. Karakteristik model agroforestri lanskap yang berkembang beserta silvikultur pengelolaannya sangat penting untuk menjamin kelestarian fungsi ekologis dan ekonomis kawasan penyangga hutan konservasi. Salah satu fungsi *Buffer zone* yang berbatasan langsung dengan Taman Nasional ialah menyangga dampak negatif dari luar kawasan taman nasional. Isu karakteristik model agroforestri skala lanskap membentuk efek area dan kepadatan ekologi serta perilaku perubahan tutupan lahan, struktur vegetasi dan biodiversitas lanskap. Penelitian bertujuan mengetahui karakteristik pola sebaran vegetasi, struktur vegetasi, biodiversitas dan perimeter lanskap lereng selatan TN Gunung Merapi.

Penelitian menggunakan metode survei terestrial dan non terestrial menggunakan instrumen data citra satelit landsat ETM bulan Juni 2015. Survei terestrial dilakukan dengan mengambil sampel (*ground check*) secara *stratified-sampling*. Sedangkan non-terestrial dengan digitasi *on-screen* dan klasifikasi citra satelit untuk mengetahui kondisi spasial model agroforestri pada matriks lanskap berupa penyangga ekosistem yang berbatasan langsung dengan TNGM. Model agroforestri dianalisis secara deskriptif kualitatif dengan pendekatan NDVI dan *Patch Analyst* diikuti skoring deskripsi model optimum berbasis ekologis dan ekonomis.

Hasil penelitian menunjukkan bahwa tutupan lahan bervegetasi sebesar 59,25% dari keseluruhan patch bentang lanskap. Model agroforestri yang berkembang patch kawasan rawan bencana III lereng selatan TNGM didominasi oleh pola tegalan dan *homegarden*. Identifikasi model agroforestri lanskap berada pada kepadatan *ecological range* yang disebut *Ecological Density* sebesar 336,38 m/Ha. Nilai SDI (Shannon Diversity Index) secara model spasial sebesar 0,98. Sedangkan kondisi aktual berdasar *groundcek* mempunyai nilai rerata SDI sebesar 1,7. Skoring model agroforestri berdasar nilai fungsi ekologis dan ekonomis didapatkan nilai paling optimum ialah model agroforestri pola pekarangan dan tegalan sebagai praktik pengelolaan lahan.

Kata Kunci : Agroforestri, Silvikultur dan Lanskap

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Agroforestry Model For Buffer Ecosystem in the South Slope of Mount Merapi National Park

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ABSTRACT

The development practices of agroforestry in the buffer zone area, become potential as ecosystems buffer and services. Characteristics agroforestry model and their evolving landscape of silvicultural management is important to ensure the preservation of the ecological and economical of forest buffer zones conservation. One function of the buffer zone immediately adjacent to the National Park is supporting the negative impact from the outside of national park. The issue of landscape agroforestry model characteristics form the area and ecological density effects as well as behavioral changes in land cover, vegetation structure and biodiversity of the landscape. The study aims to determine the characteristics of the distribution pattern of vegetation, vegetation structure, biodiversity and landscape perimeter TN southern slopes of Mount Merapi.

The study using survey terrestrial and non-terrestrial by instruments of Landsat ETM satelite image data in June 2015. The terrestrial survey was conducted by taking samples of stratified-sampling (ground check). While non-terrestrial with digitizing on-screen and satellite image classification to determine the condition of spatial models of agroforestry at the landscape matrix in the form of buffer ecosystems directly adjacent to TNGM. Agroforestry models were analyzed descriptively qualitative approach followed NDVI and Patch Analyst then optimum scoring model description based on ecological and economical.

The results showed that land cover by vegetation is 59.25% of the overall patch of landscape. Model agroforestry being developed in the third patch regions of southern slopes TNGM dominated by “tegalan” and homegarden pattern. Identification of agroforestry landscape models currently on ecological density range called Ecological Density accupying to 336.38 m/Ha. SDI (Shannon Diversity Index) by spatial model is of 0.98. While the actual SDI conditions based on groundcheck has a mean value of 1.7. Scoring agroforestry model based of ecological functions and economic values obtained optimum value the model agroforestry are field and homegarden as agroforestry practices.

Keywords: Agroforestry, Silviculture, and Landscape

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