

Analisis Perubahan Penutupan Lahan Hutan di KHDTK UGM Getas-Ngandong

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Intisari

Perubahan penutupan lahan hutan terjadi karena adanya kerusakan hutan dan diatasi dengan rehabilitasi. Rehabilitasi hutan dilakukan untuk menjaga prinsip kelestarian hutan. Keberhasilan rehabilitasi hutan dinilai berdasarkan aspek biofisik lingkungan berupa keberhasilan reboisasi dan penurunan gangguan keamanan hutan. KHDTK UGM merupakan kawasan hutan yang ditetapkan untuk tujuan pendidikan dan pelatihan. Tujuan penelitian ini adalah untuk; (1) Memodelkan secara spasial perubahan luasan tutupan lahan hutan di KHDTK UGM Getas-Ngandong; serta (2) Mengetahui evaluasi keberhasilan rehabilitasi hutan di KHDTK UGM Getas-Ngandong.

Penelitian dilakukan di KHDTK UGM Getas-Ngandong yang secara administratif terletak di Kabupaten Blora, Provinsi Jawa tengah dan Kabupaten Ngawi, Provinsi Jawa Timur. Pola perubahan penutupan lahan hutan dianalisis dengan *Trajectories Analysis*. Data yang digunakan berupa citra Landsat multitemporal dan data referensi berupa foto udara 2016, evapot 2016, dan pengamatan lapangan 2021. Penentuan jumlah sampel dilakukan berdasarkan distribusi multinomial dan penyebarannya dilakukan dengan metode *stratified random sampling*. Pelaksanaan rehabilitasi dikatakan berhasil jika pola perubahan tutupan lahan pada awal periode 2005 yaitu hutan/non hutan berubah menjadi hutan pada akhir periode 2020.

Hasil penelitian menunjukkan bahwa terdapat 7 pola perubahan tutupan lahan menjadi hutan, 1 pola tutupan lahan yang tetap hutan, 7 pola perubahan tutupan lahan menjadi non hutan, dan 1 pola tutupan lahan yang tetap non hutan. Pola perubahan tutupan lahan menjadi hutan terbesar yaitu pola NH-H-H-H dengan luas 578,53 Ha dan pola tutupan lahan yang tetap hutan yaitu pola H-H-H-H dengan luas 4.116,56 Ha. Evaluasi keberhasilan rehabilitasi menunjukkan bahwa kawasan yang berhasil seluas 5.236,61 Ha dan kawasan yang belum berhasil seluas 5.623,01 Ha.

Kata kunci : Rehabilitasi, Penutupan Lahan, *Trajectories Analysis*, Evaluasi Keberhasilan, Biofisik Lingkungan

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Forest Land Cover Changes in KHDTK UGM Getas-Ngandong

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Abstract

Changes in forest land cover occur due to forest destruction and are overcome by rehabilitation. Forest rehabilitation is carried out to maintain the sustainability of forest resources. The success of forest rehabilitation in term of environmental biophysical aspects can be assessed based on successful reforestation and reduction of forest security disturbances. KHDTK UGM is a forest area designated for education and training purposes. The purpose of this research is to; (1) Spatially modeling changes in forest land cover in KHDTK UGM Getas-Ngandong; and (2) Knowing the evaluation of the success of forest rehabilitation at KHDTK UGM Getas-Ngandong.

The research was conducted in KHDTK UGM Getas-Ngandong, which is located in two districts and two provinces, namely Blora Regency, Central Java Province and Ngawi Regency, East Java Province. Dynamic pattern of forest land cover was analyzed using the Trajectories Analysis. Data used were multitemporal Landsat imageries and a reference data used were aerial photographs in 2016, 2016 evapot, and 2021 field observations. The samples for groundcheck were determined using multinomial distribution and distributed in the field using stratified random sampling method. The implementation of rehabilitation is successful if the pattern of land cover change in the early 2005 period is forest / non-forest turning into forest at the end of the 2020 period.

The results showed that there were 7 patterns of land cover change to forest, 1 pattern of land cover that remained forest, 7 patterns of land cover change to non-forest, and 1 pattern of land cover that remained non-forest. The pattern of land cover change into the largest forest is the NH-H-H-H pattern with an area of 578.53 Ha and the land cover pattern that remains forest is the H-H-H-H pattern with an area of 4,116.56 Ha. The evaluation of the success of the rehabilitation showed that the successful area were 5,266.86 Ha while the unsuccessful area were 5,609.33 Ha.

Keywords : Rehabilitation, Land Cover, Trajectories Analysis, Evaluation of Successful, Biophysical Aspects

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