# ABSTRAK

## PENGARUH PERUBAHAN TUTUPAN LAHAN TERHADAP INSIDEN PENYAKIT MALARIA DI PROVINSI LAMPUNG

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Perubahan tutupan lahan akibat aktivitas manusia berpotensi memengaruhi kondisi lingkungan dan dinamika penyebaran penyakit berbasis vektor, termasuk malaria. Provinsi Lampung merupakan salah satu wilayah yang mengalami perubahan penggunaan lahan cukup intensif, sehingga perlu dikaji hubungannya dengan insiden penyakit malaria. Penelitian ini bertujuan untuk menganalisis pengaruh perubahan tutupan lahan terhadap insiden penyakit malaria di Provinsi Lampung. Penelitian dilaksanakan menggunakan data citra Landsat tahun 2015, 2018, dan 2021 yang diinterpretasi untuk memperoleh informasi tutupan lahan, serta data Annual Parasite Incidence (API) malaria tahun 2016, 2019, dan 2022 yang diperoleh dari Dinas Kesehatan Provinsi Lampung. Kelas tutupan lahan yang dianalisis meliputi hutan negara, hutan rakyat, lahan terbuka, perkebunan, pertanian campuran, sawah, dan permukiman. Analisis dilakukan melalui interpretasi citra, pengecekan lapangan (ground check), serta analisis regresi linier berganda. Hasil penelitian menunjukkan bahwa telah terjadi perubahan tutupan lahan yang cukup menonjol selama periode pengamatan, terutama pada lahan pertanian, perkebunan, dan permukiman, sedangkan luas hutan negara relatif stabil. Hasil regresi menunjukkan bahwa perubahan tutupan lahan secara keseluruhan memiliki hubungan yang mendekati signifikan terhadap insiden malaria ($p = 0{,}054$). Secara parsial, variabel sawah berpengaruh signifikan negatif ($p = 0{,}019$), sedangkan variabel permukiman berpengaruh signifikan positif ($p = 0{,}004$) terhadap kejadian malaria. Nilai Adjusted $R^2$ sebesar 18% menunjukkan bahwa variasi insiden malaria hanya sebagian kecil dijelaskan oleh faktor tutupan lahan, sementara faktor lain seperti iklim, perilaku masyarakat, dan pelayanan kesehatan turut berperan. Penelitian ini menyimpulkan bahwa perubahan penggunaan lahan, khususnya pada area persawahan dan permukiman, berpotensi memengaruhi risiko malaria di Provinsi Lampung.

**Kata kunci:** Tutupan Lahan, Malaria, Regresi Linier Berganda.

## *ABSTRACT*

### *THE EFFECT OF LAND COVER CHANGES ON THE INCIDENT OF MALARIA IN LAMPUNG PROVINCE*

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*Land cover change resulting from human activities has the potential to affect environmental conditions and the dynamics of vector-borne disease transmission, including malaria. Lampung Province is one of the regions experiencing intensive land-use changes, making it important to examine their relationship with malaria incidence. This study aimed to analyze the effect of land cover change on malaria incidence in Lampung Province. The research utilized Landsat imagery data from 2015, 2018, and 2021 to obtain land cover information, as well as Annual Parasite Incidence (API) malaria data from 2016, 2019, and 2022 obtained from the Lampung Provincial Health Office. The land cover classes analyzed included state forests, community forests, barren land, plantations, mixed agriculture, rice fields, and settlements. Data analysis was conducted through image interpretation, ground verification, and multiple linear regression analysis.The results showed significant land cover changes during the observation period, particularly in agricultural land, plantations, and settlements, while the area of state forests remained relatively stable. Regression analysis indicated that land cover change as a whole had a nearly significant relationship with malaria incidence ($p = 0.054$). Partially, rice fields had a significant negative effect on malaria incidence ($p = 0.019$), whereas settlements had a significant positive effect ($p = 0.004$). The Adjusted $R^2$ value of 18% indicates that only a small proportion of the variation in malaria incidence can be explained by land cover factors, while other factors such as climate conditions, community behavior, and healthcare services also play important roles. This study concludes that land-use changes, particularly in rice field and settlement areas, have the potential to influence malaria risk in Lampung Province.*


***Keywords****: Land Cover, Malaria, Multiple Linear Regression.*