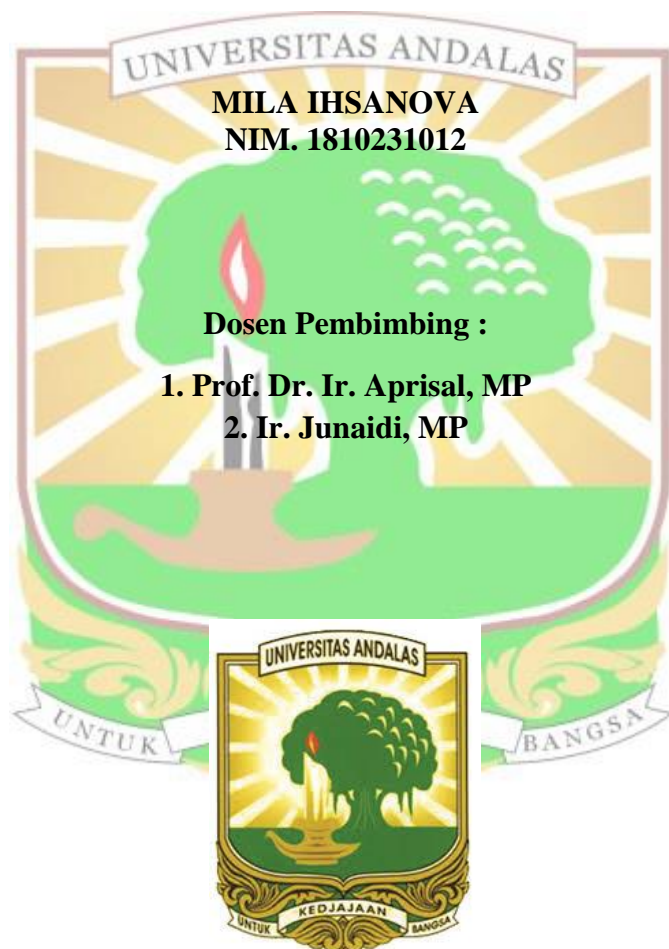


**LAJU INFILTRASI BEBERAPA PENGGUNAAN LAHAN PADA  
DUA KELAS LERENG DAS BATANG ULAKAN BAGIAN  
TENGAH KABUPATEN PADANG PARIAMAN**

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**FAKULTAS PERTANIAN  
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# LAJU INFILTRASI BEBERAPA PENGGUNAAN LAHAN PADA DUA KELAS LERENG DAS BATANG ULAKAN BAGIAN TENGAH KABUPATEN PADANG PARIAMAN

## Abstrak

Kabupaten Padang Pariaman merupakan salah satu wilayah yang ada di Sumatera Barat yang berpotensi mengalami bencana alam. Salah satu sungai yang rawan bencana alam di daerah tersebut adalah DAS Batang Ulakan khususnya bagian tengah. Eksploitasi pada DAS akan menimbulkan banyak masalah diantaranya banjir dimusim hujan dan kekeringan dimusim kemarau, penurunan debit air sungai, erosi dan sedimentasi, dan longsor. Penelitian ini bertujuan untuk mengetahui laju infiltrasi beberapa penggunaan lahan di DAS Batang Ulakan bagian tengah Kabupaten Padang Pariaman. Penelitian ini dilakukan dengan metoda survei dimana pengambilan sampel tanah dilakukan secara *purposive sampling* pada beberapa penggunaan lahan yaitu lahan sawah, kebun campuran, dan semak belukar, dengan kelerengan 8% - 15% dan 15% - 25%, pada kedalaman 0–20 cm dan 20–40 cm. Parameter yang dianalisis yaitu infiltrasi, tekstur, BV, TRP, bahan organik, dan permeabilitas. Hasil penelitian menunjukkan nilai laju infiltrasi tertinggi terdapat pada penggunaan lahan semak belukar di kelerengan lahan 8-15% (29,21 cm/jam = sangat cepat), kemudian diikuti oleh kelerengan 15-25% (25,10 cm/jam = sangat cepatt), sawah kelerengan 8-15% (15,27 cm/jam = cepat), kebun campuran kelerengan 8-15% (13,89 cm/jam = cepat), kebun campuran kelerengan 15-25% (13,33 cm/jam = cepat), sedangkan nilai laju infiltrasi yang terendah terdapat pada penggunaan lahan sawah di kelerengan lahan 15-25% (12,60 cm/jam = cepat). Keragaman laju infiltrasi pada beberapa penggunaan lahan dipengaruhi sifat fisika tanahnya (tekstur, berat volume tanah, total ruang pori, bahan organik, dan permeabilitas tanah). Dari hasil tersebut dapat disimpulkan bahwa penggunaan lahan di bagian tengah DAS Batang Ulakan yang memiliki nilai laju infiltrasi cepat - sangat cepat.

Kata kunci : DAS Batang Ulakan, Infiltrasi, Penggunaan lahan, Sifat fisika tanah.

# INFILTRATION RATE AT SOME TYPES OF LAND USE IN TWO SLOPE LEVELS IN THE MIDDLE PART OF BATANG ULAKAN WATERSHED PADANG PARIAMAN REGENCY

## Abstract

Padang Pariaman Regency is one of the areas in West Sumatra that has potential to get natural disasters. One of the area that was prone to natural disasters in the area was the Batang Ulakan watershed, especially the middle part. Exploitation of the watershed will cause many problems including flood in the rainy season and drought in the dry season, less river water discharge, erosion, sedimentation, and landslides. This study was aimed to determine the infiltration rate of several types of land use in the middle part of Batang Ulakan watershed Padang Pariaman Regency. This research was conducted using a survey method whereby the soil samples were taken by purposive sampling on several types of land use (rice field, mixed gardens, and shrubs) having 8% - 15% and 15% - 25% slopes at 0–20 cm and 20–40 cm soil depth. Parameters analyzed were soil infiltration, texture, BD, TSP, organic matter, and permeability. The results showed that the highest infiltration rate (29.21 cm/h = very fast) was found in the shrub land having 8-15% slope, followed by slope 15-25% (25.10 cm/h = very fast), rice field having slope 8-15% (15.27 cm/h = fast), mixed garden having slope 8-15% (13.89 cm/h = fast), mixed garden having 15-25% slope (13.33 cm/h = fast). The lowest infiltration rate (12.60 cm/h = fast) was found under rice field having 15-25% slope. The variability of infiltration rates in several types of land use was influenced by the physical properties of the soil (texture, BD, total soil pore, organic matter, and permeability). From these results it could be concluded that land use in the middle part of the Batang Ulakan watershed had fast - very fast infiltration rate.

*Keywords : Batang Ulakan Watershed, Infiltration, Land use, Soil physical properties*