

**KAJIAN RESTORASI HUTAN DAN PENGENDALIAN DEBIT AIR SUNGAI
DI SUB-DAS PAHU KABUPATEN KUTAI BARAT**

Disertasi

**Untuk memenuhi sebagian persyaratan
mencapai gelar Doktor pada
Program Studi Doktor Ilmu Kehutanan**



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Fakultas Kehutanan
Universitas Mulawarman
Samarinda
2019**

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Lulus Ujian Disertasi: 26 MAR 2019
Diserahkan tanggal : 20 MAY 2019

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ABSTRACT

Suparjo, 2018. Study of Forest Restoration and Control of Discharge in Pahu Sub-Watershed West Kutai (Supervised By Marjenah, Sigit Hardwinarto and Muhammad Sumaryono).

Pahu River is one of Mahakam River branch located in the upstream region. The frequency of flooding in the Pahu Sub DAS is increasing from year to year and lasts longer. The aims of this study to obtain information of the existing condition of environmental components of the Pahu Basin Sub district, to examine the factors causing the decrease of water resources quality and to formulate the handling direction of the Pahu River Basin as a problem-solving step related to the control of river flow discharge.

Based on the results of spatial analysis on bio-geophysics, physical and chemical characteristics of water river and socioeconomic community obtained the result that 52.63% of the study area consists of organosol soil, 13.18% oxisols soil and 2.89% of cambisol soil. All the three are sensitive to erosion. The morphology of sub-watershed consists of 68.71% of land with flat slopes and ramps that are at risk of flooding. Average rainfall at the study area was 2.568.2 mm / year, in January was the highest peak of rainfall. The type of land cover consisted of 76.69% of secondary natural forest and plantation forest, 6.61% in the form of plantation land with 0.97 vegetation cover index. The Coefficient of Regime 2,341 is in the medium category. The areas with very high erosion hazard levels cover 16.06% of the sub-watershed area and are spread evenly throughout the area.

Based on watershed indicator, it's concluded that the performance of Pahu Sub-Watershed is in the medium category. From the research, it is advisable to be prudent in land clearing activities and restoration measures are needed, especially in forest plantation, plantation areas and areas with high erosion hazard.

Keyword : Forest Restoration, Pahu River, Sub-Watershed, West Kutai