

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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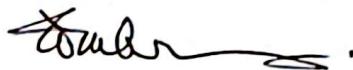
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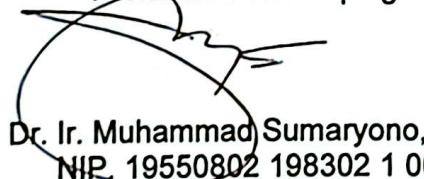

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DAFTAR ISI

	Halaman
RIWAYAT HIDUP	iv
KATA PENGANTAR	vi
DAFTAR ISI	viii
DAFTAR TABEL	x
DAFTAR GAMBAR	xii
ABSTRACT	xiv
I. PENDAHULUAN	1
1.1. Latar Belakang	1
1.2. Lingkup Pembahasan	4
1.3. Rumusan Masalah	5
1.4. Tujuan Penelitian	6
1.5. Hasil Yang Diharapkan	7
II. TINJAUAN PUSTAKA	8
2.1. Ekosistem Daerah Aliran Sungai	8
2.2. Klasifikasi Iklim Schmidt dan Ferguson	9
2.3. Panjang Sungai	11
2.4. Pengukuran Debit Aliran Sungai	12
2.5. Pengelolaan Vegetasi Dan Hasil Air	17
2.6. Tanah	20
2.7. Klasifikasi Citra	23
2.8. Evaluasi Kesehatan DAS	25
2.9. Restorasi Hutan	29
III. METODE PENELITIAN	32
3.1. Lokasi dan Waktu Penelitian	32
3.2. Obyek Penelitian	32
3.3. Bahan dan Peralatan Penelitian	33
3.4. Alur Penelitian	35
3.5. Prosedur Penelitian	36
3.6. Analisis Data	43
IV. HASIL PENELITIAN DAN PEMBAHASAN	45
4.1. Kondisi Geofisik Sub DAS Pahu	45
4.1.1. Letak Geografis dan Administratif	45
4.1.2. Iklim	47
4.1.3. Topografi	53
4.1.4. Jeni Tanah.....	60
4.1.5. Morfometri Sub DAS Pahu	64
4.1.5.1. Pembagian Sub DAS Pahu	66
4.1.5.2. Bentuk Sub DAS	67
4.1.5.3. Pola Drainase	67

4.1.5.4. Kerapatan Sungai	69
4.1.5.5. Kemiringan Sungai	70
4.2. Pengelolaan Kawasan DAS	70
4.2.1. Tutupan Lahan	71
4.2.2. Penggunaan Lahan	74
4.3. Pengendalian Debit Aliran Sungai	80
4.3.1. Debit Aliran Sungai Pahu	81
4.3.2. Rekayasa Keteknikan.....	82
4.4. Evaluasi Kesehatan DAS	84
4.4.1. Penggunaan Lahan	84
4.4.1.1. Penutupan Oleh Vegetasi	84
4.4.1.2. Kesesuaian Penggunaan Lahan	85
4.4.1.3. Erosi	86
4.4.1.4. Pengelolaan Lahan	88
4.4.2. Tata Air	90
4.4.2.1. Debit Air Sungai	92
4.4.2.2. Kanndungan Sedimen	93
4.4.2.3. Kandungan Pencemaran	94
4.4.3. Sosial	94
4.4.3.1. Kepedulian Individu	95
4.4.3.2. Partisipasi Masyarakat	95
4.4.4. Ekonomi	96
4.4.4.1. Ketergantungan Penduduk Terhadap Lahan ...	97
4.4.4.2. Tingkat Pendapatan	98
4.4.4.3. Produktivitas Lahan	100
4.4.4.4. Jasa Lingkungan	102
4.4.5. Kelembagaan	104
4.4.5.1. Keberdayaan Lembaga Lokal/Adat	104
4.4.5.2. Ketergantungan Masyarakat Pada Pemerintah	105
4.4.5.3. Kegiatan Bersama	105
4.5. Persepsi Masyarakat	106
4.5.1. Persepsi Masyarakat	106
4.5.2. Kekritisian Lahan	108
4.6. Kajian Restorasi Hutan	110
4.6.1.Lokasi restorasi	112
46.2. Jenis Tanaman	113
4.7. Ekosistem Sub DAS Pahu	117
4.8. Pandangan Kritis Penelitian	120
V. KESIMPULAN DAN SARAN	122
5.1. Kesimpulan	122
5.2. Saran	123

DAFTAR PUSTAKA

LAMPIRAN

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