

**THE STUDY
ON
CRITICAL LAND
AND
PROTECTION FOREST REHABILITATION
AT TONDANO WATERSHED
IN
THE REPUBLIC OF INDONESIA**

Volume-I

MAIN REPORT

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ABBREVIATIONS

ADB	-	Asian Development Bank
AFDS	-	Agroforestry Development Section
AMDAL	Jenis Usaha atau Kegiatan Yang Wajib Dilengkapi Dengan Analisis Mengenai Dampak Lingkungan	Environmental Impact Assessment
ASL	-	Above Sea Level
B/C	-	Benefit – Cost Ratio
BALITKA	Balai Penelitian Kelapa	Coconut Research Center
BAPEDALDA	Badan Pengendalian Dampak Lingkungan Daerah	Regional Environmental Impact Prevention Agency
BAPPEDA	Badan Perencanaan Pembangunan Daerah	Regional Development Planning Agency
BIMAS	Bimbingan Massal	Mass Guidance Program
BIPHUT	Balai Inventarisasi dan Perpetaan Hutan	Forest Inventory and Mapping Office
BIPP	Balai Informasi dan Penyuluhan Pertanian	Rural Agriculture Information and Extension Center
BKSAUA	Badan Kerja Sama Antar Umat per Agama	Inter-Religion Cooperation Board
BKSDA	Balai Konservasi Sumber Daya Alam	Natural Resources Conservation Office
BMG	Badan Meteorologi dan Geofisika	Meteorological and geophysical Agency
BNI	Bank Negara Indonesia	Indonesian State Bank
BOD	-	Biological oxygen demands
BPD	Bank Pembangunan Daerah	Regional Development Bank
BPMJ	Badan Pekerja Majelis Jemaat	Working Board of Congregation Council
BPN	Badan Pertanahan National	National Land Agency
BPS	Biro Pusat Statistik	Central Bureau of Statistics
BRLKT	Balai Rehabilitasi Lahan dan Konservasi Tanah	Office of Land Rehabilitation and Soil Conservation
Bupati	Kepala Daerah Tingkat II	Head of District
C/N Ratio	-	Carbon/Nitrogen Ratio
CC	-	Canopy-cover sub-factor
CCF	-	Construction – Cost Conversion Factor
CEC	-	Cation Exchange Capacity
CES	-	Community Empowerment Section

CIDA	-	Canadian International Development Agency
COD	-	Chemical oxygen demands
CPM	-	Construction and Physical Measures Section
CPM / WS SD	-	Construction, Physical Measures and Watershed Services Sub Division
CVM	-	Contingent Valuation Method
Cabang Dinas	-	Branch office (Services)
Camat	Kepala Kecamatan	Head of Sub-district
CoMP	-	Constant Market Price
CuMP	-	Current Market Price
DAPP	Program percontohan otonomi daerah (kabupaten)	District Autonomy Pilot Programme
DCIS	-	District Conservation Information Section
DGLRSF	-	Directorate General of Land Rehabilitation and Social Forestry
DINAS	-	Government Office (Services)
DPRD	Dewan Perwakilan Rakyat Daerah	Regional Peoples Representative Assembly
Das	Daerah Aliran Sungai	Watershed
Dinas Kehutanan Tingkat I	-	Provincial Forestry Services Office
Dinas Kehutanan Tingkat II	-	District Forest Services Office
EIA		Environmental Impact Assessment
EIRR	-	Economic Internal Rate of Return
El.		Elevation (above mean sea level)
ESSS	-	Extension Services Support Section
F. C.	-	Foreign Currency
FIRR	-	Financial Internal Rate of Return
GBHN	Garis-garis Besar Haluan Negara	National Development Guidelines
GDP	-	Gross Domestic Product
GIS	-	Geographical Information System
GMIM	Gereja Masehi Injili Minahasa	Christian Evangelical Church in Minahasa
GMPLH	-	Community Campaign for Environmental Conservation
GOI	-	Government of Indonesia
GOJ	-	Government of Japan

GPS	-	Global Positioning System
GRDP	-	Gross Regional Domestic Product
HKM	Hutan Kemasyarakatan	Community Forest
HPH	Hak Pengusahaan Hutan	Forest Concession Rights
HPHTI	Hak Pengusahaan Hutan Tanaman Industri	Concession Rights for Industrial Tree Forest
HRK	Hutan Rakyat	People's Forest
Hukum Adat	-	Customary law
Hukum Tua	-	Head of Village
ICRAF	-	International Council for Research in Agroforestry
IEE		Initial Environmental Examination
IS	-	Information Systems Section
Info SD	-	Information Sub Division
JBIC	-	Japan Bank for International Cooperation
JICA	-	Japan International Cooperation Agency
JPJ	Pembangunan Jangka Panjang	Long-Term National Development Plans
KANDEP	Kantor Departemen	Agencies of the Technical Department
KANWIL	Kantor Wilayah	Provincial Office of Central Line Agency
KBD	Kebun Bibit Desa	Village Nursery
KGPM	Kerapatan Gereja Protestant Minahasa	Protestant Church Association of Minahasa
KPSA/LSM	Kelompok Pelestari Sumberdaya Alam/ Lembaga Swadaya Masyarakat	Natural Resources Conservationist Group/NGO
KTP	Kelompok Tani Penghijauan	Regreening Farmers' Group
KUD	Koperasi Unit Desa	Village Unit Cooperative
KUT	Kredit Usaha Tani	Farm Enterprise Credit programme
KWT	Kelompok Wanita Tani	Women Farmer's Group
L. C.	-	Local Currency
LCF	-	Labor Conversion Factor
LKMD	Lembaga Ketahanan Masyarakat Desa	Village Community Resistance Institution
LREPP	-	Land Resources Evaluation and Planning Project
Lurah	-	Head of Village
M & E	-	Monitoring and evaluation

M&E	-	Monitoring and Evaluation Section
MDFSO	-	District Forestry Service Office
MENPAN	Menteri Penertiban Aparatur Negara	Ministry of Administrative Reform
MOF		Ministry of Forestry
MOFEC	-	Ministry of Forestry and Estate Crops
MPFSO	-	Provincial Forestry Service Office
MPR	Majelis Permusyawaratan Rakyat	People's Consultative Council
Mapalus	-	Working together (Cooperation)
Mapalus	-	Mutual community aid
NGO	Lembaga Swadaya Masyarakat	Non-Government Organization
NPV	-	Net Present Value
O&M	-	Operation and Maintenance
OECD/DAC	-	Organization for Economic Cooperation & Development/Development Assistance Committee
OVA	-	Objective Valuation Approaches
P3A	Perkumpulan Petani Pemakai Air	Farmer Water User Association
P3D	Pengkajian Partisipatif Penghijauan Desa	Village Regreening Participatory Study
PAD	Penghijauan Areal Dampak	Regreening for Impact Area
PCM	-	Project Cycle Management
PDM	-	Project Design Matrix
PELITA VI	Pembangunan Lima Tahun	The Sixth Five-year development Planning Period
PIL	Penghijauan Input Langsung	Direct Input Regreening
PJP	Pembangunan Jangka Panjang	Long –Term Development Plan
PKK	Pembinaan Kesejahteraan Keluarga	Family Welfare Programme
PKL	Penyuluh Kehutanan Lapangan	Field Forestry Extension Staff
PKM	Penyuluh Kehutanan Madya	Senior Forestry Extension Staff
PLN	Perusahaan Listrik Negara	National Electric Power Corporation
PLP	Petuga Lapangan Penghijauan	Forestry extension staff
PLU	-	Prior-land-use sub-factor,
POLA	-	Pattern, general plan
PPL	Penyuluh Pertanian Lapangan	Agricultural Field Extension Staff
PPP	-	Polluter Pays Principle
PPS	Penyuluh Pertanian Spesialis	Agricultural Extension Specialist
PPTPA	Panitia Pelaksana Tata Pengelolaan Air	Water Management Implementation Committee

PR&CI	-	Public Relational and Community Information Section
PRA	-	Participatory Rural Appraisal
PRONA	Proyek Nasional Agraria	National Agrarian Project
PS	Penghijauan Swadaya	Self Supporting Regreening
PTPA	Panitia Tata Pengaturan Air	Water Regulation Committee
PU	Pekerjaan Umum	Ministry of Public Works
PWS	Pengembangan Wilayah Sungai	Sub river basin
ROSCA	Arisan	Rotating Saving and Credit Association
RRA	-	Rapid Rural Appraisal
RTRW	Rencana Tata Ruang Wilayah	Spatial Plan
RUSLE	-	Revised Universal Soil Loss Equation
RePPPProT	-	Regional Physical Planning Program for Transmigration
SC	-	Surface-cover sub-factor
SCF	-	Standard Conversion Factor
SLR	-	Soil Loss Ratio
SLT	-	Soil Loss Tolerance
SM	-	Soil-moisture sub-factor
SPAS	Stasiun, Pengamat Arus Sungai	Observing Station for River Waterflows
SR	-	Surface roughness sub-factor
SS	-	Suspended solid
SVA	-	Subjective Valuation Approaches
SWOT Analysis	-	Strengths, Weaknesses, Opportunity and Threats Analysis
Stats	-	Watershed Statistics and Website Section
Sub-Dinas Pengairan PU	Sub-Dinas Pengairan Pekerjaan Umum	Regional Irrigation Office of Public Works
Sulut	Sulawesi Utara	North Sulawesi
TAKESRA	Tabungan Kesjatraan Keluarga	Poverty Family Programme
TOT	-	Training of Trainers
TTG	Titik Sipar Datar	Leveling point
UP-UPSA	Unit Percontohan Usaha Pelestarian Sumberdaya Alam	Demonstration Plot of Efforts on Conservation of Natural Resources
UPP	-	User Pays Principle
UPSA	Unit Percontohan Usaha Pelestarian Sumberdaya Alam	Model Unit of Natural Resources Conservation Program

UPT	Unit Pelaksana Teknis	Technical Implementation Unit
USAID	-	U.S. Agency for International Development
USLE	-	Universal Soil Loss Equation
WACSLU	-	Watershed Conservation through Sustainable Land Use
WCP	-	Watershed Conservation Plan
WSI	-	Watershed Inventory Section
WSS	-	Watershed Services Section
WTP	-	Willingness to Pay
Walikota	-	Head of Municipality

MEASUREMENT UNITS

Extent

cm² = Square-centimeters (1.0 cm x 1.0 cm)
m² = Square-meters (1.0 m x 1.0 m)
km² = Square-kilometers (1.0 km x 1.0 km)
a = Are or Ares (100 m² or 0.1 ha.)
ha = Hectares (10,000 m²)
ac = Acres (4,046.8 m² or 0.40468 ha)

Length

mm = Millimeters
cm = Centimeters (cm = 10 mm)
m = Meters (m = 100 cm)
km = Kilometers (km = 1,000 m)

Currency

US\$ = United State Dollars
US\$1.0 = ¥115 = Rp.9,100
JP¥ = Japanese Yen
Rp. = Indonesian Rupiah

Volume

cm³ = Cubic-centimeters
(1.0 cm x 1.0 cm x 1.0)
m³ = Cubic-meters
(1.0 m x 1.0 m x 1.0)
lit. = Liter (1,000 cm³)

Weight

g = Grams
kg = Kilograms (1,000 g)
ton = Metric tonne (1,000 kg)

Time

s = Seconds
min = Minutes (60 s)
h = Hours (60 min)