

***STUDY OF ENVIRONMENTAL DAMAGE DUE TO
LAND DEGRADATION AS AN ENVIRONMENTAL CONSERVATION
IN THE UPSTREAM OF WATERSHED OF SAMIN RIVER
DISTRICT KARANGANYAR REGENCY PROVINCE OF CENTRAL JAVA***

ABSTRACT

Putri Ratna Setyowati¹, Totok Gunawan², Slamet Suprayogi³

The research was conducted in the upstream of watershed of Samin river District Karanganyar Regency Province of Central Java. Physical land degradation is often happened in this area, it is caused by natural factors and human activity factors. The land degradation gives environmental damage effect, so we need to study about it and can give alternative of environmental management startegy. The objectives of this research are (1) to study and identify the environmental damages due to land degradation in the upstream of watershed of Samin river; (2) to study level of environmental damages due to land degradation in the upstream of watershed of Samin river; and (3) to formulate environmental management strategy as an environmental conservation in the upstream of watershed of Samin river.

The research method uses survey method and based on landslide disaster data. Then we make zona based on map of land use function and landslide vulnerability. Environmental damages of abiotic are identified by some parameters, they are (1) land use function, (2) landslide vulnerability, (3) slope; (4) rainfall; (5) soil solum; (6) soil type; (7) gemorphology and geology; and (8) landslide outcrop. Environmental damage of biotic is identified by a parameter, it is type of vegetation and plant. Environmental damages of culture are identified by some parameters, they are (1) landuse; (2) planting pattern; (3) excavation an cutting of slope; and (4) construction buliding, after that we do indepth and informal interview to complete the data. The total environmental damage is combination of abiotic, biotic, and culture aspects.

The results of field survey and reseacrh data show that environmental damages in landslide area are about 11% are in medium category of environmental damage and 89% are in worse category of environmental damage. Some alternatives of environmental management strategy are recommended in the upstream of watershed of Samin river, they are civil engineering, geological engineering, vegetative, argiculture based on conservation, and we also use goverment policy.

Keywords: *landslide, environmental damage, abiotic, biotic, culture, environmental management strategy*

- 1. A student of Master of Environmental Management, Postgraduate Program Gadjah Mada University Pascasarjana, Universitas Gadjah Mada.*
- 2. A lecturer of Geography Faculty, Gadjah Mada University.*
- 3. A lecturer of Geography Faculty, Gadjah Mada University.*

KAJIAN KERUSAKAN LINGKUNGAN AKIBAT DEGRADASI LAHAN UNTUK PELESTARIAN LINGKUNGAN DI DAS SAMIN HULU KABUPATEN KARANGANYAR JAWA TENGAH

INTISARI

Putri Ratna Setyowati¹, Totok Gunawan², Slamet Suprayogi³

Penelitian ini dilaksanakan di DAS Samin hulu Kabupaten Karanganyar Provinsi Jawa Tengah. Degradasi lahan fisik berupa longsor sering terjadi di daerah ini, baik dikarenakan faktor alam maupun aktivitas manusia. Degradasi lahan tersebut memberikan dampak kerusakan lingkungan sehingga perlu dilakukan kajian agar terdapat alternatif strategi pengelolaan lingkungan sebagai upaya pelestarian lingkungan. Tujuan penelitian ini yaitu (1) mengkaji jenis kerusakan lingkungan akibat degradasi lahan di DAS Samin hulu; (2) mengkaji tingkat kerusakan lingkungan akibat degradasi lahan di DAS Samin hulu; dan (3) merumuskan strategi pengelolaan lingkungan untuk pelestarian lingkungan di DAS Samin hulu.

Metode penelitian yang digunakan yaitu metode *survey*, sedangkan pengambilan sampel berdasarkan data bencana khususnya tanah longsor. Kemudian dizonasi berdasarkan peta arahan fungsi pemanfaatan lahan dan kerawanan longsor. Kerusakan lingkungan abiotik diidentifikasi berdasarkan delapan parameter dimana masing-masing dikenai pengharkatan yaitu (1) arahan fungsi pemanfaatan lahan, (2) kerawanan tanah longsor, (3) kemiringan lereng, (4) curah hujan; (5) geomorfologi dan geologi, (6) jenis tanah, (7) kedalaman efektif tanah (solum tanah), dan (8) singkapan longsor. Kerusakan lingkungan biotik dalam penelitian ini diidentifikasi melalui jenis vegetasi dan tanaman sedangkan kerusakan lingkungan kultural berdasarkan parameter (1) penggunaan lahan; (2) pola tanam, (3) penggalian dan pemotongan lereng; dan (4) pembangunan konstruksi untuk bangunan, serta dilakukan wawancara mendalam untuk melengkapi data. Kerusakan lingkungan total merupakan gabungan dari lingkungan abiotik, biotik, dan kultural.

Hasil kunjungan lapangan dan data penelitian menunjukkan bahwa kerusakan lingkungan pada area terdampak longsor yaitu 11% mengalami kerusakan lingkungan kategori sedang, sedangkan 89% mengalami kerusakan lingkungan kategori berat. Alternatif strategi pengelolaan lingkungan yang direkomendasikan di DAS Samin hulu yaitu dengan cara sipil, geologi, vegetatif, pertanian berbasis konservasi, maupun non teknis melalui peraturan pemerintah.

Kata kunci: longsor, kerusakan lingkungan, abiotik, biotik, kultural, strategi pengelolaan lingkungan.

1. Mahasiswa Magister Pengelolaan Lingkungan, Program Pascasarjana, Universitas Gadjah Mada.
2. Dosen Fakultas Geografi, Universitas Gadjah Mada.
3. Dosen Fakultas Geografi, Universitas Gadjah Mada.