

STUDY OF ENVIRONMENTAL DAMAGE DUE TO NICKEL MINING ACTIVITY IN BAHODOPI DISTRICT MOROWALI REGENCY CENTRAL SULAWESI PROVINCE

ABSTRACT

Hasnia¹, Totok Gunawan², Sigit Herumurti³

Study program Environmental Science
Master of Environmental Management

The objectives of this study were to assess the types of damage, determine the extent of the damage, and formulate an environmental management strategy as a result of nickel mining activities in Bahodopi Sub-district, Morowali District, Central Sulawesi Province.

This study used descriptive qualitative and quantitative methods. Primary data were obtained by observation, direct measurement on field, recording and interview while secondary data were obtained from institution documents related to research and literature study. The level of environmental damage measurement is conducted by scoring method and pollution index. Environmental management strategies and policies on nickel ore mining activities are formulated using technological, social and institutional approaches and descriptive analysis.

The results show that the types of environmental component damage are landscape change, soil shoot loss, loss of vegetation, loss of ground fauna and aquatic biota (fish), livelihood changes, lifestyle / behavioral changes, and social conflicts. Abiotic component damage level in mining activity in hilly area obtained score 12 with criteria of moderate damage; the level of damage to the river based on the pollution index obtained IP value 9.21 with the criteria of black pollen; the level of damage of the biotic component obtained score 11 with the criteria of severe damage; the level of damage to the cultural component was obtained with a score of 7 with moderate damage criteria.

The formulation of strategy and environmental management policy which can be suggested based on the study result are limitation on opening and preparation of land for mining of nickel ore mining and mining infrastructure facility which is adjusted to the need of land, land reclamation activity for subsequent revegetation at location of ex-mining , manufacture of sediment ponds, conduct control and supervision in natural resource management accompanied by appropriate law enforcement.

Keywords: environmental damage, nickel ore mining, pollution index, water quality

KAJIAN KERUSAKAN LINGKUNGAN AKIBAT KEGIATAN PENAMBANGAN BIJIH NIKEL DI KECAMATAN BAHODOPI KABUPATEN MOROWALI PROVINSI SULAWESI TENGAH

INTISARI

Hasnia¹, Totok Gunawan², Sigit Herumurti³
Program Studi Ilmu Lingkungan
Magister Pengelolaan Lingkungan

Penelitian ini dilakukan pada kegiatan penambangan bijih nikel yang berlokasi di Kecamatan Bahodopi Kabupaten Morowali Provinsi Sulawesi Tengah, bertujuan untuk mengkaji jenis-jenis kerusakan, menentukan tingkat kerusakan, dan merumuskan strategi pengelolaan lingkungan akibat kegiatan penambangan bijih nikel.

Metode yang digunakan dalam penelitian ini adalah metode deskriptif kuantitatif dan kualitatif. Data primer diperoleh dengan observasi, pengukuran langsung dilapangan, pencatatan dan wawancara. Data sekunder didapatkan dari instansi yang terkait dengan tema penelitian dan studi literatur. Penilaian tingkat kerusakan lingkungan dengan metode skoring dan indeks pencemar. Strategi dan kebijakan pengelolaan lingkungan pada kegiatan penambangan bijih nikel dirumuskan dengan menggunakan pendekatan teknologi, sosial, dan institusi serta analisis deskriptif.

Berdasarkan hasil penelitian, jenis kerusakan komponen lingkungan adalah perubahan bentang alam, hilangnya tanah pucuk, kehilangan vegetasi, hilangnya fauna darat dan biota perairan (ikan), perubahan mata pencaharian, perubahan gaya hidup/prilaku, dan konflik sosial. Tingkat kerusakan komponen abiotik pada kegiatan penambangan di daerah perbukitan diperoleh skor 12 dengan kriteria kerusakan sedang, tingkat kerusakan pada sungai berdasarkan indeks pencemaran diperoleh nilai IP 9,21 dengan kriteria cemar sedang; tingkat kerusakan komponen biotik diperoleh skor 11 dengan kriteria kerusakan berat; tingkat kerusakan komponen kultural diperoleh skor 7 dengan kriteria kerusakan sedang. Strategi dan kebijakan pengelolaan lingkungan yaitu pembukaan dan penyiapan lahan dibatasi sesuai kebutuhan lahan untuk usaha pertambangan bijih nikel dan sarana prasarana pertambangan, melakukan kegiatan penataan lahan (reklamasi) untuk selanjutnya dilakukan revegetasi pada lokasi bekas penambangan, pembuatan kolam pengendapan, melakukan pengendalian dan pengawasan dalam pengelolaan sumber daya alam disertai dengan penegakan hukum yang tepat.

Kata Kunci: kerusakan lingkungan, penambangan bijih nikel, indeks pencemar, kualitas air