LOCAL COMMUNITIES' AWARENESS AFTER GOLD MINING TERMINATION IN SIJUNJUNG REGENCY, WEST SUMATRA

Thesis

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ABSTRACT

The research was conducted abandoned gold mining exploration area, situated in Limo Koto VII, Sijunjung Regency. This study was commenced with the aim of investigating Hg content in water and soil after a decade of mine termination as well as the locals' dealing with the current environmental issues in which their understanding and perception would be third objective of this research. Therefore, the data collections were starting from December 2022 (the duration was around 2 weeks). Purposive sampling for natural resources, in which soil was sampled randomly at each of the five types of land use then socio-economics data was conducted by cluster sampling method. According to the result, Hg was still contained both in water (well, pond as well as river) and soil (oil palm, paddy, citrus plantations, bush and forest) as well.

Hg in soil was ranging from 0.09 ppm to 0.15 ppm which is totally acceptable compared to Indonesia's soil quality standard, 0.5 ppm (1995). The soil pH found as acidic to highly acidic intensity, the strongest ones could be occurred in the forest where Hg and OM values hit the largest concentration in all sample sites. Alternatively, pH of water >7 was considered basic water type where Hg was between 0.041 ppm and 0.117 ppm, significantly rose not only in International but also Indonesia Standards, 0.001 ppm. The most accumulated area of Hg was in irrigated water; however, BOD and COD values were agreed with the standard guideline.

The understanding on this issue, the residents could not correlate with the specific health problems and Hg. Their perceptions on nourishing agricultural products had the positive opinion but a few might be selling those items. While some respondents felt secure consuming water, the others recommended the idea of non-using the water. The locals' perceptions were more prefer or agree with non-consumption such food sources including water. In spite of increasing Hg concentration in water, the consumption rates were outweighed the non-consumption. Owing to the limited understanding and knowledge of Hg introducing fatal diseases, residents kept utilizing Hg rich water.

Keywords: Mercury (Hg), pH, Organic Matter (OM), Biological Oxygen Demand (BOD), and Chemical Oxygen Demand (COD)

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ABSTRAK

Penelitian ini dilakukan di kawasan eksplorasi pertambangan emas yang sudah tidak aktif yang terletak di Limo Koto VII, Kabupaten Sijunjung. Sebelum masa eksplorasi pertambangan daerah penelitian adalah areal persawahan. Tujuan penelitian adalah untuk mengetahui kandungan Hg tanah dan air setelah satu dekade penutupan tambang emas serta mengetahui tingkat pemahaman dan persepsi masyarakat terhadap dampak dari penambangan emas tersebut. Penelitian dilaksanakan pada bulan desember 2022 Pengambilan sampel tanah dilakukan secara bulk komposit pada lima penggunaan lahan yaitu, Lahan Kelapa sawit, Jeruk, Semak belukar, sawah, dan hutan. secara acak pada masing-masing lima jenis penggunaan lahan kemudian data sosial ekonomi dilakukan dengan metode cluster sampling. Berdasarkan hhsil penelitian, kandungan Hg masih ditemukan baik di air (sumur, kolam maupun sungai) maupun tanah baik pada lahan sawit, padi, perkebunan jeruk, semak dan hutan.

Kandungan. Hg dalam tanah berkisar antara 0,09 ppm sampai 0,15 ppm dan berada dibawah baku mutu kandungan Hg tanah berdasarkan standar 0,5 ppm Indonesia (1995). Nilai pH tanah berkisar dari masam hingga sangat masam, dimana nilai pH terendah ditemui di hutan dengan nilai Hg dan OM juga tertinggi dibandingkan penggunaan lahan lainnya. Nilai, pH air >7 atau bercaksi basa dan kandu ngah Hg berkisar antara 0,041 ppm dan 0,117 ppm, dan berada diatas nilai Standar Internasional tetapi juga Standar Indonesia, 0,001 ppm (2001). Kandungan Hg air irigasi lebih tinggi dibandingkan dengan dengan air sungai, sawah dan sumur, sedangkan nilai BOD dan COD sesuai dengan standar Internasional maupun nasional.

Pemahaman masyarakat terhadap masalah ini tidak bisa dikorelasikan dengan masalah kesehatan spesifik dan Hg. Persepsi masyarakat tentang produk pertanian memiliki opini positif, dimana sebagian masyarakat menjual barang-barang tersebut. Pendapat mereka tentang kualitas air, beberapa responden merasa aman mengonsumsi air, dan sebahagian lebih memilih atau setuju dengan tidak menggunakan air dilokasi penelitian. Walaupun kosentrasi Hg tinggi di air namun jumlah masyarakat yang mengkonsumsi air lebih banyak dari yang tidak mengkonsumsi.air tersebut. Hal ini disebabkan karena keterbatasan pemahaman dan pengetahuan akan bahaya Hg yang dapat menimbulkan penyakit mematikan.

Kata kunci: Tambang emas, Merkuri (Hg), pH, Bahan Organik (BO), Permintaan Oksigen Biologis (BOD), dan Permintaan Oksigen Kimia (COD)