

STRENGTHENING POLICY AND REGULATORY FRAMEWORKS FOR SUSTAINABLE MINERAL WASTE MANAGEMENT IN INDUSTRY

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Abstract

Mineral waste management is a key concern of the mining industry and remains an important challenge for developing economies. This study reviews existing policy and regulatory frameworks that govern mineral waste; identifies gaps with a focus on implementation efforts; and recommends pathways to enhance sustainable practices throughout the industry. A mixed-methods approach was used, combining a review of national and international regulatory instruments with case studies from selected mining operations. The assessment included the participation of key stakeholders such as industry professionals and regulatory bodies to interpret levels of compliance and enforcement issues. Findings show comprehensive policies are in place but are ineffective due to insufficient monitoring systems, weak technical capacity, and poor institutional coordination. The study highlights the need for improved regulatory enforcement, stronger institutional capacity, and the incorporation of sustainable waste management solutions in policy frameworks. It further recommends incorporating clear compliance mechanisms, periodic reviews of policy positioning, and greater accountability for the industry.

Keywords: Mineral waste management, regulatory frameworks, sustainable mining, tailings management, environmental impacts.

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