

Analysing the Perception of Climate Hazards on Biodiversity Conservation in Mining Landscapes within Southwestern Ghana

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Abstract : Integrating biodiversity conservation practices in mining landscapes ensures the continual provision of various ecosystem services to the dependent communities whilst serving as ecological insurance for corporate mining when purchasing reclamation security bonds. Climate hazards such as long dry seasons, erratic rainfall patterns, and extreme weather events contribute to biodiversity loss in addition to the impact due to mining. Both corporate mining and mine-fringe communities perceive the effect of climate on biodiversity from the context of the benefits they accrue, which motivate their conservation practices. In this study, pragmatic approaches including semi-structured interviews, field visual observation, and review were used to collect data on corporate mining employees and households of fringing communities in the southwestern mining hub. The perceived changes in the local climatic conditions and the consequences on environmental management practices that promote biodiversity conservation were examined. Using a thematic content analysis tool, the result shows that best practices such as concurrent land rehabilitation, reclamation ponds, artificial wetlands, land clearance, and topsoil management are directly affected by prolonging long dry seasons and erratic rainfall patterns. Excessive dust and noise generation directly affect both floral and faunal diversity coupled with excessive fire outbreaks in rehabilitated lands and nearby forest reserves. Proposed adaptive measures include engaging national conservation authorities to promote reforestation projects around forest reserves. National government to desist from using permit for mining concessions in forest reserves, engaging local communities through educational campaigns to control forest encroachment and burning, promoting community-based resource management to promote community ownership, and provision of stricter environmental legislation to compel corporate, artisanal, and small scale mining companies to promote biodiversity conservation.

Keywords : biodiversity conservation, climate hazards, corporate mining, mining landscapes

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