Tropentag, September 16-18, 2026, hybrid conference

"Towards multi-functional agro-ecosystems
promoting climate resilient futures"

Colliding ecologies and forced adaptation: Tenure insecurity and farmer livelihoods in Ghana's artisanal mining frontiers

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Abstract

Across sub-Saharan Africa, artisanal and small-scale mining (ASM), a low-tech, labour-intensive form of mineral extraction, is rapidly reshaping rural agrarian economies, where farming has historically been a major livelihood activity. In Ghana, the expansion of ASM into agricultural areas has intensified competition for land, labour, and water, a scenario we describe as colliding ecology. This phenomenon has generated new forms of livelihood uncertainty for farming households. While existing studies document the impacts of mining and farmers' coping strategies, they often treat farmers' responses as voluntary adaptations and overlook the role of tenure insecurity in shaping differentiated outcomes. Using a mixed-methods approach and drawing on field data from 195 participants, this paper examines how tenure insecurity and expanding ASM reshape access to land and power, influence how tenant farmers respond in their everyday lives, and affect their livelihoods. The findings show that tenant farmers face a deterioration in their livelihood options due to the increasing activities of ASM operators, resulting from insecure access to land, poor compensation, and uneven power structures. Consequently, they are compelled to resort to short-term and often precarious strategies that stabilise consumption in the short run but jeopardise future welfare, including food security, income, and assets. The findings further reveal that coping strategies are less expressions of choice than outcomes of structural constraints. The paper stresses the need for policy action to mitigate insecurity and to acknowledge the different contexts in which farmers adapt to the extractive change. It contributes to debates on agrarian change, sustainable livelihoods, and resource governance in the Global South.

Keywords: Artisanal and small-scale mining (ASM), colliding ecology, forced adaptation, tenant farmers, tenure insecurity

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