



Water Source Types as Drivers of Asset Accumulation Trajectories Among Pastoralist Households in Semi-Arid areas of Monduli District Tanzania

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Abstract

This study examined the association between livestock drinking water source types and household asset ownership among pastoralist households in semi-arid areas of Monduli District, Tanzania. Specifically, the study assessed how reliance on improved and unimproved livestock water sources influences household asset accumulation among pastoral communities. A cross-sectional research design was employed, involving 367 pastoralist households selected from Makuyuni and Moita wards. Quantitative data were collected using household surveys and field observations. A household asset index was constructed using tetrachoric Principal Component Analysis (PCA), and households were categorized into low, medium, and high asset ownership groups. A generalized ordered logit model was applied to examine the association between livestock water source types and household asset ownership. The findings revealed that households relying on improved livestock water sources were less likely to belong to higher asset ownership categories compared to households using unimproved water sources. The results suggest that wealthier pastoralists benefit from flexible access to dispersed natural water sources that support livestock mobility and extensive grazing strategies. Household income positively influenced asset ownership, while off-farm income was negatively associated with higher asset groups, indicating its role as a coping strategy among poorer households. The study concludes that livestock water access and pastoral mobility jointly shape household asset accumulation. Therefore, pastoral development interventions should integrate water planning with mobility support and rangeland management strategies.

Keywords: Pastoralism; Livestock water sources; Asset accumulation; Semi-arid rangelands; Household livelihoods

