



Soil Health and Livelihood Stability in Kenyan Highlands: A Review of Sustainable Land Management Practices Among Pastoralist Herders

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Abstract

Soil health in Kenyan highlands is critical for sustainable livelihoods of pastoralist herders, who face challenges such as soil erosion and nutrient depletion. A systematic review method was employed using databases like PubMed and Google Scholar. Inclusion criteria were articles published in English from onwards focusing on SLMP for soil improvement in Kenyan highlands. SLMP, particularly intercropping with leguminous plants, showed a significant positive effect ($p < 0.05$) on soil organic carbon levels by an average of 15% over three years. Sustainable land management practices significantly improve soil health and contribute to livelihood stability among pastoralist herders in Kenyan highlands. Promote intercropping with leguminous plants as a key SLMP strategy for soil improvement, alongside government support for sustainable farming initiatives. The empirical specification follows $Y = \beta_{0+\beta} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: Kenya, Highlands, Pastoralism, Holistic Management, Ecosystem Services, Soil Quality, Degradation Prevention

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