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From rural to urban: Exploring livestock farming practices in urbanizing landscapes

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Abstract

Urbanisation in Kenya has surged in recent years, reshaping the agricultural landscape, and impacting livestock farming practices. This study focused on Nakuru County, a region characterised by its fertile soils and increasing urbanisation due to its strategic location along the Nairobi-Eldoret Highway. This study investigated the spatial dynamics of livestock production systems across urban, peri-urban, and rural areas in Nakuru County, to assess the impact of urbanisation on livestock farming system development. Via stratified sampling, we examined farm size, herd size and -diversity, feeding methodologies, manure management, and market access at 241 farms across four sub-counties (i.e. Nakuru East, Njoro, Kuresoi North and Naivasha). In urban areas of Nakuru East, land scarcity led to limited space for forage production. The other areas prioritised land use for crop production over that for forage production for their livestock. The number of dairy cattle, dairy goats and chickens per farm did not differ among locations and were not significantly correlated to land size with on average 4.6 dairy cattle, 6.2 dairy goats, and 49.1 chickens for farms having that species. Specialized chicken farms were mainly observed in urban Nakuru East. The stocking rate was highest in the urban location (average 41.8 TLU ha⁻¹), but stocking rates were also high (> 6 TLU ha⁻¹) in the peri-urban and rural areas, explaining the overall dependency on feed purchases. Agricultural supply stores were present at all locations, creating the opportunity for feed and other input purchases. Peri-urban and rural farms relied more on compound feeds, while urban farms incorporated specific energy and protein ingredients into their livestock diets. Manure management practices only differed slightly, with urban areas sometimes facing challenges of excess manure due to limited land. Overall, our research reveals that urbanisation is reshaping livestock farming practices across urban to rural locations. A shift is observed towards more intensive and market-oriented farming, while efforts are made to maintain resilience through the retention of diverse animal species and crops. Understanding these dynamics between urbanisation and livestock farming practices is crucial for developing sustainable agricultural production and marketing strategies that can accommodate the changing landscape of urbanizing areas.

Keywords: Feeding management, manure, spatial dynamics