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## Adaptation of Peri-Urban Cattle Production Feeding Strategies to Environmental Changes in Southern-Benin

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### Abstract

This study aimed at a characterisation of the diversity of peri-urban cattle production systems in southern Benin and at a better understanding of herders' strategies and perspectives in meeting their herd's feeding requirements. One hundred and twelve (112) farms were surveyed using a semi-structured questionnaire. The information collected included the socio-economic characteristics of the farms, feeding and herding practices, herders' perceptions of changes in feed resources' availability and of their driving forces. Categorical principal component analysis and two-step cluster analysis were performed to classify the surveyed farms into more homogeneous groups of farms reflecting different farming systems. Subsequently, the logistic regression technique was used to predict the adaptive strategy of a given farm in function of its socioeconomic characteristics. Four distinct types of cattle farms were identified: large integrated agro-silvopastoral farms (LAS, 17 %); small agro-silvopastoral farms (SAP, 28 %); non-integrated farms (NIN, 30 %) and silvopastoral farms (SIP, 25 %). These groups of cattle farms differed significantly ( $p < 0.001$ ) according to several characteristics of the farm, including land sizes, source of labour, feeding practices and constraints. Herdsmen perceptions of feeding constraints differ from one farm type to another. However, the low availability of pasture (94 %) and the difficult access to pasture (100 %) were commonly shared by all herders and were perceived as resulting from increased crop and vegetable farming (77 %), urbanisation (25 %) and climate variability (40 %). Herdsmen current coping strategies included the use of lowlands pastoral resources (78 %) and exploring new grazing routes (60 %). Their future coping strategies in case of worsened environmental conditions include inter alia moving animals from the peri-urban area to rural locations (43 %) and this choice significantly depends ( $p < 0.001$ ) on the farm type and the distance to urban centres.

**Keywords:** Cattle farming, environmental changes, feeding strategies, typology, urban fringes