

**PHENOTYPIC CHARACTERIZATION OF INDIGENOUS GOATS AND
PERCEPTION OF FARMERS ON INDIGENOUS VERSUS CROSSBRED GOATS IN
NORTH-EASTERN UGANDA**

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Abstract

Understanding breed characteristics is important in guiding decision-making in livestock development and breeding programs, yet in Uganda livestock characterization has been mainly undertaken for cattle and little has been done on small ruminants. The objective of this study was to characterize goat phenotypes and assess the popularity and perceived benefits of crossbred goats among the farmers in two agro-ecological zones of Uganda: in Northeastern drylands, three districts were selected (Moroto, Kotido, and Kaabong). A total of 169 local goats were sampled randomly from households in the two agro-ecological zones. For each goat, eight quantitative traits were measured; body weight (LW), rump height (RH), hearth girth (HG), body length (BL), height at withers (HW), neck girth (NG), chest depth (CD) and pin-bone width (PBW). The mahalanobis distances between the districts varied from 1.17 (between Kumi and Kaabong) to 14.11 (between Moroto and Kotido district) indicating a high morphometric diversity among the goats in the study area. Stepwise discriminant analysis showed that RH had the most discriminant power (0.11). A total of 208 goat keeping households with a total of 3485 goats were encountered in this study with 3127 (92%) being indigenous goats and 358 (85) ($p < 0.05$) crossbred goats ($p > 0.05$). These results

show that there is high heterogeneity within-population and between-population thus there is no immediate danger of genetic erosion among local goats.