

Sustainable Agricultural Livelihood Restoration, Rehabilitation and Resilience in Kenya

Guidelines on Sustainable Ruminant Feeds and Nutrition Security for Kenya

CHAPTER 1 INTRODUCTION

1.0 Background Information

The livestock sub-sector in Kenya plays significant role in the economy contributing about 10% to the Gross Domestic Product (GDP). The sub-sector accounts for over 30% of the farm-gate value of agricultural commodities, and employs over 50% of the agricultural labour force (KALRO, 2023). Additionally, with respect to livestock products marketing, meat production is the largest livestock enterprise with an annual output of approximately 702,090 MT valued at KES 278.9 billion, followed by milk production at one million MT valued at KES 182 billion. Furthermore, other livestock products such as wool, hides and skins, and beeswax bring additional KES 28 billion. The bulk of red meat comes from beef cattle with 67% being sourced locally and 33% imported mostly through porous borders. The capital value of the national animal resource base for the sub-sector is valued at KES. 795 billion while the total annual value of primary and value-added products and livestock by-products from all the livestock supply chains is estimated at KES 1,448 billion (USAID-KAVES, 2017)

The livestock population is distributed all over the country with ASAL hosting the majority. The ASAL comprises 23 Counties covering an area of 506,534 square kilometres and supporting 80% of the national ruminant population. Over 60% of the country's livestock herd particularly cattle, small ruminants and camels are under extensive production system in the ASALs. The non ASAL consists of 24 counties which cover an area of 62,605 square kilometres constituting about 10% of Kenya's landmass and is home to about 20% of the national livestock ruminant population (GoK, 2022a).

The per capita demand and supply of animal products and the projections are shown in Appendix 1. Currently, the per capita meat consumption is estimated at 16 kg, 4.5 kg and 110 litres of red meat, white meat and milk respectively (FAO, 2019). The country exports 22,000 MT of semi processed leather and leather products while 11,875 MT is exported raw. The consumption levels are expected to increase due to urbanisation, improved incomes and population increase. According to the Kenya National Bureau of Statistics (KNBS, 2019), the national human population was approximately 47,584,296 and is projected to increase to 66,450,000 and 91,575,000 by the year 2030 and 2050, respectively. The per capita milk consumption is projected to grow from the current 110 litres to 150 litres and 180 litres over the same period, thus creating a demand for 10 billion litres above the current production of 5.5 billion litres under existing operational norms scenario by 2030. Without any gains in increased yields and output, domestic milk supply will fall short of demand by approximately 4.5 billion litres by 2030.

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The number of dairy cows required to meet projected milk demand (per capita of 150 litres) in 2030 will be 4,506,103 with average milk production of 7.9 litres/cow/day under existing operational norms, and 1,779,910 herds of dairy cows with average of 20 litres/cow/day under aspirational scenario. With intensification, the number of dairy herd will reduce but still meet the milk demand. Besides, beef continues to be the most popular red meat in Kenya, constituting up to 80% of the red meat consumed in the country. The bulk of beef production takes place in the Arid and Semi-Arid (ASALs) counties of Kenya which host 70% of the country's livestock herd. Beef production in the ASAL counties of Kenya is carried out mainly by pastoralists and large-scale ranches. Pastoralists produce about 80% of the beef consumed in Kenya, while large-scale ranches produce another 2-5% and the remaining is produced by highland farmers as part of mixed farming (Mwangi et al., 2022). In 2021 there were 16,182,356 heads of beef cattle at production of 244,217MT (GoK, 2022b). Average per capita meat consumption is 16 kg, but cities like Nairobi have the highest per capita beef consumption of up to 25 kg which is much higher than 11.5 kg in urban areas of Ethiopia (Deneke et al., 2022). Per capita beef consumption is projected to reach 30 kg by 2050 hence the need to intensify production (FAO, 2019).

Intensification of livestock production is widely advocated to meet the increasing demands for livestock products. Livestock intensification involves practices towards feeding managements, disease control and use of improved breeds or cross breeding techniques. Substantial intensification of livestock in Kenya, recognises that there is a hierarchy in the triple bottom line. The economy is contained in the hands of healthy people and the people reside in the planet. Better cared for animals require less resources and can lead to reduction in Green House gasses (GHG) emissions and smaller environmental foot print. For livestock production, adoption of improved breeds that mature in short time reduces GHG emissions. The GHG emission reduction can be achieved through improvements in pasture quality. The reductions are greater when grain finishing as is happening in feedlot and concentrate in the dairy industry is considered, Livestock production especially ruminants, further make efficient use of crop by-products through circular economy contributing further to environmental health. Manure management involve use of manure to generate biogas. The sustainable intensification promote data-driven management decisions with better livestock farming techniques, support farmers in sustainable food production, avoiding food losses and waste at farm level. This has raised profit margins for the farmer, thereby contributing to increasing agricultural share of national GDP. Seasonal feed availability and water scarcity are a major hindrance to realising optimal livestock production and productivity in Kenya, hence the proposed feed reserves, commercial fodder production, enhanced water access through irrigation, water harvesting and storage can be considered best practices.