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Farmers’ and academia’s views”

Agro-ecological analysis of Zambia’s dairy subsector

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Abstract

In Zambia, the livestock sector contributes 3.2% to the overall national Gross Domestic Product, GDP and 42% to the agricultural GDP. Livestock products such as dairy are essential for Zambia to eliminate all forms of malnutrition by 2030 as stated in the National Food and Nutrition Strategic Plan (NFNSP). The Dairy value chain not only improves the food security of milk-producing households in Zambia but also helps to create numerous employment opportunities throughout the value chain. Dairy foods are a standalone food group because of their sole calcium contribution to the diet, having a hydrating power more than that of water, they are effective as carriers of probiotics and have been credited with protecting various aspects of oral health, gut health, and overall immune function. However, the consumption of dairy products in Zambia is low despite increased household income in the last two decades. For example, per capita annual consumption of milk in Zambia stands at 16.5–19.4 liters against the 200 liters recommended by the World Health Organisation (WHO). To address the challenge of low dairy per capita consumption, a holistic and integrated agro-ecological approach must be applied to understand the economic, environmental and social factors constraining the sub-sector to fully realise its potential to feed the country and the world at large. Agro-ecology is a food production system that not only produces food, jobs and economic well-being but also creates cultural, social and environmental benefits. The Agro-ecological system hinges on three operational principles of improving resource efficiency, strengthening resilience and securing social equity or social responsibility. Development of a self-sufficient dairy industry in Zambia, economically still awaits the enactment of the livestock development policy as the necessary regulatory framework for an enabling environment for improving access to production inputs, establishment of more raw milk bulking centres country-wide and subsequent stimulation of local processing of dairy products. Socially the level of women participating in the value chain is significantly low at only 25% with men at 73% and the youth at 1.4% attributed to patriarchal cultural practices in land and cattle ownership overlooking the time, energy, creativity and knowledge contribution from women to production, processing and marketing of dairy products. Furthermore, there is limited dairy consumption among adults as the products are especially consumed by only children in most households due to high product prices and poor perception. And on the environmental angle, there is unsustainable open community grazing practices which has resulted in loss of biodiversity, also absence of a Greenhouse gas (GHGs) emissions protocol for dairy production regardless of the large carbon print that dairy production has. Dairy production also has significant water resource requirements for sustained milk production. Application of agro-ecological principles is critical for the future sustainability of the sub-sector.

Keywords: Agro-ecology, dairy, livestock, Zambia

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