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## Contribution of Dual Purpose Cattle and of Dairy Products to Smallholder Family Nutrition in Crop-Livestock Production Systems of Ethiopia

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### Abstract

In crop-livestock systems of Ethiopia, livestock are an integral part of the system and contribute in multiple ways to the livelihood of smallholder farmers. In the southern and south-western highlands of Ethiopia, integration of dual-purpose cattle with perennial crops is common, but little attention has been given to quantify the contribution of cattle to family nutrition in the system. This study was therefore designed to quantitatively analyse the direct contribution of dual-purpose cattle in meeting the nutritional needs of smallholder families, as well as to determine the underlying factors accounting for differences on village- and household level. In total, 270 cattle owning households in the Enset (*Ensete ventricosum*) growing mixed production system were selected using a multistage random sampling. By means of a household dietary diversity survey and a longitudinal survey over 12 months, the relative importance of milk and dairy products compared to other animal source foods consumed by smallholder farmers was described. Influencing inter and intra-household as well as village level variables on the consumption of milk and dairy products were identified. Anthropometric measurements of 196 children between six months and five years of age were used as indicators for the nutritional status of the farming households. The preliminary results show that milk-in-coffee, fermented butter milk and butter ghee along with the common staple food of the region ('Kocho', made from the Enset plant) and/or other cereal foods were the most common forms of dairy products consumed by smallholder farmers. Cultural differences in the consumption of dairy products were observed particularly for cottage cheese and butter ghee. Compared to other animal source foods (meat, chicken, and egg) that are only intermittently utilised during peak religious or cultural holidays/festivities, milk and dairy products are the most prevalent animal source foods consumed on a daily basis. Dual-purpose cattle kept by smallholders in the mixed system thus play an important part in meeting the daily nutritional requirements of the family members.

**Keywords:** Animal source foods, contribution of cattle, family nutrition, milk products, mixed farming