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"Competing pathways for equitable food systems transformation: Trade-offs and synergies"

## Re-stocking vulnerable pastoral households with camels and goats helps increase their resilience

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## Abstract

The integrated camel management (ICM) programme has been implemented since 2010 by VSF-Switzerland in the arid and semi-arid regions of Kenya, with the aim of improving food and nutrition security, health, income, and resilience of pastoral households. One domain of intervention is restocking vulnerable pastoral households with camels (and sometimes goats) and training in camel husbandry and milk hygiene. An evaluation was conducted by BFH-HAFL in 2021 to assess the impact of the project on pastoral households. A mix of methods was used, including documentation review, household surveys, and key informant interviews. A multi-stage sampling procedure was applied to select beneficiaries and control households with similar livelihood systems. 89 households were surveyed in 18 villages in Isiolo County. Results show that ICM project beneficiaries became more resilient to droughts and climate change than the control group, especially if they had been restocked with camels and goats for a long time. The ICM programme has also helped rise and stabilise the income, health, and food and nutrition security of poor pastoral households. This impact is primarily due to the increase and stabilisation of camel milk production and trade and is particularly important during the dry season and droughts. In addition to the distribution of camels, training in milking hygiene was seen by beneficiaries as crucial to the positive impact on their livelihoods, due to improved milk quality and reduced spoilage. The positive impact on food security was attributed to increased milk consumption at the household level and the ability to purchase more food through the sale of milk. Beneficiaries restocked with both camels and goats were more successful than those restocked only with camels, due to the complementary services provided by the two species. The gender analysis revealed that female beneficiaries were more involved in decision-making regarding camel management and camel milk use and income than female controls. In addition, the increased workload associated with camel husbandry seemed to affect men more than women and children. In conclusion, diversification into camel and goat keeping by restocking vulnerable households has proven to be an effective income diversification and climate change adaptation strategy.

**Keywords:** Camel value chain, climate change, food and nutrition security, Kenya, milk, pastoralism, resilience