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Potential Farm to Landscape Level Impact and Adoption of Forage Technologies in Smallholder Dairy Production Systems in Tanga, Tanzania

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Abstract

Crop-livestock systems in sub-Saharan Africa are complex and heterogeneous with varied production objectives. The lack of sufficient quantity and quality of livestock feed on a consistent basis is often cited as major constraint faced by dairy farmers in the East African region, especially during the dry season. Improved livestock feeding and forages have been shown to contribute to increased livestock productivity while potentially mitigating and adapting to climate change – thus providing an opportunity for sustainable intensification of crop-livestock systems. However, forage technologies will only be adopted to sustainably improve farmer livelihoods, if they contribute to whole farm performance, balancing tradeoffs between multiple impact dimensions including productivity, socio-economics and environment. Adoption and *ex-ante* impact studies can provide information to assist in prioritising and targeting of development investments. This contribution highlights a newly received GIZ small grant which aims at improving livelihoods of smallholder dairy farmers in Tanga region in Tanzania through i) analysing feed gaps of different livestock production systems and identifying bottlenecks and entry points; ii) assessing potential impact of and tradeoffs of forage technologies at farm to landscape scale; iii) exploring adoption potential of these technologies; and iv) raising awareness among stakeholders to improve prioritisation of interventions. Methods include feed assessment and nutritional analysis; forage on-farm trials and agronomic measurements; training farmers and extension officers in establishment, maintenance and utilisation of improved forages; forage crop modelling (CropSyst), multi-objective modelling to explore tradeoffs and synergies at farm and landscape levels (FarmDESIGN and LandscapeIMAGES); participatory expert-based assessment for adoption constraints (QAToCA). The project is well-positioned to put the research outputs into practice through its embededness in the CGIAR Research Program on Livestock & Fish (http://livestockfish.cgiar.org). Stakeholders along the dairy value chain in Tanzania are engaged in Innovation Platforms at village, regional (Tanga Dairy Platform) and national (Dairy Development Forum) levels. These platforms have identified year-round availability of quality feeds among the main bottlenecks for smallholder dairy production. Results from this research project will feed into these platforms, also providing follow-up support in evidence-based decision.

Keywords: Adoption constraints, forage technologies, livelihoods, livestock systems, tradeoff analysis

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