

Productivity and Growth in Organic Value Chains (ProGrOV)

IS IT POSSIBLE FOR SMALLHOLDER FARMERS TO PRODUCE ORGANIC MILK?

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Introduction

Many of the smallholder farmers integrate crops and dairy production on land holdings of less than 5 ha, with one to five cattle that play important multiple roles.

In all the certified smallholder farmers only the crop are certified as organic despite the potential benefits of keeping organic dairy cattle on the same farms.

Organic milk production is a rather new farming system in Kenya; presently there are no certified organic dairy farms in Kenya.

However, there are few non-certified dairy farmers who supply milk to various organic markets and restaurants in Nairobi.



Organic agriculture faces major challenges with regard to harmonization and successful integration of organic animal husbandry into the whole organic production system. Smallholder farmers report uncertainty regarding strategies that can support an animal's natural needs, health and welfare and also make profit from organic livestock production.

This necessitated an evaluation of the potential and challenges of integrating organic milk production in smallholder crop-livestock farms to develop sustainable strategies in which livestock and crops can be produced within a coordinated framework to enhance milk quantity and quality.



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Study Approach

- **Step 1:** Certified organic farmers and groups were identified from the database of registered farmers available at the Kenya Organic Agriculture Network (KOAN) and a local NGO known as Community Sustainable Agriculture and Healthy Environmental Programme (COSHEP).
- **Step 2:** An exploratory survey and focused group discussions (FGDs) was conducted to document challenges, conditions and potential for organic dairy production on the farms
- **Step 3:** A longitudinal study to evaluate the effect of management practices on animal health and welfare was conducted. The longitudinal study covered 24 certified organic farms with dairy cattle for 8 months at monthly intervals. All the farm were located in Ngong and Kajiado within Kajiado County, Kenya

Results

Land holding and land use pattern:

Most of the farmers had less than an acre which was mainly used for crop production. Feed for dairy was purchased from external sources and varied in quality and quantity.

Table1: Land holding and use on smallholder farms in Kiambu and Kajiado Counties

Type of land use	Kiambu (N=13)		Kajiado (N=11)	
	Mean	SD	Mean	SD
Land for home/compound	0.19	0.05	0.49	0.29
Land for animal house	0.14	0.07	0.18	0.06
Land for cropping	0.36	0.17	3.25	2.47
Land for cut and carry grass	0.3*	0.20	2.20	1.61
Land not cultivated	-	-	2.78**	2.88
Total land holding	0.74	0.28	8.23	6.70

*, ** only two and eight respondents in Kiambu and Kajiado respectively

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Cow housing design and hygiene:

Most of the floors were made of concrete and lacked beddings, the cubicle sizes were small and the cow to cubicle ratio was low in many farms. In most cases the animals were soiled with slurry on various areas of their bodies due to accumulation of slurry in the cow house.

Animal welfare:

The cows were not grazed in any of the farms and feed was cut and carried to the cattle. This creates a major conflict in relation to the organic principles and recommended practices.

Disease and pest management:

There was routine use of acaricide against ticks as a preventive measure to tick-borne diseases which are a major cause of losses in smallholder farms. Pharmaceuticals were used to control diseases. In all cases a veterinarian administered the treatment.

Table 2: Tick control practices in the farms

Parameter detail	Kiambu (N=13)		Kajiado (N=11)	
	Number	Percentage	Number	Percentage
Frequency of application/use of acaricides				
○ Weekly	5	38.46	6	54.55
○ Once every 2 weeks	4	30.77	3	18.18
○ Once a month	4	30.77	2	27.27



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Assessment for potential for integration of organic milk production:

- Farmers are already practicing organic crop production; therefore, they have better understanding of the organic principles and are able to put in place recommendation to convert their dairy enterprises
- There are possibilities of coordinating with other organic farmers to supply organic feed or crop residues for organic dairy producers while the dairy producers provide manure in exchange.
- There exists a market for organic milk that needs to be organized. This make it possible to incentivise the farmers for producing milk based on organic principles.
- There exist a great potential to develop organic milk production through the existing organic networks in Nairobi.
- Organic farmers can practise share-cropping and specialize

Conclusion

Prospects for conversion of smallholder farming systems to organic dairy production will depend on the ability of the farmers to make structural adjustments on the cow housing and allocate more land to the dairy enterprise.

Recommendations

Capacity building on the basic requirements for organic dairy production is essential to ensure that interested farmers make the necessary adjustments to integrate their enterprises.

Partners

Makerere University, Uganda
University of Nairobi, Kenya
Sokoine University of Agriculture, Tanzania
Aarhus University, Denmark
University of Copenhagen, Denmark
International Centre for Research in Organic Food Systems (ICROFS), Denmark

Associated partners

National Organic Movement of Uganda (NOGAMU)
Kenya Organic Agriculture Network (KOAN)
Tanzania Organic Agriculture Movement (TOAM)
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Further reading

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For more information visit <http://icrofs.dk/en/research/international-research/progroov/>

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