FARMING CROPS TO INCREASE CATTLE HERD SIZES IN A SEDENTARY SYSTEM OF SOUTHWESTERN UGANDA

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Background and Objective

- Uganda rangelands maintain about 90% of national cattle in small holder farms and ranches
- Milk production is important source of livelihood for pastoral households, but its share of contribution to households' incomes has remained low for many decades in southwestern Uganda.
- This in part has prompted introduction of crop cultivation in the rangelands in a bid to produce staple food for home consumption and supplement pastoral household income.
- study analyzed the contribution of rangeland crop cultivation to household food security Our and how that might influence population dynamics of cattle herds in a sedentary system

Conclusions

- Cultivating crops in rangelands for HH food provision compensates low income from selling \bigcirc livestock products and makes pastoral households more food secure
- Pastoral households sell banana crop (Musa spp) surpluses to avoid cattle sales for petty cash
- Less dependence on cattle sales for pastoral households' expenditure leads to increase in size of cattle herds
- Pastoral households use crop residues as animal feeds and animal wastes as fertilizer, \bigcirc
- which in turn optimizes range resource use in southwestern Uganda

Materials and Methods

• A survey was conducted between June 2013 and February 2015 in Lake Mburo Conservation Area (LMCA) in Nyabushozi County, Kiruhura district, southwestern Uganda.



Slide 1: Banana cultivation in the valleys



Slide 2: Cattle herd grazing on a hill top

Poor pastoralists cultivate crops for own food and extra income to limit sale of live animal, while wealthy households cultivate crops mainly to supplement household food supplies. • Households with major crop species cultivated in LMCA also varied strongly along a distance gradient from LMNP...













Data were collected using non-participant observation and interviews with 366 respondents from randomly sampled households. The households were equally distributed across six distance zones along a gradient from Lake Mburo National Park (LMNP)

• In the analysis we segregated data into pre-defined groups identified by cattle herd sizes and income generating activity in order to maximize intra-group homogeneity and inter-group heterogeneity (Everitt et al., 2011).

Results

• Four categories of pastoral households' wealth status were difined based on cattle herd sizes. Cattle herd population dynamic in the past 5 years varied among the four household categories.

Majority of households with 50 cattle and below reported increases in herd sizes, whereas wealthy pastoral households (>100 cattle) were leading with relatively stable populations over the same period



4	8	12	16	20	24		4	8	12	16	20	24
Distance in km							Distance in km					

Figure 3 Major crops cultivated along a distance gradient from Lake Mburo National Park

• We presented food security situation for households in each zone along a distance gradient from LMNP (Table 1).

• A slight majority of respondents (50.7%) reported that their household food situation had improved over the past five years.

Table 1: Spatial variations in food security situation among sedentary pastoralists

			Mean Difference at
	Food secure %	Food insecure %	95% CI
Zones in km			
0 - 4	33.3	66.7	-1.333***
4 - 8	36.2	63.8	-1.310***
8 - 12	60.9	39.1	1.391***
12 - 16	76.7	23.3	1.233***
16 - 20	80.6	19.4	1.197***
20 - 24	71.0	29.0	1.290***

Mean difference was significant between food-secure and food-insecure households **p<0.05 and ***p<0.001

• Approximately 38.3% pastoral households experience food shortage at least during some months in a year.

Figure 2: Households' herd population dynamics in 5 years

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