Production parameters estimates of smallholder pig production systems in Uganda

Edwin Oyieng [1][2], Karen Marshall [2] and Matthias Gauly [1]

[1] Faculty of Agricultural, Environmental and Food Sciences, Free University of Bozen – Bolzano, Universitatsplatz ¨ 5, 39100 Bolzano, Italy
[2] International Livestock Research Institute, P. O. Box 30709 - 00100, Nairobi, Kenya

Introduction

❖ 70% of the pig population (4.2 Million) is kept by smallholder farmers.

❖ The pigs are reared under extensive production systems which is a low input-out system.

❖ Little information is available on production parameters within the smallholder production systems.

Methodology

❑ 191 pig keeping households in Hoima and Kamuli districts participated in the study.
❑ Census, baseline household and longitudinal monitoring surveys conducted for 30 months.
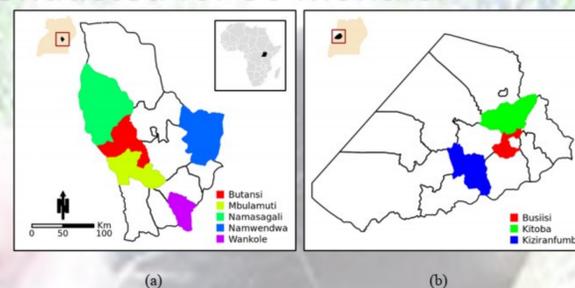
Maps of Kamuli (a) and Hoima (b) districts showing study sites. Inset on the left is a map of Uganda showing location of each district. The inset on the right in (a) is the map of Africa showing location of Uganda.

Results

Household characteristics

✓ The households were mainly male headed.
✓ Average (SD) household size of 6.0 (2.6).
✓ The household head had either primary or secondary education as the highest level of education.
✓ The land size was on average (SD) 2.3 (1.7) acres per household.

Biological parameters

Parameter Category	Parameter	Units	Value
Herd structure	Herd size	Mean (SD)	3.78 (4.06)
	Sows	Mean (SD)	1.48 (0.95)
	Herd composition		
	Piglets	%	35
	Weaners	%	23
	Growers	%	20
	Finishers	%	17
	Late-Finishers	%	5
Reproduction	Age at First Parity	Months, Mean (SD)	14.05 (2.70)
	Parities per sow	Annual	1.1
	Farrowing interval	Days, Mean (SD)	187 (73.06)
	Litter size	Mean (SD)	7.2 (2.3)
	Still birth rate	Per litter	0.02
Mortality rate	Piglets	%	25
	Weaners	%	2
	Growers	%	2
	Finishers	%	1
	Late-Finishers	%	1
Other parameters	Piglets weaned per sow	Annual	6.7 (2.2)
	Off take rate	Annual	8.55
	Intake rate	Annual	1.34

SD = Standard deviation
1 USD = 3,600 UGX

Economic parameters (US Dollars)

Parameter Category	Parameter	Units	Value (USD)
Revenue	*Sale price*		
	Weaners	Mean (SD)	19.33 (14.00)
	Growers	Mean (SD)	38.53 (26.61)
	Finishers	Mean (SD)	46.21 (25.55)
	Late-Finishers	Mean (SD)	58.07 (32.69)
Costs	*Health costs*		
	Curative	Annual, Mean (SD)	1.96 (1.49)
	Preventative	Annual, Mean (SD)	1.59 (2.11)
	Purchased feed	Annual, Mean (SD)	21.79 (21.78)
	Reproduction	Per service, Mean (SD)	3.09 (2.75)
	Pig house costs		
	Construction	Mean (SD)	110.55 (90.36)
	Maintenance	Annual, Mean (SD)	8.88 (7.15)
	Other costs	*Annual, mean (SD)*	*3.85 (1.82)*

Recommendation and Conclusion

➢ A bio-economic analysis needs to be conducted to evaluate the net-benefit of the smallholder pig production system.

➢ The bio-economic analysis will provide evidence-based recommendations for strengthening the smallholder pig sector.

Acknowlegements

Freie Universität Bozen
Libera Università di Bolzano
Università Liedia de Bulsan

unibz

CGIAR

ILRI INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE

Contacts:

Edwin Oyieng'
PhD Candidate - *Sustainable Agricultural Production Systems*
oedwin@unibz.it or e.oyieng@cigar.org

Dr. Karen Marshall
Supervisor and Principal Scientist
k.marshall@cigar.org

Prof. Dr. Dr Matthias Gauly
Supervisor and Chair, Animal Science group
Matthias.Gauly@unibz.it