



RESEARCH  
PROGRAM ON  
Livestock

*More meat, milk and eggs by and for the poor*

# Overview of ILRI's smallholder pig value chain efforts in Hoima district

*Emily Ouma*

Stakeholders Meeting on Ugandan Pigs, Hoima, Uganda, 10-11 July 2017



# Background

- Smallholder pig value chains in Uganda identified as a high-potential target to translate research into major interventions:
  - Stimulate pro-poor transformation and generate benefits at scale.
- High potentials for growth due to rising demand for pork
  - Highest per capita consumption in Eastern Africa at 3.4Kg
  - 4% increase in pig population from 2010 – 2014 (3.4 – 3.5 mn)



# Background

- Smallholder pig value chain activities
  - commenced in 2011
- Funding support
  - EC-IFAD funded project: Catalysing emerging smallholder pig value chains (2011-2014): initiated activities in 3 districts
  - Irish Aid funded project: More Pork by and for the poor: Catalysing emerging pig value chains for food security and poverty reduction (Apr 2014 – Mar 2017): expanded activities into Hoima and Lira districts



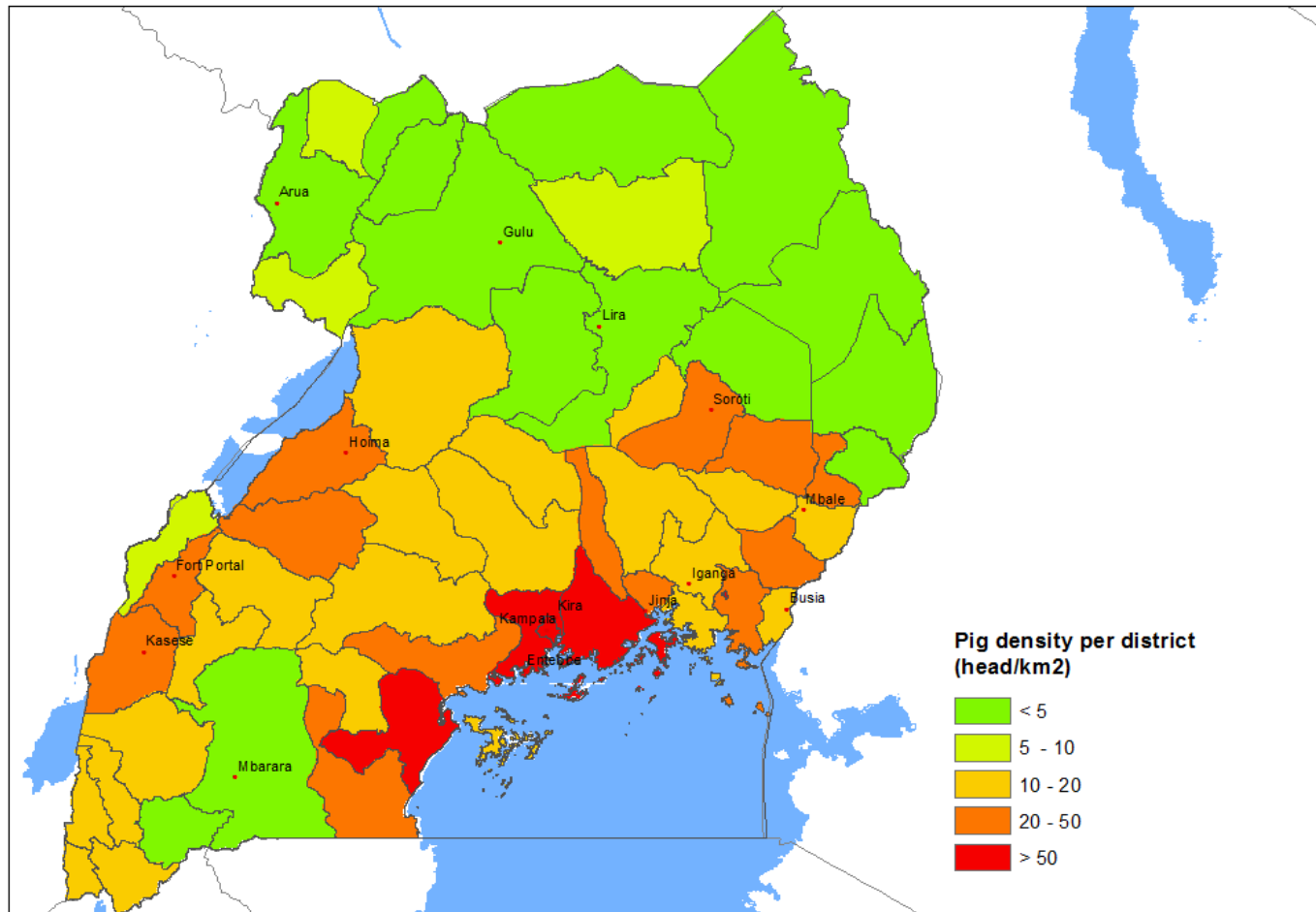
# Partnerships

- *Public sector:* MAAIF, local governments of Kamuli, Masaka, Mukono, Hoima & Lira, KCCA
- *Research/education institutions:* NARO, NaLIRRI, Makerere University (COVAB, CAES, CNS), SLU, Iowa State University – Uganda Program
- *NGOs:* VEDCO, SNV, Veterinaries Without Borders
- *Private sector:* PPM, Union of Pig Coops of Greater Masaka, Wambizzi Coop., Devenish Nutrition



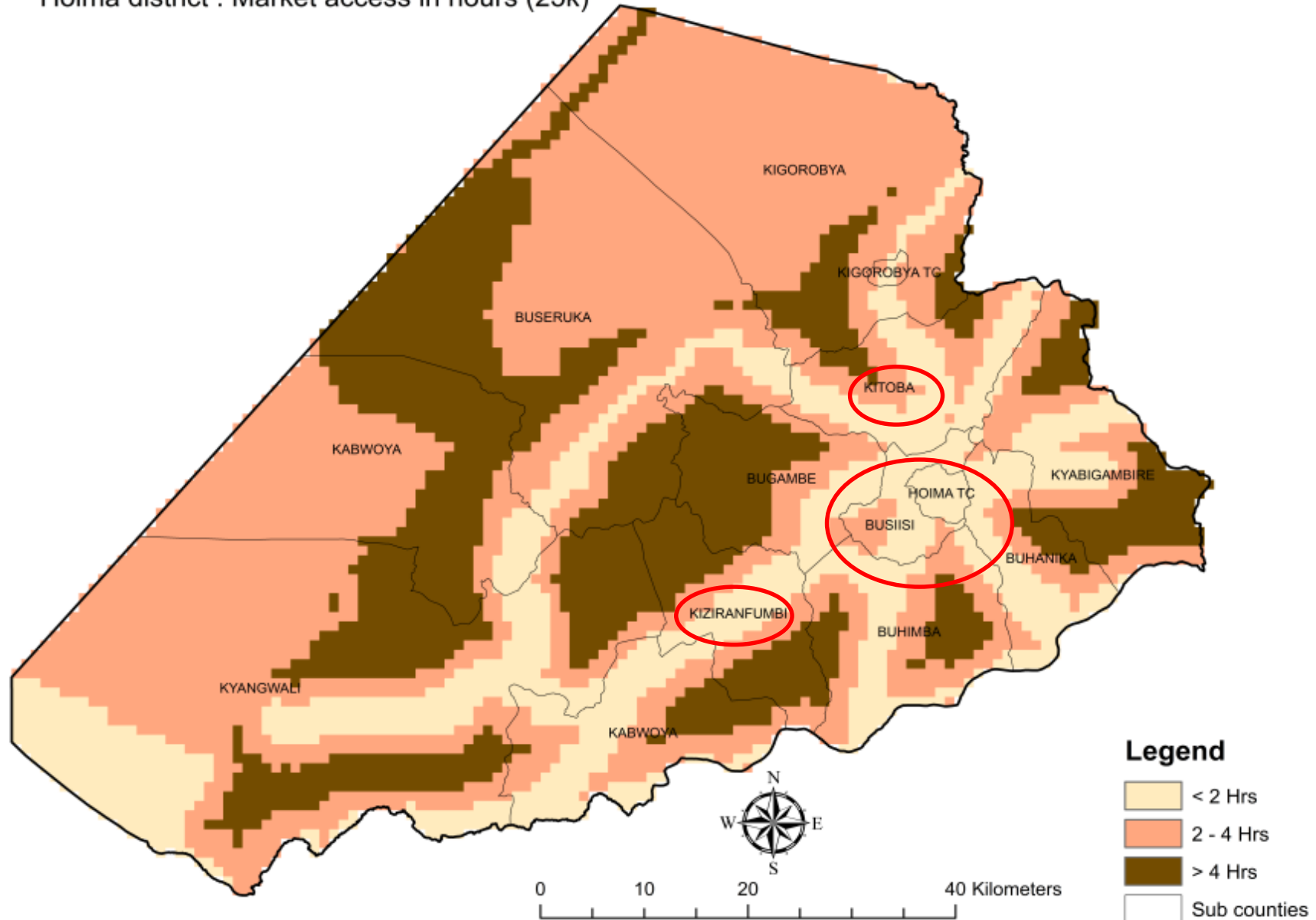
# Selection of target sites

- Using geographical targeting using GIS characterization (pig density, poverty level and market access)



# Project sites in Hoima district

Hoima district : Market access in hours (25k)



# Value chain and diagnostic assessments

- Identify constraints and opportunities in the value chain
  - entry points for interventions
- Methodology
  - Micro-level assessments (value chain actor levels)



# Value chain and diagnostic assessments

## Inputs and service providers

- Questionnaire surveys:
  - Feed stockists
  - Village veterinarians
  - Agroveter stockists
  - Village board owners

## Pig farmers

- Focus group discussions
- Individual interviews

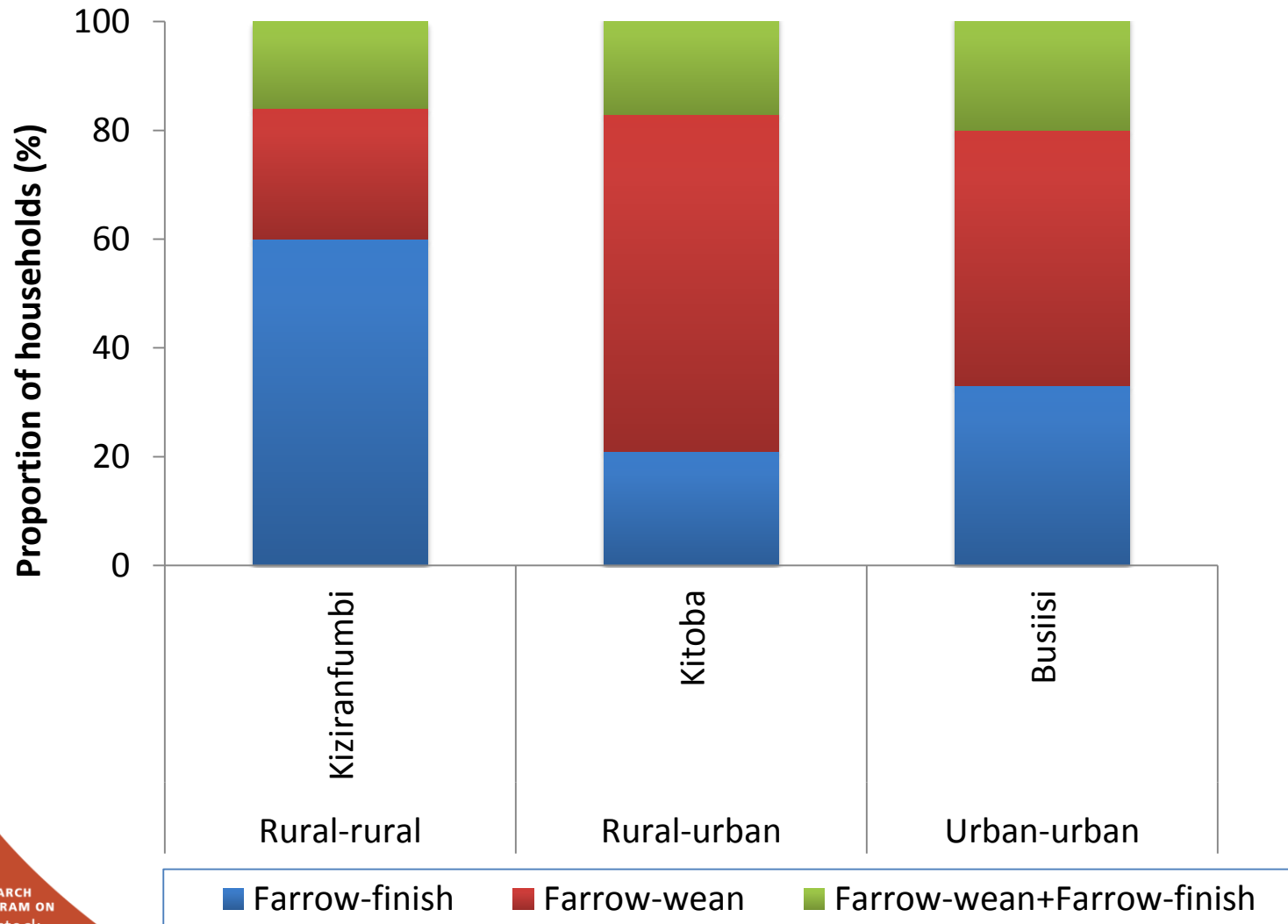
## Post-production nodes

- Questionnaire surveys:
  - Live pig traders
  - Butchers
  - Pork retailers
- Consumer household surveys





# Description of pig production systems



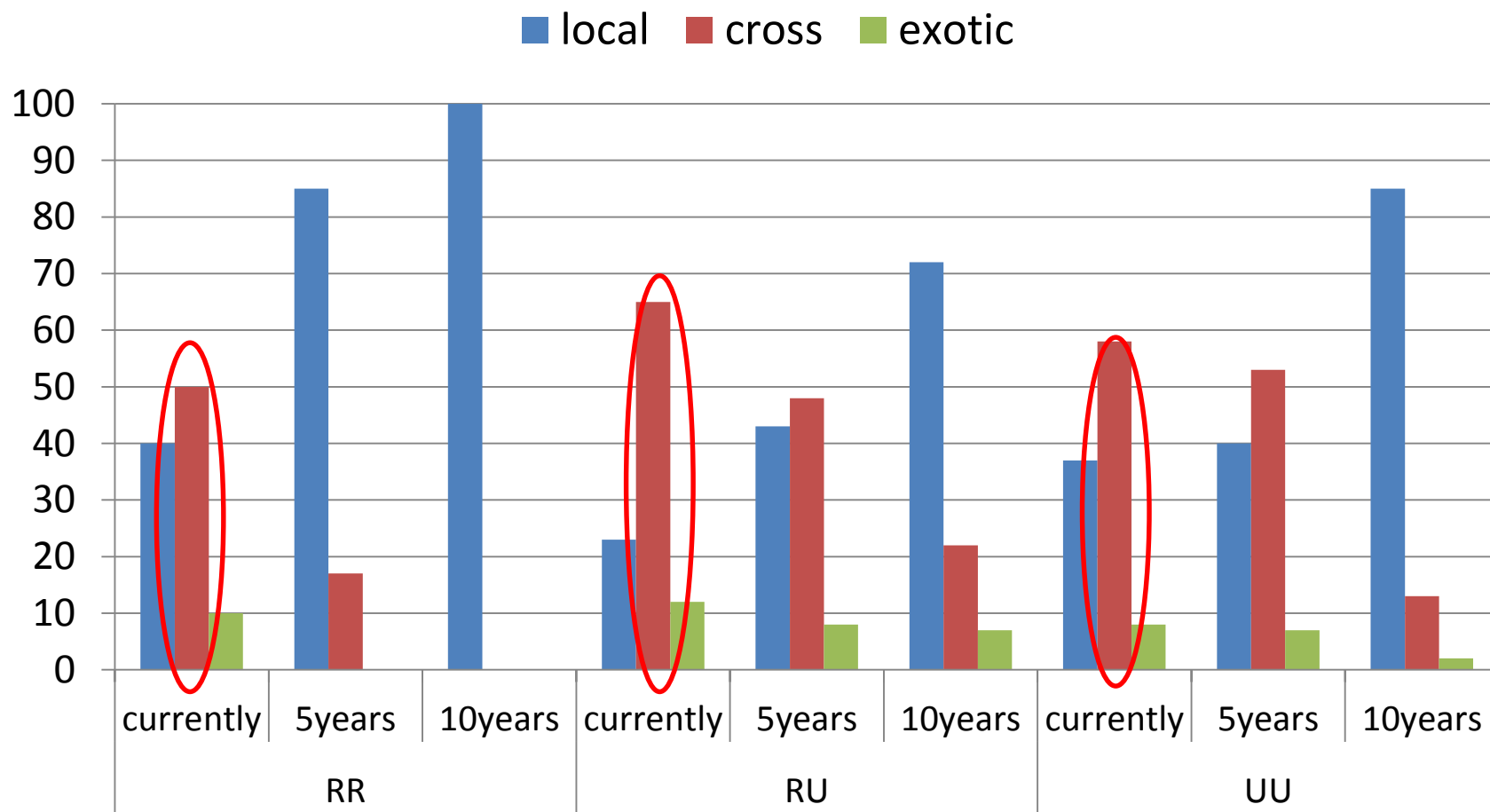
# Marketing outlets for finishers



# Management: Housing typologies

<b>Value chain domain</b>	<b>Sub County</b>	<b>n</b>	<b>Tethering (%)</b>	<b>Free range (%)</b>	<b>Housed (%)</b>
Rural-Rural	Kiziranfumbi	43	63	0	37
Rural-Urban	Kitoba	47	72	0	28
Urban-Urban	Busiisi	39	57	0	43

# Changes in use of different pig breed types over the past 10 years



# Drivers of breed change in Hoima district

- NGOs initiative for livelihood improvement
- Introduction of new/improved breeds of pigs
  - higher litter size c.t local breeds
- Capacity building of farmers in appropriate pig management practices

<b>Rural-Rural (Kiziranfumbi)</b>	<b>Rural-Urban (Kitoba)</b>	<b>Urban-Urban (Busiisi)</b>
Heifer International	NAADS	Tugende Mumaiso
World Vision	World Vision	World Vision
NAADS	HOCADEO	HOCADEO
Tugende Mumaiso		NAADS

# Preferred breed types and constraints

- Both male and female farmer groups prefer cross breeds
- Main constraints to keeping preferred breeds:
  - expensive to buy cross/exotic breed,
  - lack of knowledge on management of cross breeds
  - high costs of inputs like feeds, housing and treatment involved in cross/exotic breed



# Constraints associated with pig feeds and feeding

- Feed availability (quantity)
- Poor feed quality
- High cost of commercial feeds
- Extreme seasonal variations
- Knowledge gaps amongst farmers to use local resources



# Intervention: what we aimed to do

- Better utilization of local feed resources in pig feeding
- Integration of high quality forages in pig diets





# What we did (I)

## Documented current feeding practices

- Household surveys
  - In Mukono, Masaka, Kamuli, Hoima and Lira
- Feed analysis
  - Analyzed nutritive value of 43 local feed ingredients
  - Used knowledge to formulate and test rations on-station and on-farm



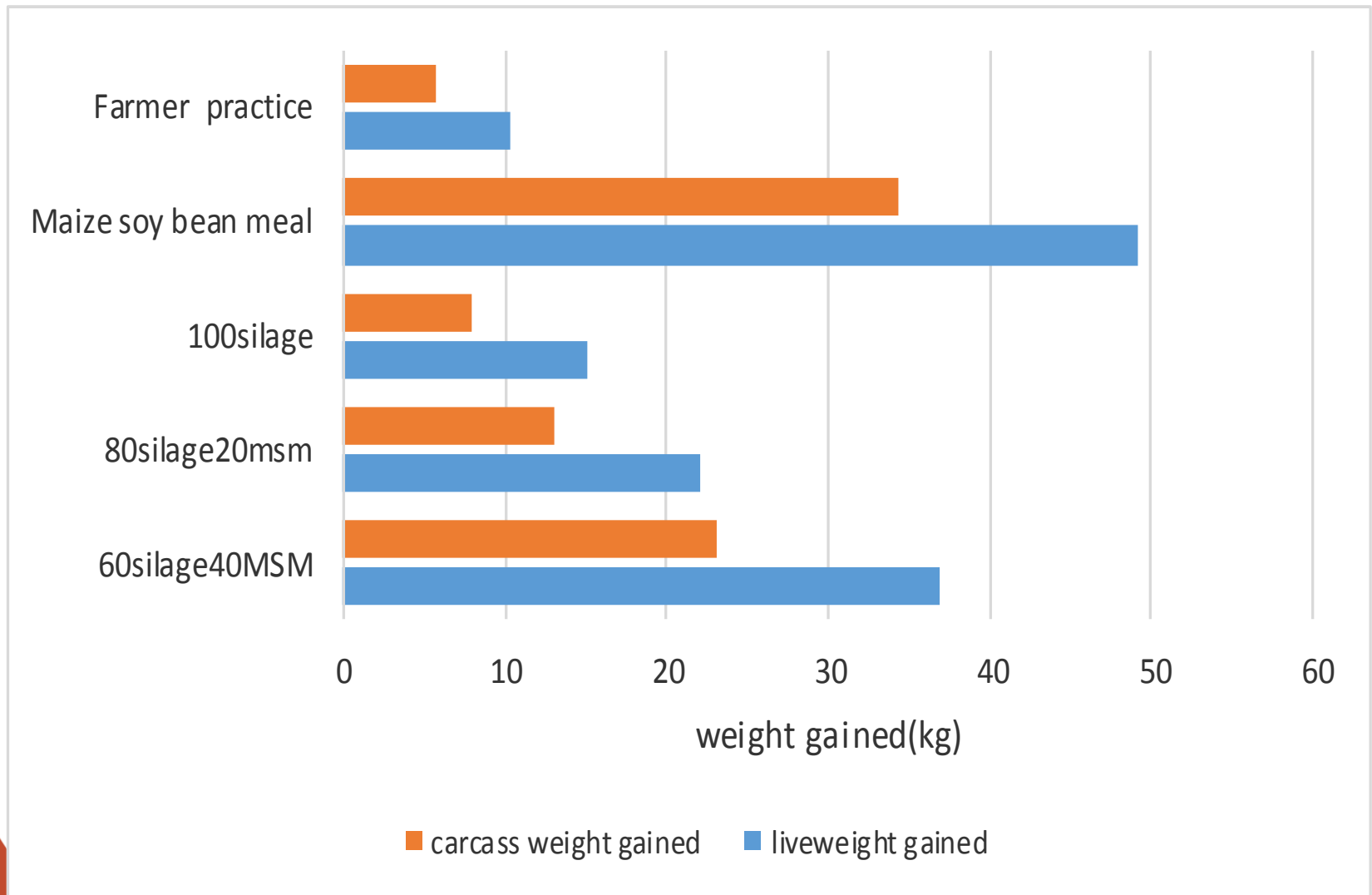
# What we did (II)

## Carried trials to test pig performance on feed rations

- Feed rations based on local ingredients
  - Three diets tested on-station at Kamuzinda farm
- Sweetpotato silage trials
  - Three sweetpotato silage based diets tested on-station
  - Best performing SPS diet validated on-farm
  - Determined the cost benefit for the sweet potato silage based diet.



# Key findings



# What we did (III)

## Capacity development

- Developed training materials
  - A training manual (English & Luganda) and a brochure on how to make silage
  - Brochure on feeding pigs on supplemented silage
  - Extension brief on local formulated rations
- Trainings on sweetpotato silage making and feed rations
  - Extension staff of local governments (Masaka & Kamuli), MUZARDI, NALIRRI
  - Smallholder farmers (280 youth, 1,458 female and 402 male) trained
  - Two silage open days held in Kamuli and Masaka
  - Two sweetpotato silage business centers opened in Masaka and Kamuli
  - Scaling out to Mukono and Hoima districts



# Significance

- Potential of sweetpotato based silage to alleviation of dry season feed shortages smallholder farms
- Potential to improve use of local feed resources to improve pig nutrition
- Business opportunities around small scale silage making (Twekembe youth group already making and selling silage)

# What we did (IV)

## ■ Forages

- Evaluated on-station (with BURZADI) and on-farm forages that are suitable for feeding pigs (low fiber, high protein)



# Forages established in farmer fields in Hoima and in BUZARDI

Trifolium Decorum	Trifolium tembese
Lablab purpureus	Desmodium intortum
Desmodium uncinatum	Vicia vilosa
Lupinus, angustifolius	Stylosanthus hermata
Demathus vergatus	

# Are Hoima households food insecure?

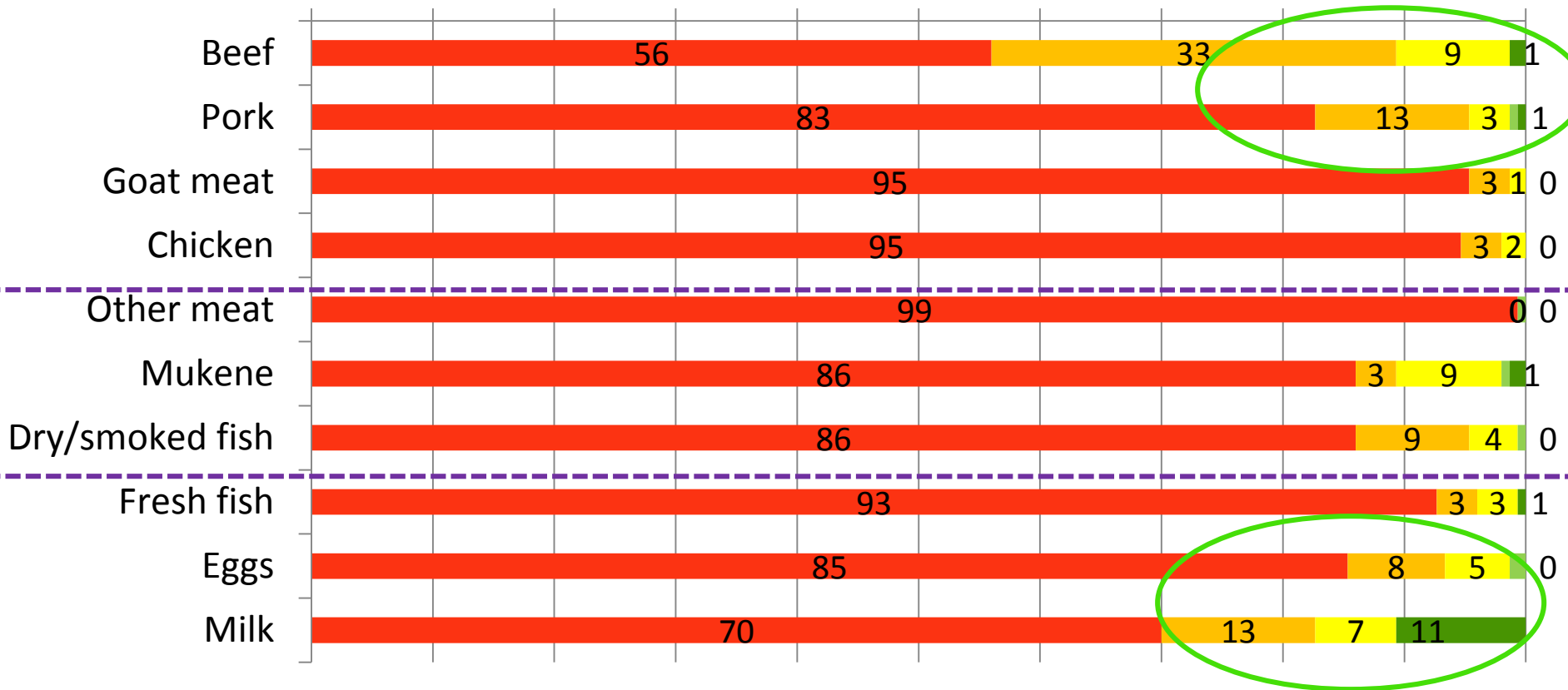




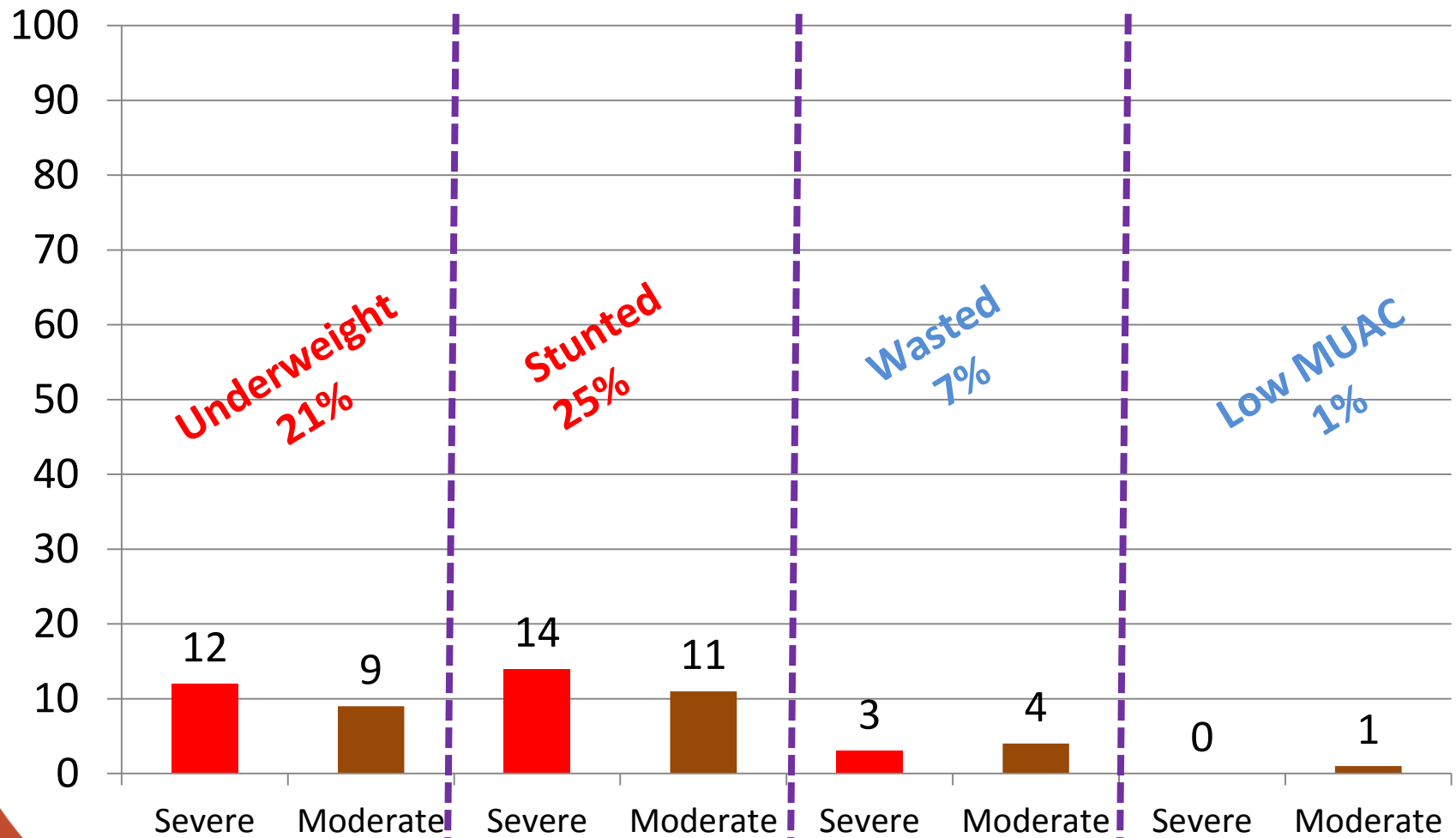
# How frequently do households in Hoima consuming animal-source foods in a month?

None Once 2-3 days 4-6 days Daily

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%



# Nutrition status of children in Hoima



# CGIAR Research Program on Livestock

[livestock.cgiar.org](http://livestock.cgiar.org)



The program thanks all donors and organizations which globally support its work through their contributions to the [CGIAR system](#)

The **CGIAR Research Program on Livestock** aims to increase the productivity and profitability of livestock agri-food systems in sustainable ways, making meat, milk and eggs more available and affordable across the developing world.



This presentation is licensed for use under the Creative Commons Attribution 4.0 International Licence.