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## Enhancing milk quality and consumption for improved income and nutrition in Rwanda (2017-19)

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Project and Innovation platform meetings – Hotel Mille Collines April 26 - 27 April 2018 Kigali, Rwanda

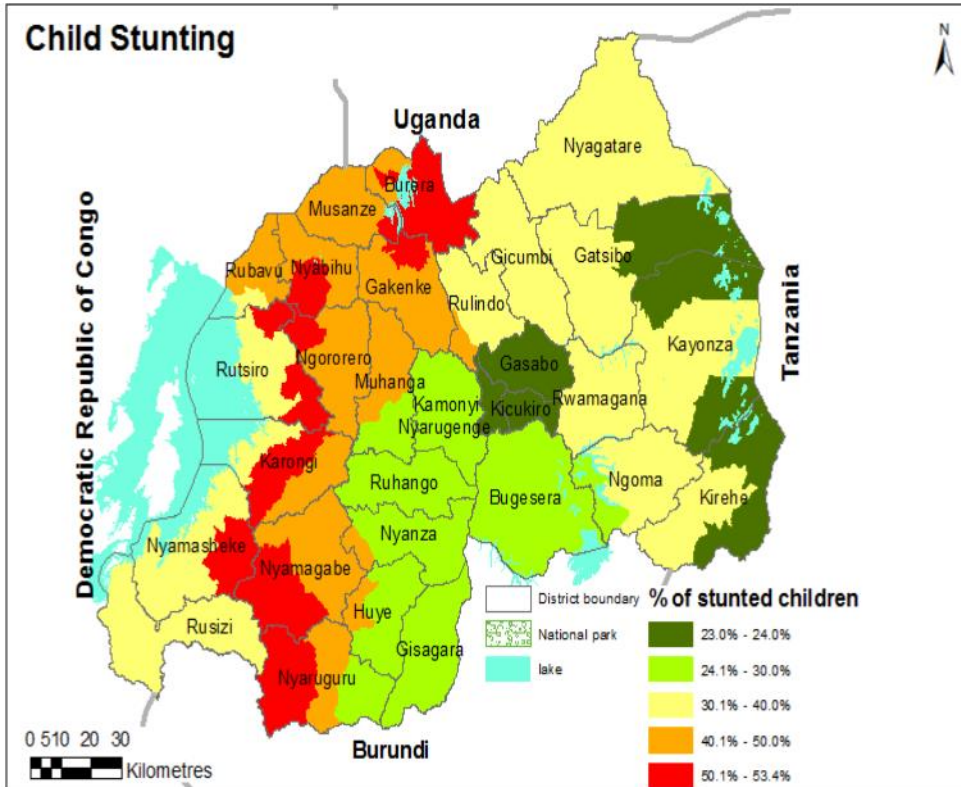




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## RATIONALE



- 37% of children less than 5 years of age are stunted
- Increased consumption of animal source foods (ASFs), including milk - key pathway to improving dietary diversity and child stature
- Girinka program – increased household income and reduce child malnutrition among poor households
- Lack of evidence linking dairy value chain interventions to nutrition outcomes



## RATIONALE



- USAID Feed the Future-funded Rwanda Dairy Competitiveness Program II – 2012-2017
- Many achievements, but challenges still exist as regards:
  - Production of high quality milk
  - Achieving competitiveness in milk market channels
  - Governance of dairy cooperatives and low value proposition to members



## PROJECT OBJECTIVE I

- To evaluate the impact of a nutrition education intervention on ASF consumption and nutrition outcomes among children 12-23 months of age and pregnant and lactating women.

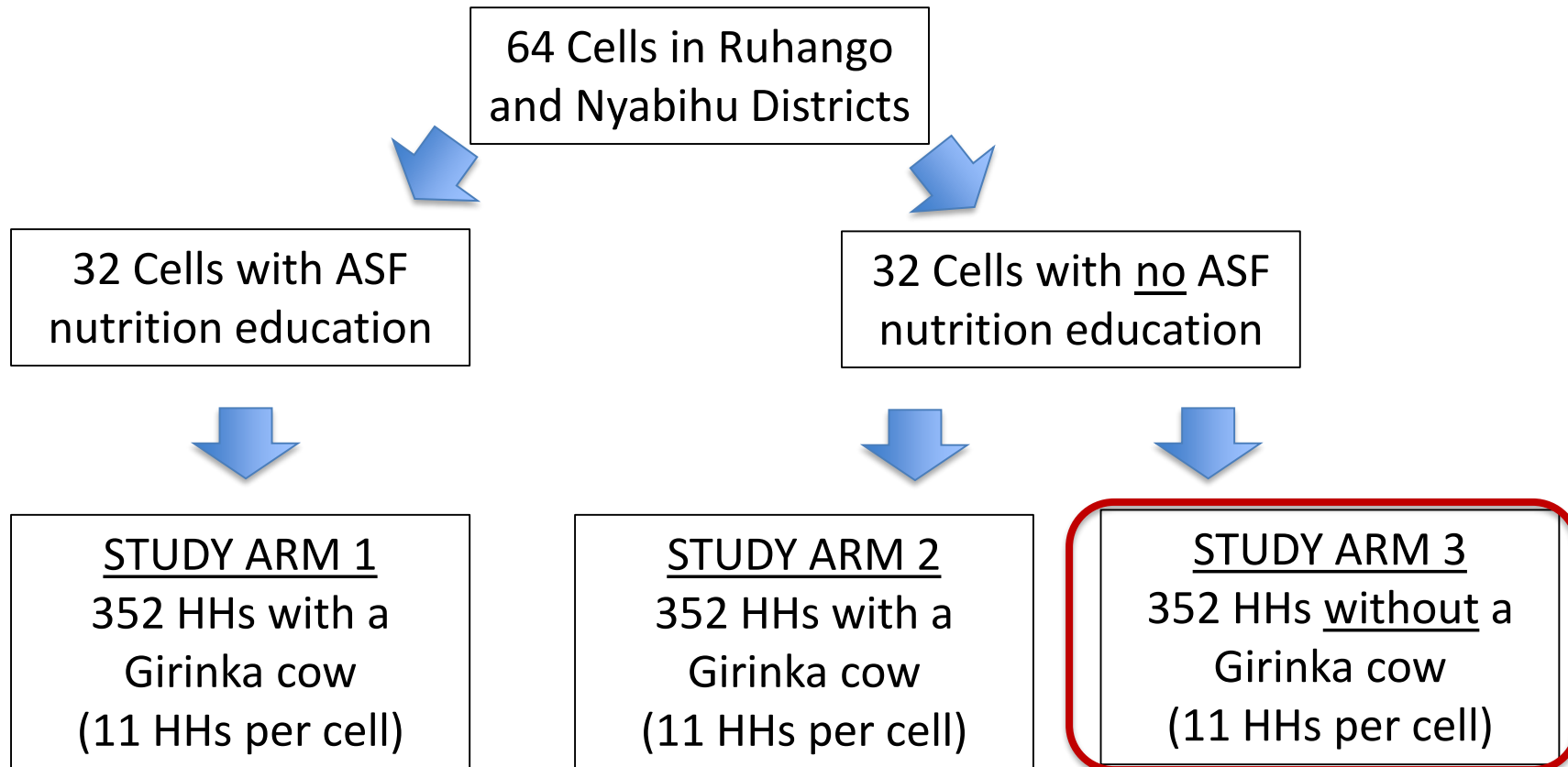
### Research question:

Does receiving a cow through the Girinka program plus nutrition education contribute to a greater improvement in nutrition outcomes in women and young children than receiving a cow only or being eligible for Girinka, but not receiving a cow?





## STUDY DESIGN - CLUSTER RANDOMIZED CONTROLLED TRIAL







## NUTRITION BASELINE SURVEYS



- Training of enumerators
  - Household eligibility checks (study arms)
  - Informed consent (surveys and photography)
  - Content of the household questionnaire
  - Taking anthropometric measurements
  - Use of tablets for data collection
  - How to upload survey data



## NUTRITION BASELINE SURVEYS

- Pre-testing of survey instruments in Nyabihu district





## NUTRITION BASELINE SURVEYS



- Anthropometry equipment
  - Child height boards and weighing scale from College of Medicine and Health Sciences, University of Rwanda
  - Lack of adult stadiometers
    - Project has facilitated fabrication of adult stadiometers by a carpenter in Kigali







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## NUTRITION BASELINE SURVEYS



- Surveys commenced in Ruhango district - April 2018



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## FORMATIVE SURVEY DATA COLLECTION

- Implemented by StratDever (RTI's sub-contractor)
- Target - Girinka beneficiary households in Ruhango and Nyabihu

### Methodology

- Qualitative interviews with 30 mothers of children 12-23 months using in depth interview guides
- 2 focus group discussions (FGDs) with mixed men and women groups
- Focus: knowledge, attitude and practices towards milk consumption, and existing barriers
- Results to form the basis for discussing and developing the nutrition intervention in collaboration with government and other stakeholders at 2 national design workshops.
- Behavior Change Communication strategy on ASF promotion will be used to develop training materials for CHWs (124 CHWs will be trained).





## PROJECT OBJECTIVE 2

- To assess and enhance performance and capacity of dairy cooperatives to improve market access for smallholder milk producers.

### Research question:

How does targeted capacity development of the dairy cooperatives improve sustainability and market access for the smallholder milk producer members?



## OBJECTIVE 2: METHODOLOGY

- Identify capacity gaps - assess current capacity levels of 30 dairy cooperatives (RDCPII targets) using AgPOSA tool: Producer Organization Sustainability Assessment (POSA) tool (ILRI/TechnoServe) and AgroPro – performance assessment tool (Land O' Lakes)
- Targeted capacity building and mentorship of 4 dairy cooperatives on sustainability aspects based on results from the capacity assessment
- 16 cooperatives: market systems facilitation approach to enable linkages with business development services







## AGPOSA COOPERATIVE ASSESSMENTS



- AgPOSA baseline surveys for 30 cooperatives completed and final report submitted
- Capacity development strategy and plan developed
- 4 cooperatives to undergo the intensive capacity building intervention and 16 cooperatives for the Market Systems Facilitation selected
- Conducted pre-engagement meeting with the Board of Directors of the 4 cooperatives.
- TNS adapted existing training materials and shared with ILRI and the UF-CapDev team for review





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## PRELIMINARY RESULTS – DAIRY COOPERATIVE ASSESSMENTS



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## INTRODUCTION: ASSESSMENT

- Agriculture Producer Organization Sustainability Assessment (AgPOSA) is a harmonized tool from two separate tools: AgroPro (cooperative assessment tool) developed by Land O'Lakes and Producer Organization Assessment Tool developed by ILRI and TechnoServe.
- AgPOSA is a tool which assesses the sustainability of business hubs using 6 sustainability pillars:
  - Financial Health, Engagement with output market, Effective and transparent PO leadership and management, Access to dairy inputs and services, Relationship with external environment and Member loyalty.



## INTRODUCTION: ASSESSMENT

- AgPOSA guides POs and the project in:
  - Assessing their progress towards sustainability
  - Identifying and prioritizing sustainability gaps
  - Decision making regarding facilitative support to POs and exit strategy.
  - Dialogue with partners





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## AGPOSA TOOL DIMENSIONS AND SCORES

Dimension	Sub-dimension	Maximum score
Financial health	Profitability	5.00
	Liquidity	2.00
	Capital structure	3.00
Engagement with output market	Milk quality	3.00
	Market reliability	7.00
	Suppliers	8.00
	Representation and participation	7.00
Effective and transparent PO leadership and management	Effective PO supervision and control	8.50
	Effective PO management	8.50
Access to dairy inputs and services	Dairy feeds and feeding	5.00
	Genetics	3.00
	Herd health	3.00
	Extension services	3.00
	Financial services	4.00
Relationship with external environment	Partnership with actors	2.00
	Corporate social responsibility	1.50
	Risk management	1.50
Member loyalty	Patronage	3.50
	Member investment	2.50
	Ownership	2.00
	Member loyalty programs	2.00
PO Total		100.00



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## STAGES

STAGE	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5
<b>SCORE RANGE</b>	0-20	21-40	41-60	61-80	81-100
<b>FEATURE</b>	<p><b>Set-up</b></p> <p>Focus on business start-up. Focus on getting governance procedures in place.</p>	<p><b>System Development</b></p> <p>Focus on getting business running. Focus on completion of foundation activities and implementing initiatives.</p>	<p><b>Systems Improvement</b></p> <p>Focus on adding value to farmers and markets. Begin stabilizing growth across all dimensions and focus on financials.</p>	<p><b>Stabilization and growth</b></p> <p>Focus on holistic business improvement. Financials become key and strength in all dimensions for sustainability. More farmers mobilized to increase scale</p> <p>Focus on long term sustainability and differentiation.</p>	





## DAIRY COOPERATIVES/PO ASSESSED



Rwanda

30

### East Milkshed

MUDACOS,  
CODEN Ngarama,  
Rwimbogo Dairy  
Cooperative Society,  
Buhabwa Dairy  
Farmers Cooperative,  
COABONDE,  
Abashumbabeza,  
KAMDAMACO, KAFCO,  
BNRT,  
CECOLA Zirakamwa

### South Milkshed

KIDACO,  
RUDACO,  
COOPEKA,  
Terimbere Mworoz  
w'inka,  
Cooperative Amizero  
y'aborozi,  
Gwizumukamo  
Busoro,  
Giramata Mworoz  
Nyagisozi,  
Indakemwa  
Mugandamure

### North Milkshed

Agiragitereka,  
KOPIZI,  
CEMO Nyabihu,  
CEZONYI Nyabihu,  
Cooperative  
Turwanye Bwaki,  
Zirakamwa  
Twicundire  
Mizingo,  
CTSOR-Rulindo

### Kigali Milkshed

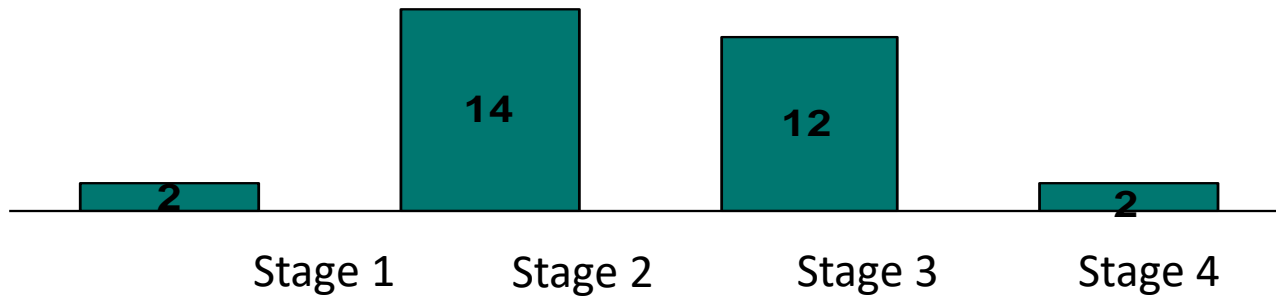
KOINDAMU,  
Bugesera Milk Collection  
Center,  
Borozi Twisugane  
Kabuga,  
COPEMOBU,  
KOZAMGI Rutare



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## DISTRIBUTION OF PO BY STAGE



	Stage 1	Stage 2	Stage 3	Stage 4
<b>Score range</b>	0-20	20-40	40-60	60-80
<b>% of total</b>	7%	47%	40%	7%



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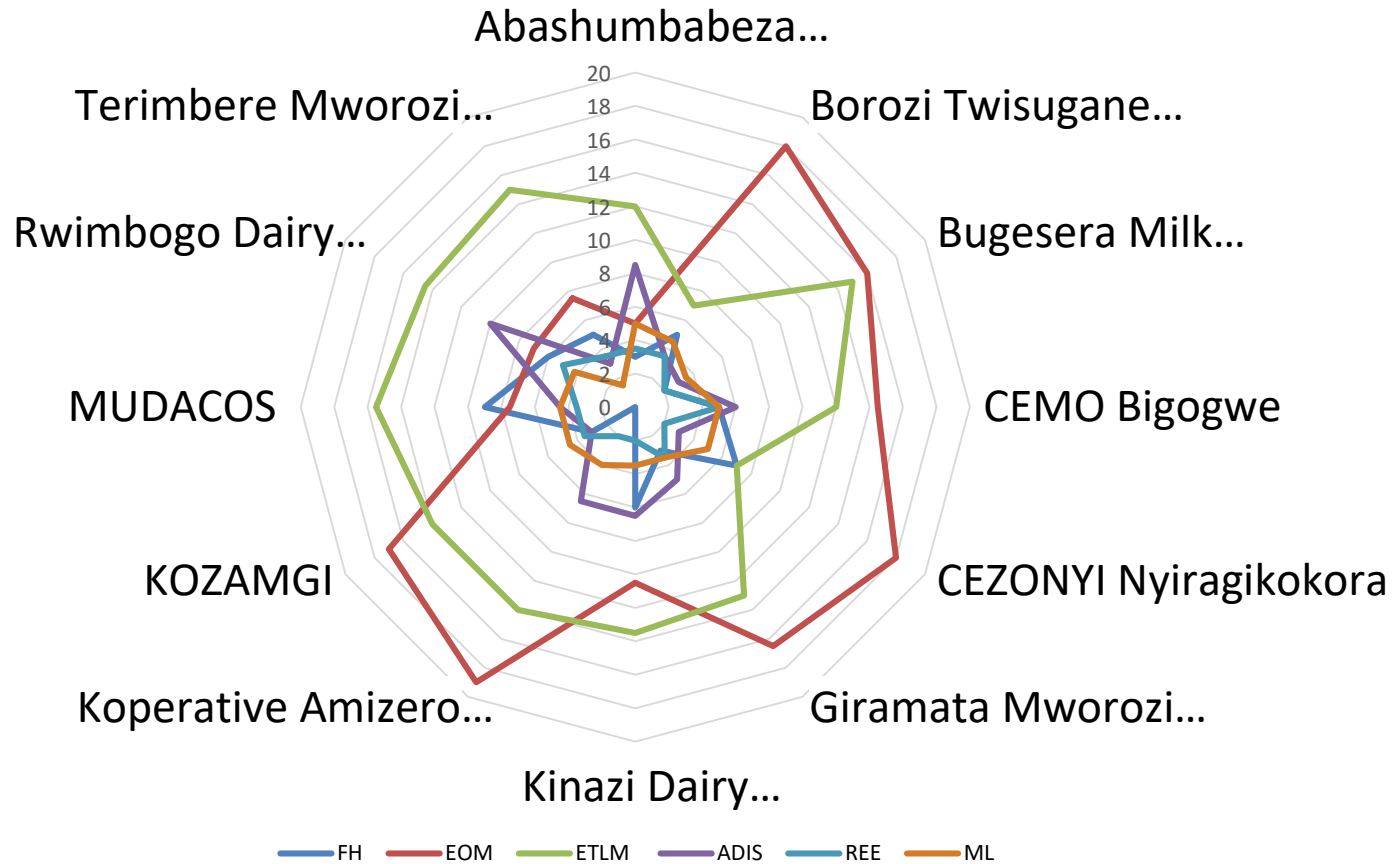




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## SCORES PER DIMENSION OF POs IN STAGE 3





## PROJECT OBJECTIVE 3

- To evaluate the costs and benefits to value chain agents of supplying quality milk that meets SOQ standards (now referred to as the “Dairy best practices compliance program”)

### Sub-components

1.1 assess the feasibility of the certification scheme and the distribution of its costs and benefits along the dairy value chain.

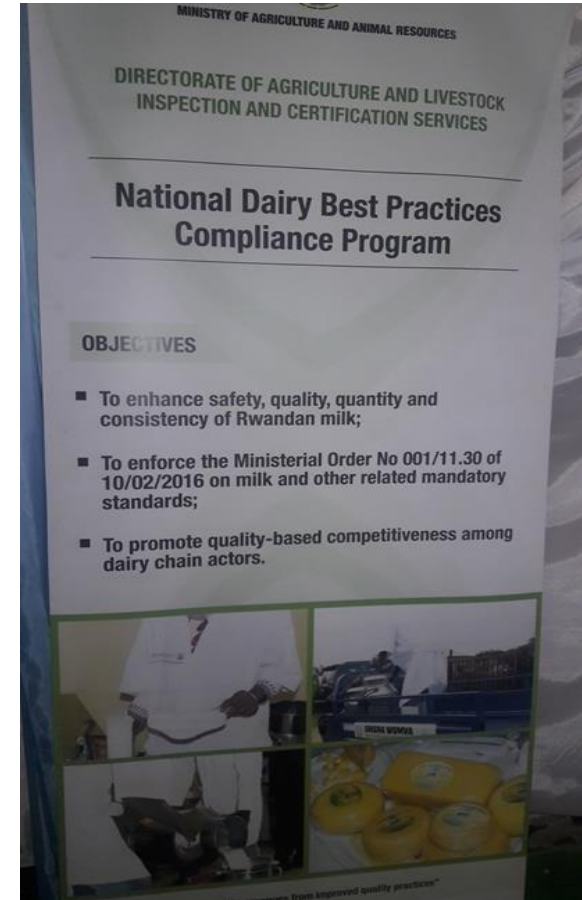




## PROJECT OBJECTIVE 3

I.2: Assess the effect of the certification scheme on the cost structure of smallholder dairy farms.

I.3: Analyse consumer demand for safe milk focusing on health risk reduction and willingness to pay for quality certified milk and milk products.





## OBJECTIVE 3: METHODOLOGY

- System dynamics modelling with selected dairy value chain agents (participatory model building )
- Dairy producer surveys (380 dairy households) supplying milk to the certified MCCs in the Northern and Southern milk sheds
  - Econometric estimation of the producer cost function
- Milk consumer surveys to assess WTP for certified milk/products – hedonic pricing in addition to simulated market experiments.
- Milk sampling and microbiological analysis for total mesophilic count (TMC), coliforms, *S. aureus*, *Salmonella* and *L. monocytogenes*





## FEASIBILITY OF MILK QUALITY CERTIFICATION SCHEME

- 1<sup>st</sup> meeting with the Rwanda National Dairy Platform held in March 2018 to map out the qualitative dairy value chain – part of System Dynamics participatory model building exercise
- **Next steps:** Quantify the value chain map (cost and prices received by various actors – target VC cluster members of RNDP)







## WAYS TO ENSURE DEVELOPMENT OUTCOMES POST-RESEARCH

- Raising visibility and sharing results widely - various communication strategies for awareness creation
- Buy-in by government ministries and district committees – activities can be integrated in district plans or taken up by partners such as the RNDP
- Uptake and scaling out through other development projects, e.g. new World Bank funded project (2018 – 2023) - “Rwanda Stunting Prevention and Reduction Project” – focus on children under 5 years (Implementing agency Ministry of Finance and Economic Planning and RBC)





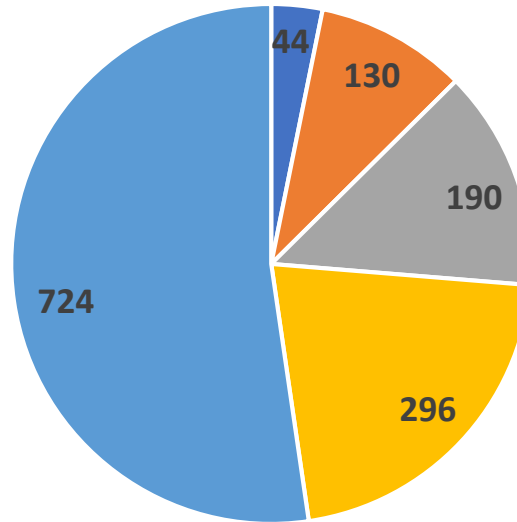
## CHALLENGES

- Lengthy processes for research clearance for project activities involving household surveys and interventions (ILRI IRB, University of Rwanda IRB, NISR Visa, MINALOC)
- Long bureaucratic procedures at the University of Rwanda to recruit project Research Assistant
- Sampling frame issues for the nutrition study
  - Decentralization of Girinka program – implications for obtaining Girinka beneficiaries lists
  - Incomplete list in some sectors
  - Girinka scope (cows from Government, NGOs, neighbours, family, etc)
  - Inaccurate information by households and community leaders (expectations/fear?)
  - Difficulties in obtaining households with child age range (12-23 months)





## RUHANGO DISTRICT GIRINKA BENEFICIARY HOUSEHOLDS – CHILD AGE RANGES



Girinka beneficiaries in 16 cells - 1384 households

Expand sampling to neighbouring non-sampled cells

- less than 12 months
- 12-23 months
- 24 months to 60 months
- >5 years
- No young child





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UNIVERSITY of FLORIDA



## RESEARCH AND ETHICAL COMPLIANCE

- Approval by USAID for adjustments in study components based on 2017 IP suggestions – August 2017
- Research and ethical compliance
  - ILRI IRB – 22<sup>nd</sup> Sept 2017
  - Rwanda College of Medicine and Health Sciences IRB – 14<sup>th</sup> Dec 2017
  - National Institute of Statistics Rwanda visa clearance – 8<sup>th</sup> Feb 2018
  - Ministry of Local Government clearance – 1<sup>st</sup> March 2018
  - ILRI-RTI IRB reliance agreement – signed on 1<sup>st</sup> March 2018

