RESEARCH PROGRAM ON Livestock

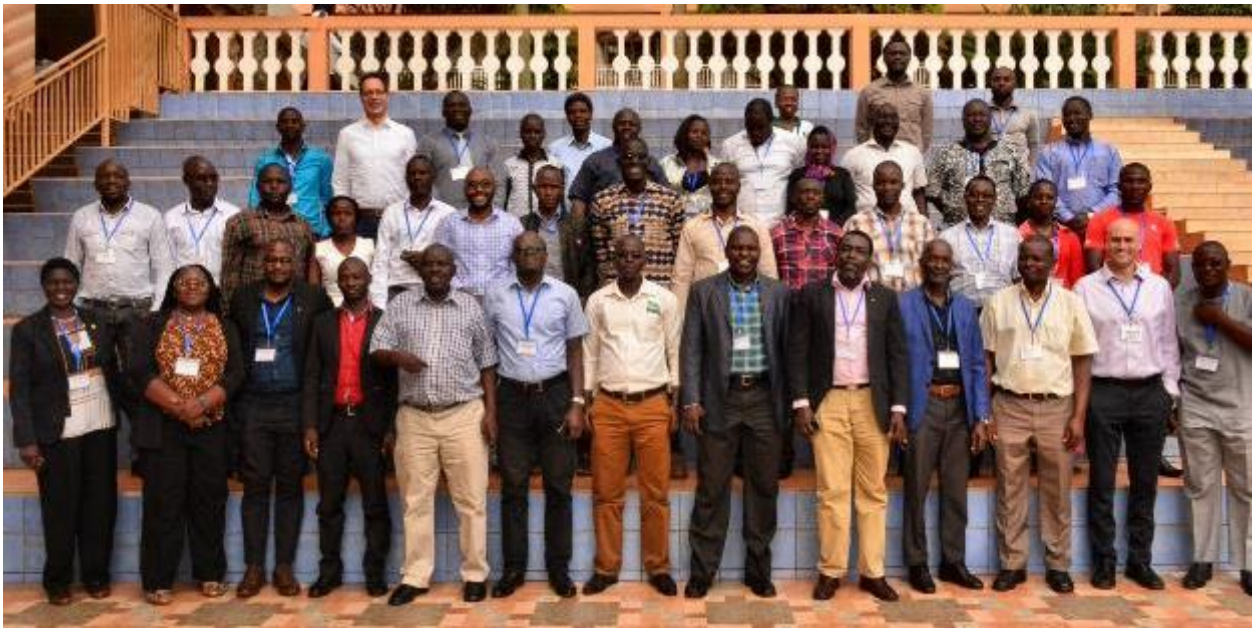
More meat, milk and eggs by and for the poor

Uganda pig value chain scaling scan

Workshop report

Iddo Dror and Nicole Wu

International Livestock Research Institute



March 2020

CGIAR is a global partnership that unites organizations engaged in research for a food-secure future. The CGIAR Research Program on Livestock provides research-based solutions to help smallholder farmers, pastoralists and agro-pastoralists transition to sustainable, resilient livelihoods and to productive enterprises that will help feed future generations. It 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. The Program brings together five core partners: the International Livestock Research Institute (ILRI) with a mandate on livestock; the International Center for Tropical Agriculture (CIAT), which works on forages; the International Center for Agricultural Research in the Dry Areas (ICARDA), which works on small ruminants and dryland systems; the Swedish University of Agricultural Sciences (SLU) with expertise particularly in animal health and genetics and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) which connects research into development and innovation and scaling processes.

'The Program thanks all donors and organizations which globally support its work through their contributions to the CGIAR Trust Fund'

Citation: Dror, I. and Wu, N. 2020. Uganda pig value chain scaling scan. Nairobi, Kenya: ILRI.

Patron: Professor Peter C Doherty AC, FAA, FRS
Animal scientist, Nobel Prize Laureate for Physiology or Medicine–1996

Box 30709, Nairobi 00100 Kenya
Phone +254 20 422 3000
Fax +254 20 422 3001
Email ilri-kenya@cgiar.org

ilri.org
better lives through livestock

ILRI is a CGIAR research centre

Box 5689, Addis Ababa, Ethiopia
Phone +251 11 617 2000
Fax +251 11 667 6923
Email ilri-ethiopia@cgiar.org

ILRI has offices in East Africa • South Asia • Southeast and East Asia • Southern Africa • West Africa

Contents

Executive summary

The CGIAR Research Program on Livestock (hereafter Livestock CRP) is piloting integrated interventions in "priority countries", which are intended to serve as 'field laboratories' where it can test its 'products' and take them to scale and design integrated livestock interventions. Building on past work, in mid-2019 the Uganda team put together a priority country proposal to cover the period till 31 December 2021, titled 'Improving pig productivity and incomes through an environmentally sustainable and gender inclusive integrated intervention package'. The proposed project aims to improve livelihoods of women and men farmers through a market systems approach, by supporting stronger and more profitable market linkages between pig aggregators (buyers) and pig producers through market arrangements. This strengthens backward linkages with inputs and service suppliers, thereby incentivizing adoption of the integrated productivity and enhancing best-bet interventions tested through CRPs. It will have a heavy focus on capacity building of the value chain actors on the best-bet interventions through an information and communication technology (ICT) platform.

Based on previous work and analysis, a launch meeting was held in Kampala from 4-5 November 2019. The workshop helped participants to identify two major opportunities in the pig value chain in Uganda, namely, 'basket of technologies' and 'market arrangement'. These opportunities have great potential to increase the adoption and make the transit to income generation and sustainable livelihoods. Building on this work, a 1.5-day scaling scan workshop with stakeholders was organised from 5-6 November 2019. The workshop resulted in 'ambitions for scaling' and review of the critical components for successful scaling. It was followed by a summary and reflection workshop on 18 February 2020 with a smaller core team to consolidate findings and clarify next steps for the CRP scaling assessments in Uganda.

The November 2019 workshop sensitized Livestock CRP and partners to the concepts of scaling, including the multiple dimensions of scaling and the significant role non-technical factors with "scaling mindset" in project planning. Participants developed realistic scaling ambitions for technology and set feasible scaling pathways to scaling ambitions. They also assessed the challenges and opportunities across 10 'scaling ingredient' areas, with some notable findings. For instance, areas where most of the CRP work has been focused on, such as technologies, consistently ranked highest or near highest. On the other hand, certain 'non-core' work areas of the CRP, for instance finance, were identified as key bottlenecks that will likely hinder uptake if not addressed, regardless of how mature any given technology is. The CRP may wish to take this into account and see what tweaks it may wish to introduce to its workplan to consider these insights and better prepare for scaling.

Following the scaling scan workshop, the Uganda core scaling team realised the need for agreeing on a realistic consolidated scaling ambition for the country, as the five working groups varied greatly in timeframe and scope. Furthermore, due to plans to do a 'deep dive' on selected technologies/innovations using a scaling readiness tool, it was necessary to discuss and agree on prioritized technologies/innovations.

The February 2020 workshop was attended by a small core group of the Uganda pig value chain, representing mostly CRP (flagship and cross-cutting) representatives, with a couple of external partners. The core scaling team reviewed the existing five scaling ambitions from the November 2019 workshop, and discussed the missing components and approaches to consolidate them from local scope for specific regions to the country level. The team then came up with a consolidated scaling ambition for Uganda.

After defining the integrated scaling ambition, the team introduced the scaling readiness tool as the proposed next step to assess one or two specific technologies/innovations along the Uganda pig value chain. Each of the five flagship representatives were asked to nominate and introduce one or two candidate technologies and innovations for a 'deep-dive' analysis, including several components to form the package. The proposed technologies/innovations were evaluated during a plenary discussion on a set of criteria the group came up with and using a basic scoring mechanism. After completing the scoring, the group continued a plenary discussion, that resulted in the selection of two innovations for a 'deep dive' using the scaling readiness tool later in 2020.

Scaling scan workshop – November 2019

Context and overview

A scaling scan workshop was held from 5-6 November 2019 in Kampala, Uganda. It was attended by 53 Uganda pig value chain actors, CRP researchers and project staff.

Prior to the workshop, a project launch meeting was held on 4 November and the morning of 5 November. In this meeting, the "Improving pig productivity and incomes through an environmentally sustainable and gender inclusive integrated intervention package" phase 2019 to 2021 was introduced. Moreover, stakeholders' feedback for interventions that will be promoted to farmers, aggregators, input and service providers as priorities for the scaling scan assessment, respectively 'basket of technologies' and 'market arrangements' were summarised.

The scaling scan workshop took 1.5 days in total, including presentations, group exercises and discussions. Limited by the time given (and vagueness of the innovations), participants were divided into five working groups and created 5 scaling ambitions and corresponding scaling ingredient assessment according to their working area on the two selected topics and geographic focus, respectively:

1. Basket of technologies - Masaka and Mukono
2. Basket of technologies - Wakiso and Kampala
3. Market arrangements - Masaka
4. Markets arrangements - Mukono
5. Markets arrangements - Kampala and Wakiso

Scaling scan workshop objectives

The objective of the workshop was to apply the scaling scan tool to:

- Identify the scope and knowledge of key stakeholders and collaborators on the pig value chain in Uganda
- Understand multiple dimensions of scaling and the significant role non-technical factors with the "scaling mindset" in project planning
- Develop realistic scaling ambitions for technology and feasible scaling pathway
- Identify key bottlenecks for scaling and potential opportunities to tackle these bottlenecks

Scaling scan tool[1]

[1] Access full document of the tool here and a two-page summary of the tool on page 13 of the 'Scaling better together – the International Livestock Institute's framework for scaling' document.

The scaling scan was developed by the PPP Lab and the International Maize and Wheat Improvement Center (CIMMYT) in 2017 and updated to its current state in June 2018. It is a self-assessment tool for scaling innovations in workshop settings and it comes with a spreadsheet. Workshop participants were asked to formulate a realistic and responsible scaling ambition by identifying the challenges and opportunities that need to be addressed with the ten scaling ingredients.

- Technology/practice - an effective and efficient solution for the issue at stake
- Awareness and demand - a wish and readiness for the consumer or producer to use the solution
- Business cases - attractive financial/economic propositions for users and other actors to respond to demand
- Value chain - effective links between actors to pursue their business cases
- Finance - effective financing options for users and other value chain actors
- Knowledge and skills - capacities at the individual and institutional level to use, adapt and promote innovation
- Collaboration - strategic collaboration within and beyond the sector to scale the innovation
- Evidence and learning - evidence and facts underpin and help gain support for the scaling ambition
- Leadership and management - effective coordination and navigation of the scaling process
- Public sector governance – government support to reach the scaling ambition

There are three steps designed in the tool:

1. Construction of scaling ambition - focusing on basic concepts and the definition of realistic and responsible scaling ambitions
2. Check the scaling ingredients - applying the metrics of the tool
3. Identify points of attention - strengths and bottlenecks with potential resources and solutions - for the defined scaling ambition, focusing on the identification of opportunities and potential actions at the project level and through strategic collaborations

Workshop participants

In total, 53 people participated in the workshop with a smaller group on the second day of the workshop. Participants included pig value chain stakeholders in Uganda (representing a wide mix of public and private sector actors engaged in the pig value chain) as well as Livestock CRP staff from Ethiopia, Kenya and Uganda. See Annex 1 for list of participants.

At the beginning of the workshop, a short survey was designed on Mentimeter to help understand participants' perceptions on scaling. The responses are summarized in the next pages.

1. What does “scaling” mean to you?

28 responses were received in total where around half of the respondents (15) mentioned the concepts of expanding, enlarging and increasing. The responses cover the following four sub-categories respectively

- Geographically expanding (4): expand area of coverage, spatial coverage, greater grounds or areas, and more areas
- Reach more people (8): the “reach” here means to make things available; getting a large group of people, reach as many people as possible, more target number of people, reaching a large number of people, expanding to the bigger population.
- More adoption (5): it can be differentiated from “reaching more people” as “to be used more with behavioural changes”; wide adoption of a technology, start applying a good behaviour, a product being adopted, increasing the good interventions, expanding the use of a well-tested technology
- Enlarge the scope of intervention (1): means to do more interventions within the existing project; enlarging the scope of an activity

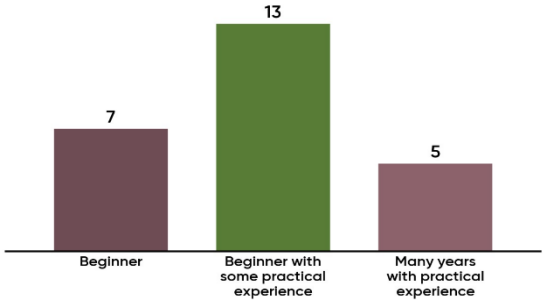
Four people mentioned “impact” in the long term and can be self-sustained or financially sustainable without extra funding and support, including “lasting impact”, “adopt sustainably”, “conversion into market-ready products” and “being adopted without incentive by the developers.” Besides, two more respondents mentioned “greater impact”.

Four people consider “scaling” as “grading” to use it as metrics to evaluate the technology or innovation, saying “determining how good an idea in question is” and “measure used in weighing products.” Five people think “scaling” is to apply research, use the research result as technological product, practice of ideas, lead to plans, strategies and actions, and help to allocate resources. Three participants mentioned “causing transformation” and “going to the next level” and one respondent indicated “institutional changes from local to regional level”.

Seven people indicates that “scaling” is targeting technology and innovation, three of them mentioned that evidence is needed (“pre-tested”, “well-tested”, “good innovations with previous practice”) to prove the technology or innovation “is working” (1).

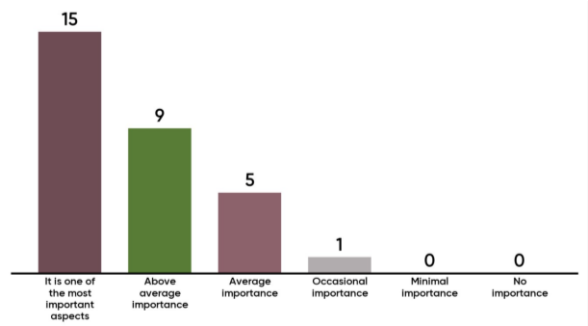
2. Self-evaluation on participants’ familiarity with "scaling"

Of the 25 responses, most people rated themselves as “Beginner with some practical experience” (13), or “Beginner” (7). Only five respondents selected “many years with practical experience”.



3. The level of importance of scaling in the participant's current role

From the graph, the scaling component is very important and relevant to the participants' work. Out of 30 responses, 29 respondents ranked scaling as “one of the most important aspects’ in their current role and 9 ranked it as “average importance”.



4. 3 interventions in the Uganda pig value chain with the greatest potential for scaling

agricultural technologies	1
breeding	8
artificial insemination	3
animal health	18
heat stress	3
bio-security	3
disease control and prevention	8
genetics	3
environmental management	1
manure management	5
feed and forages	11
value chain system organization	1
markets	13
partnership	4
knowledge	3
regulations	2
Leadership	1
use of ICT	4

The above responses are key words of focused areas and topics, instead of specific technology or innovation, and can be categorized into two main sections:

I. Agricultural technologies - basket of technologies: include broad topics and is one of the two things discussed in the scaling scan assessment. It can be integrated into a

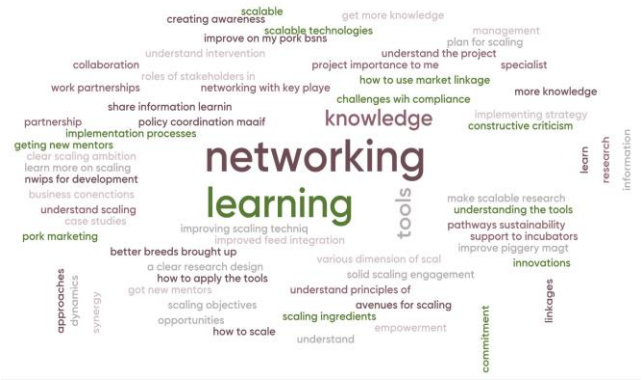
cohesive package with flexible pieces of technologies that fit into the local context for scaling.

- Animal health (18): the most mentioned topic, including “herd health” and “managing the health of pigs for optimal productivity”
    - Disease control (8) and prevention (2), one respondent mentioned “disease awareness and control at farm level” and “disease detection” (1)
    - Heat stress (3): concerns focusing on how to detect and manage heat stress in pig and heat stress adaptation.
    - Biosecurity (3)
- Feed, feeding and forages (11) - details include commercial feeds, the whole feeding process including formulation, management and regulation, as well as low cost feeding options and feed housing for production
- Breeding (8): people mentioned community breeding program, livestock breeds, breeding management, improving the breeds and breeding practices provision specifically, artificial insemination.
- Environmental management (6), which is primarily about manure management (5) and waste management (1).
- Genetics (3)

II. Value chain system organization: this is more macro on the business and social sides, to link the production to incomes and better outcomes.

- Markets (13): the most mentioned topic in this section, including access to markets, market arrangements (3), market interventions, market organization, marketing (4), sharing of market information
- Partnerships (4): includes linkages of stakeholders, noticing key partners in pig value chain, trader/producer relationships and working with the private sector
- Knowledge management (3): including information sharing, good information flow between farmers and traders
- Regulations (2): compliance to standards along the value chain, feeding regulation
- Leadership (1): through establishing “farmer champions” to encourage peer learning and farmer-to-farmer knowledge and practice transfer
- For method, the use of ICT (4): was mentioned mainly for partnership and knowledge management to engage and link stakeholders and knowledge dissemination. One respondent specifically mentioned the use of “radio”.

5. Participants’ expectations from the workshop



From the word cloud, participants main expectations were “learning” and “networking” as well as deepening knowledge about technologies for pig production, the scaling approach, and specific factors along the value chain.

Scaling ambition results

In the workshop, participants were divided into five working groups according to their working area and interests on the two topics of “basket of technologies” and “markets” in Masaka, Mukono, Wakiso and Kampala regions. The five groups discussed and came up with the following scaling ambitions:

1. Group 1: by 2034 (in the next 15 years), ILRI and its partners would have facilitated the technical and organizational innovations at the local level from 40% of small scale in Mukono and 6 sub-counties to 100% scale for sustainable livelihoods across the pig value chain.
2. Group 2: by 2021 ILRI working with private companies and Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) would have increased the adoption of pig production technologies among 20% of pig producer households in Kampala and Wakiso for increased household incomes.
3. Group 3: by 2024, the cooperatives, districts and NGOs would have facilitated increased volume of pork sales from 35kg to 200kg per day in Masaka district.
4. Group 4: by the end of year one, we would have identified 20 pork joints in the municipality and at least 2 in every sub-county and started working with them during the pilot phase. This year, we would have also involved at least 50 farmers per sub-county to a total of 750 pig farmers; and 9 cut fish farmers will have appreciated the use of pig intestines as fish feed.
5. Group 5: by 2021, ILRI with partners would have established a functional pig ICT platform, integrating finance and market information systems to 10,000 aggregators in Wakiso and Kampala for an inclusive, competitive and resilient pig value chain.

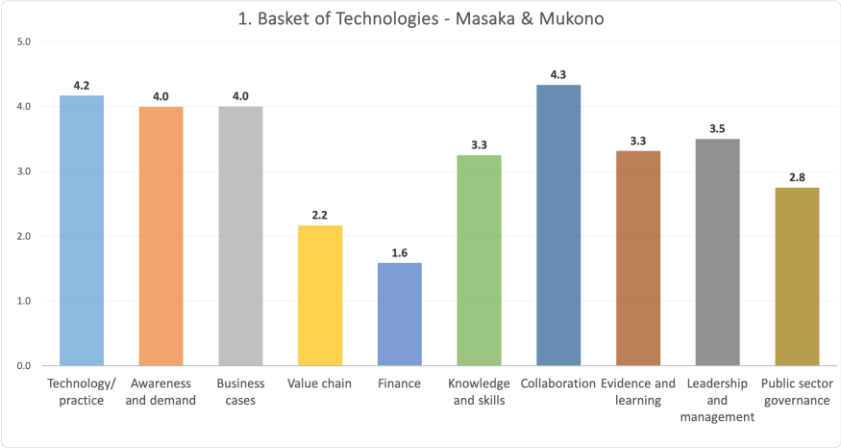
These diverse scaling ambitions clearly indicate a different understanding on the concept of “scaling” amongst the groups. The results showed that, some groups came up with very specific numbers, such as “9 cut fish farmers” and some components, such as the size of target population and time to reach the scale are missing and still need extra inputs. Besides, the difference on timeframes proposes difficulties to summarize the five ambitions to a consolidated goal to lead the following scaling efforts. This proved that some rationalization

will be required after the workshop to effectively come up with a single consolidated scaling ambition for the Uganda priority country. However, notwithstanding the need to rationalize and consolidate, the five groups were asked to continue the process and assess the project environment (scaling ingredients).

Scaling ingredients assessment results

The evaluation of scaling ingredients is in accordance with the five scaling ambitions and was done by the groups where they discussed 40 questions. The questions were spread across 10 areas and the groups ranked each from 1-5 (higher score is better). See below visual representation of the results, along with some key points in bullet forms.

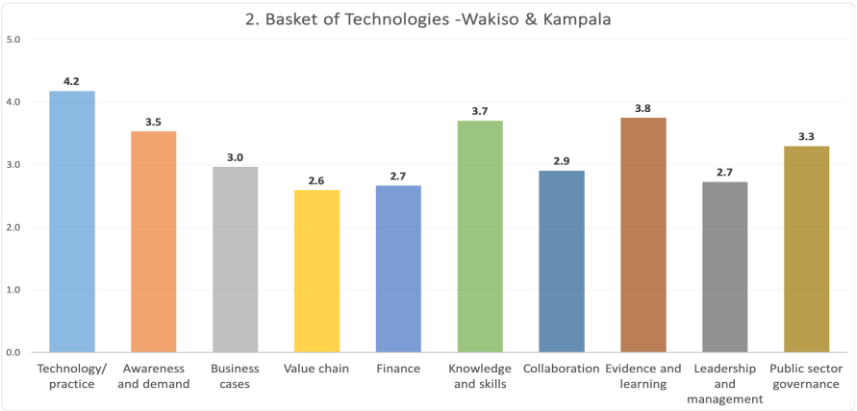
1. Basket of technologies - Masaka & Mukono



- Finance, being the lowest in all the scores, and value chain, being the biggest challenge to scale the technologies in Masaka and Mukono scored below 3.
- Four other ingredients are scored above 4 with very positive potentials, 'technology' and 'collaboration' scored the highest.

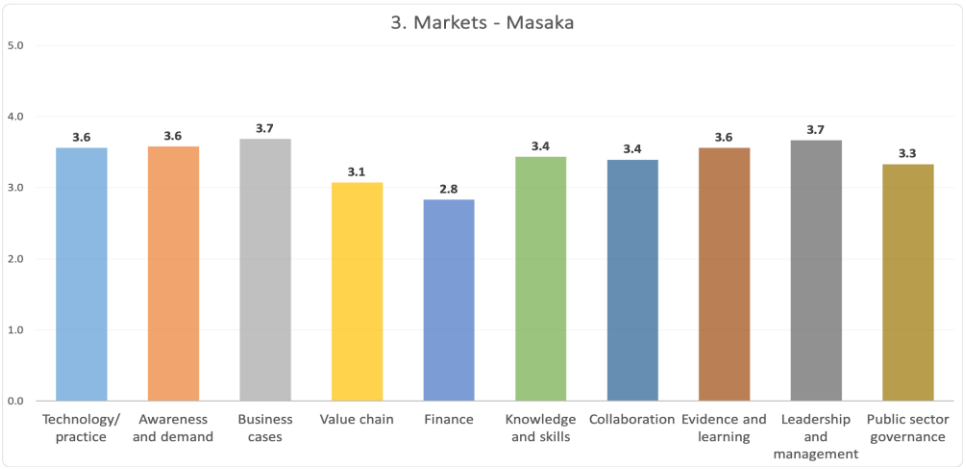
- The optimism of this group, compared with others, in its ability to achieve the scaling ambition is relatively high. This high desire perhaps makes it uncertain whether this group will be able to accomplish its scaling ambitions.

2. Basket of technologies - Wakiso and Kampala



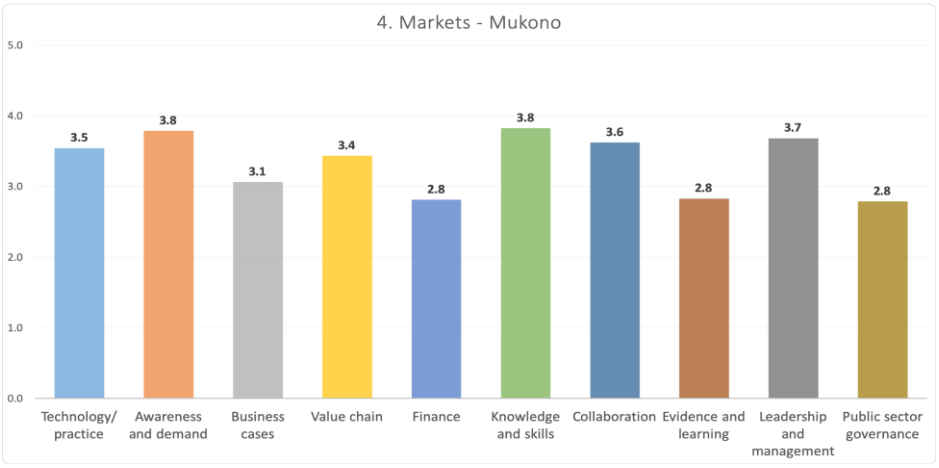
- Half of the ingredients scored below or equal to 3: business cases, value chain, finance, collaboration, leadership and management, which need further improvements and development
- The gap between current status and the scaling ambition is still large
- Similar to group 1, this group had technology as its strongest area and finance and value chain as the lowest areas

3. Markets - Masaka



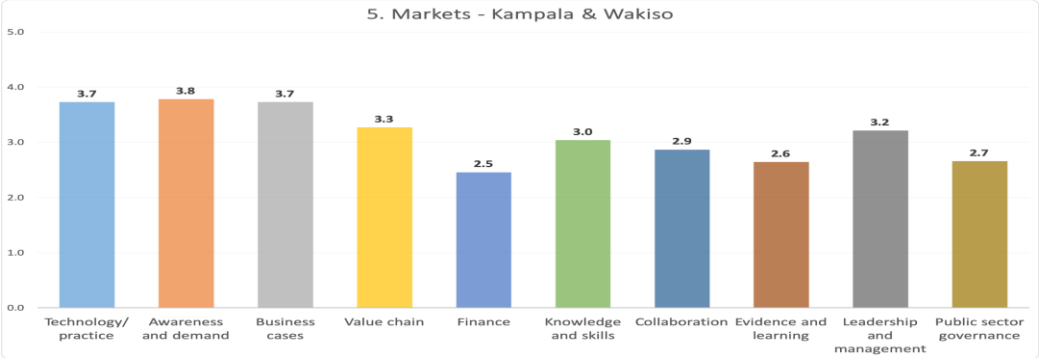
- No ingredient is scored above 4 and the scores for all the ten ingredients are relatively average among 2.8 to 3.7 with overall average above 3
- Technology was ranked as the highest while finance and value chain scored the lowest – similar trend as the previous group.

4. Markets - Mukono



- No ingredient is scored above 4 and three ingredients are scored below 3, finance, evidence and learning, public sector governance
- Gaps among the ten ingredients are relatively small compared with other groups

5. Markets - Kampala and Wakiso



- Finance, evidence and learning, and public sector governance are the three lowest scores
- Scores for collaboration and knowledge and skills are also below or equal to 3
- No ingredient is scored above 4 but the first three ingredients scored highest

Critical ingredients analysis

Topic	Technologies		Markets		
Region	Masaka & Mukono	Wakiso & Kampala	Masaka	Mukono	Kampala & Wakiso
Top-three Bottlenecks	Finance (1.6)	Value Chain (2.6)	Finance (2.8)	Finance (2.8)	Finance (2.5)
	Value Chain (2.2)	Finance (2.7)	Value Chain (3.1)	Evidence & Learning (2.8)	Evidence & Learning (2.6)
	Public Sector governance (2.8)	Leadership & mgmt (2.7)	Public Sector governance (3.3)	Public Sector governance (2.8)	Public Sector governance (2.7)
Top-three Strengths	Collaboration (4.3)	Tech/Practice (4.2)	Business cases (3.7)	Awareness & Demand (3.8)	Awareness & Demand (3.8)
	Tech/Practice (4.2)	Evidence & Learning (3.8)	Leadership & mgmt (3.7)	Knowledge & Skills (3.8)	Tech/Practice (3.7)
	Awareness & Demand; Business cases (4)	Knowledge & skills (3.7)	Tech/Practice; Awareness & Demand; Evidence & Learning (3.6)	Leadership & mgmt (3.7)	Business cases (3.7)

Based on the scaling ingredients assessment (and times appeared in the lowest three choices and the rank), the common bottlenecks for scaling the selected topics in some parts of Uganda are 1) Finance, 2) Value chain, and 3) Public sector governance, while the biggest strengths are 1) Technology/Practice (considering low current adoption rate, the technology is more mature than the application), 2) Awareness and demand, and 3) Business cases. While the scores reflect in-group discussions and can be susceptible to self-reporting bias based on group composition and understanding of the concepts (and the groups' variance in scaling ambitions), it is nevertheless useful to see how some areas have been consistently ranking higher – areas where most of the CRP work has been focused on, technologies for example. Likewise, certain 'non-core' work areas for the CRP, for instance finance, are key bottlenecks that will likely hinder uptake, regardless of how mature any given technology may achieve. This Livestock CRP may wish to take this into account and see what tweaks to its workplan it may wish to introduce to consider these insights and better prepare for scaling.

Summary and reflection workshop – February 2020

Context and overview

Following the November 2019 scaling scan workshop, the Uganda core scaling team felt it necessary to agree on realistic consolidated scaling ambition for Uganda as a whole, as the five working groups varied greatly in timeframe and scope. In addition, given plans to do a 'deep dive' on selected technologies/innovations using a scaling readiness tool[2], it was necessary to discuss and agree on 1-2 prioritized technologies/innovations for this "deep dive".

Workshop participants

The workshop was attended by a small core group of the Uganda pig value chain, representing mostly CRP (flagship and cross-cutting) representatives, with a couple of external partners. A list of participants can be found in Annex 1.

Follow-up workshop objectives

The objectives of the follow-up workshop were to:

- Validate/refine workshop findings – including the agreement on scaling ambitions and ingredients assessment
- Identify 1-2 prioritized innovation packages for scaling "deep dive" using the scaling readiness tool

Integrated scaling ambition

The core scaling team reviewed the existing five scaling ambitions from the November 2019 workshop, and discussed the missing components and approaches to consolidate them from local scope for specific regions to the country level. The team agreed that it is important for the Livestock CRP to have one consolidated scaling ambition for Uganda. In addition, the revised three scaling ambition timeframe was harmonized to be December 2021 (end of current phase of CRPs), for the sake of implementation and control over the process. It was agreed that goals until 2025 with annual breakdowns can be further developed at a later stage. The key components mentioned in the five scaling ambitions were considered one by one and discussed by the group, with the following results:

Scaling ambition of the Uganda pig value chain priority country work: by Dec 2021, there will be:

[2] Read more on the tool on page 10 of the 'Scaling better together – the International Livestock Institute's framework for scaling' document.

- A 15% increase in pig income among participating Uganda pig value chain (VC) actors, driven in part by strengthened market linkages between aggregators, farmers and input and service providers, and business opportunities created through such linkages.
- A functional pig ICT platform, integrating market information systems and digital extension to 10,000 Pig VC actors in Uganda for an inclusive, equitable, competitive and resilient pig value chain.
- CRP working with private organizations and MAAIF and other national and local government institutions, catalyse/facilitate the adoption of pig technologies/ innovations among 20% of participating VC actors in Uganda.

Prioritized technology or innovation from flagships

After the integrated scaling ambition was defined, the scaling coordinator introduced the scaling readiness tool as the proposed next step to assess one or two specific technologies or innovations along the Uganda pig value chain. Each of the five flagship representatives were asked to nominate and introduce one or two candidate technologies and innovations for the 'deep-dive' analysis, including several components to form the package. Notably, the proposed technology or innovation does not mean the "best" interventions but a strategic option according to current interests, resources and program capacity. In total, the following eight technologies or innovations were proposed:

- Genetics

1. Community-based AI for the pig package

- Boar stud
- Collection and processing pig semen
- Transportation and insemination of pig semen
- Inseminators
- Hormonal synchronization
- Pregnancy diagnosis

Potentially the innovation package involves collaborations, focusing at heat-stress adapted breeds with the **Livestock and the Environment** Flagship and linkages with market aggregators with the **Livestock Livelihoods and Agri-Food Systems** (LLAFS) Flagship.

- Health

2. Bio-security intervention packages

- Housing technologies
- Confinement
- Disinfection
- Behaviour/practice change and management

The housing component is related to heat-stress adaptation and potential collaboration: Pig identification.

3. Pig vaccination

- Feeds and forages

4. Innovation: training and certification of small-scale feed producers

    - Curriculum development for the training
    - Training program (implementation)
    - Behaviour change

5. Technology: forages for pigs

    - Screen and test forages that are suitable for pig feeding
    - New process based on the existing commercial feeds
    - Environment

6. Heat stress adaptation

    - Proper detection of heat stress in hot spots seasons
    - Environmental modification strategy
    - Proper feeding and watering
    - Breeding for heat stress adaptation in the long term considering the achievability on the 2021 timeframe

7. Manure management targeted for production systems

    - Behaviour change from free ranging to confinement systems
    - Commercial forms of biogas, vermin composting to take manure as resources
    - Livestock Livelihoods and Agri-Food System (LLAFS)

8. Market arrangement by and with pig farmers and aggregators with a win-win for both

    - Quantity and quality of pigs
    - Timing and pricing
    - Market information systems for both parties and ensure transparency
    - Backward linkages with input providers

Evaluation of proposed technologies and innovations

The proposed technology or innovation were discussed and evaluated during a plenary discussion based mainly on the indicators listed below:

1. Region/geography: Will the innovation be applied locally, regionally or nationally?
2. Success/impact: Assuming the intervention is successful, how significant would this be in terms of achieving the overall desired impact in Uganda?
3. Dependencies: to what extent is this intervention dependent on other conditions, such as the progress of other projects or components in the enabling environments, to be successfully functioning as designed?
4. Current stage describes the practical stage on how much progress has been made and the current use of the technology and innovation
5. Potential challenges to scale this intervention: how challenging is the current operating environment for this innovation?

Each indicator was measured based on three score levels from one to three, indicating how advantageous it is compared with other interventions. The more stars mean higher potential and in a better shape for this intervention to have larger impact.

The scores for each indicator were agreed on voting among participants through a facilitated plenary discussion. To reduce potential conflict of interest, the 'owner' of an intervention (the person who proposed it) could not vote on their own suggestion but could join the discussion and provide more information to help other people understand it. In some cases, it was hard for the group to agree on the same score, and we took a middle and left '* / **' there for future reference. The overall evaluation results are summarized below.

Topics of Prioritized Technology/Innovation	Region/geography	Success/Impact	Dependencies	Current stage	Challenges
Community-based Artificial Insemination (AI)	**	***	*	**	*
Biosecurity	***	***	**	**	**
Vaccination	***	**	*	*	*
Training and Certification of feed producers	***	***	*	*	**
Forages for pigs	***	***	**	* / **	**
Heat stress adaptation	* / **	**	**	*	*
Manure Management	***	**	***	*	**
Market Arrangements	***	***	*	*	**

Selection of innovations to be assessed with scaling readiness

After completion of the scoring, the group continued a plenary discussion. However, it was difficult for the group to narrow down to only one innovation, as they felt that both 'basket of technologies' and 'market arrangements' areas should be represented. The group then went on to propose the market arrangement proposal as the first selected candidate for a scaling readiness assessment, as it was felt this innovation captures the spirit of the current priority country pilot. The group then discussed candidates from the 'basket' category and noted that several proposals could be selected. After further discussion, the group selected 'training and certification of feed producers' as the additional candidate for the 2020 scaling readiness assessment.

Annex 1: Lists of participants of the workshops

Livestock CRP priority country project II launch workshop		
Venue: Hotel Africana		
Date: 4-7 November 2019		
No.	***Name***	***Organisation***
1	Jolly Kabirizi	SPRO
2	Ben Lukuyu	ILRI- Uganda
3	Lubega Simon	MAFI
4	Semwezi Eric	NARO -Makerere
5	Michel Dione	ILRI- Uganda
6	Nabunya Sharon	Masaka
7	Christopher Mulindwa	Pig production & Marketing
8	Nakaweesi Florence	pork seller
9	Cissy Anyango	pork seller
10	Katende Robert	Ultimate Biz Strategies
11	Wanyama Ibrahim	ILRI- Uganda
12	Iddo Dror	ILRI
13	Tonny Kabuuka	NALIRRI, NARO
14	Nsubuga David. K	MAAIF
15	Acaye JB. Ogaba	P.J pub
16	Nadiope Gideon	ISU-UP
17	David Kiryabwire	Mukono DLG
18	Dr. Wonekha Deograteous	MAAIF
19	Bukenya Godfrey	Bulamu Farm
20	Edwin Kangette	ILRI
21	Zaake Paul	CIAT
22	Joan Nanteza	MAAIF-DST
23	Kiyaga Bernard	MUBS Animal feed
24	Patrick Abila	NALIRRI/NARO
25	Katta Moses	CURAD
26	Ogweng Peter	CONAS-MUK
27	Kyobe Solomon	Mukono VCL
28	Ecart Stephen	FarmRadin Int
29	Dr. Katumba Hannington	KCCA
30	Nsadha Zachany	COVAB- MUK
31	Banga Alice	ERAM
32	Babigumira Brian	ILRI-Uganda

33	Ronald Mugumya	ILRI-Uganda
34	Emmanuel Hasabya	ILRI-Uganda
35	Brian Arinaitwe	Zoetis
36	Yusuf Nsubuga	ILRI-Uganda
37	Katamba Ronald	Jaguza Tech
38	Kihunde Christine	Jaguza Tech
39	Ambrose Atuhaire	ILRI-Uganda
40	Christopher Mukasa	NAGRC @DIS
41	Rehema Meeme	UNBS
42	Charles Masembe	MUK-CONAS
43	Ssewanyana	Masaka MSP
44	Musoke Samuel	Greter Masaka pig farmers co.op. Union
45	Ssebadduka Francis	Pearl pork joint
46	Mayega Lawrence	Masaka DLG
47	Ssembatya Edward	Vetline services
48	Kawule Leornard	Vetline services
49	Sheila Ayoo	ILRI-Uganda
50	Namutebi Patricia	ILRI-Uganda
51	Fiona Ayazika	ILRI-Uganda
52	Juilet Kyabasinga	ILRI-Uganda
53	Van Schagen Boudy	Royal Tropical Institute

Livestock CRP phase II scaling workshop		
Venue: Golden Tulip		
Date: 18 February 2020		
No.	***Name***	***Organisation***
1	Nsadha Zachary	MUK- COVAB
2	Ben Lukuyu	ILRI- Uganda
3	Sheila Ayoo	ILRI- Uganda
4	Edwin Kangette	ILRI- Kenya
5	Kyabasinga Juliet	ILRI- Uganda
6	Peter Oba	ILRI- Uganda
7	Emily Ouma	ILRI- Uganda
8	Iddo Dror	ILRI
9	Pius Lutakome	ILRI- Uganda
10	Mireille Ferrori	ILRI
11	Yusuf Nsubuga	ILRI- Uganda
12	Wanyama Ibrahim	ILRI- Uganda
13	Nicole Wu	ILRI
14	Paul Zaake	ILRI/CIAT
15	Donald Kugonza	Makerere

16	Ambrose Atuhaire	ILRI

Livestock CRP phase II scoping and pig smart workshop		
Venue: Golden Tulip		
Date: 19 February 2020		
No.	***Name***	***Organisation***
1	Peter Oba	ILRI
2	Nsadha Zachary	MUK-COVAB
3	Ecaat Stephen	Farm Radio Int
4	Zaake Paul	CIAT
5	Wanyama Ibrahim	ILRI
6	Mayega Lawrence	Masaka-DLG
7	Stella Namazzi	ILRI
8	Sebatta Christopher	ILRI
9	Edwin Kangette	ILRI
10	Ssegujja S.Tanansi	Mukono District Veterinary sector
11	Nicole Wu	ILRI
12	Mireille Ferrari	ILRI
13	Birthe Paul	CIAT
14	Emily Ouma	ILRI
15	Womukha Deogracious	MAAIF
16	Sheila Ayoo	ILRI
17	Juliet Kyabasinga	ILRI
18	Nsubuga David Kitunka	MAAIF
19	Ambrose Atuhaire	ILRI
20	Kawole Leonard	Vetline Services
21	Pius Lutakome	ILRI
22	Yusuf Nsubga	ILRI
23	Iddo Dror	ILRI
24	Nuwenyesiga Richard	Akorion
25	Erasmus Okurut	Intervas
26	Kiyingi Raymond	Akorion
27	Annet Biingi	Agritechtalk Africa
28	Luca Innocente	Agritechtalk Africa
29	Joshua Siko	Single Spark B.V
30	Kihunde Christine	Jaguza Tech
31	Ben Lukuyu	ILRI

Livestock CRP phase II internal meeting		
Venue: Golden Tulip		
Date: 20 February 2020		
No.	***Name***	***Organisation***
1	Nicole Wu	ILRI

2	Ssegujja S.Tanansi	Mukono District, Veterinary sector
3	Edwin Kangette	ILRI
4	Donald Kugonza	Makerere University
5	Peter Oba	ILRI
6	Wanyama Ibrahim	ILRI
7	Emily Ouma	ILRI
8	Mayega Lawrence	Masaka DLG
9	Nsadha Zachany	Muk- COVAB
10	Zaake Paul	CIAT
11	Pius Lutakome	ILRI
12	Mireille Ferrari	ILRI
13	Birth Paul	CIAT
14	Ben Lukuyu	ILRI
15	Iddo Dror	ILRI
16	Kawule Leonard. K	Vetline Service
17	Sheila Ayoo	ILRI
18	Juliet Kyabasinga	ILRI
19	Nsubuga David Kituuka	MAAIF
20	Ambrose Atuhaire	ILRI