



Summary report from virtual national stakeholder
consultation meetings held on the proposed One
CGIAR initiative on Sustainable Animal Productivity for
Livelihoods, Nutrition and Gender inclusion, July-
September 2021

September 2021

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Compiled by Judy Kimani and Joyce Wanderi

Citation

ILRI (International Livestock Research Institute), ABC (Alliance of Bioversity International and CIAT), ICARDA (International Center for Agricultural Research in the Dry Areas). 2021. Summary report from virtual national stakeholder consultation meetings held on the proposed One CGIAR initiative on Sustainable Animal Productivity for Livelihoods, Nutrition and Gender inclusion, July-September 2021 Nairobi, Kenya: ILRI.

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Background and objectives

To implement its 2030 [research and innovation strategy](#), the CGIAR is developing a [series of initiatives](#) designed to achieve a world with sustainable and resilient food, land, and water systems that deliver more diverse, healthy, safe, sufficient, and affordable diets, and ensure improved livelihoods and greater social equality, within planetary and regional environmental boundaries.

CGIAR Initiatives are major, prioritized areas of investment that bring capacity from within and beyond CGIAR to bear on well-defined, major challenges.

Sustainable Animal Productivity for Livelihoods, Nutrition and Gender inclusion (SAPLING) is the focus of an initiative being developed by ILRI, ICARDA and other partners.

This initiative aims to enable one million livestock producers – especially women and youth - in 6 countries to engage in inclusive value chains and achieve sustainable productivity gains resulting in improved livelihoods.

The targeted countries include Nepal, Ethiopia, Uganda, Tanzania, Kenya, Mali and Vietnam. The work is expected to commence in January 2022 for 3 years.

This report contains a summary of the stakeholder meetings that were held in each target country to guide the initiative proposal design team as they formulated the key interventions and work packages to be delivered.

The meetings were specifically, aimed to improve the country proposal outlines by:

1. specifying which elements and work packages are highest priority for each country;
2. identifying missing elements that must be included for it to best serve each country's situation;
3. providing feedback to strengthen the proposed approach and framework;
4. identifying the interests of key national actors in different work packages.

This report first provides an overall Powerpoint presentation on SAPLING initiative. Further it provides the Powerpoint presentations from each target country outlining the proposed SAPLING initiatives and what they could mean for each nation. It also contains the feedback provided during each target country meeting on the proposed SAPLING initiative, the suggestions provided on each country interventions and work packages as well as words of advice given to the SAPLING proposal teams for consideration.

For more information, please visit <https://cgspace.cgiar.org/handle/10568/114640> and or contact Isabelle Baltenweck i.baltenweck@cgiar.org and Mourad Rekik m.rekik@cgiar.org.

Overall presentation on the SAPLING initiative

Sustainable Animal Productivity for Livelihoods, Nutrition and Gender inclusion (SAPLING)

Isabelle Baltenweck
Mourad Rekik

National Stakeholders' Consultations
July 2021



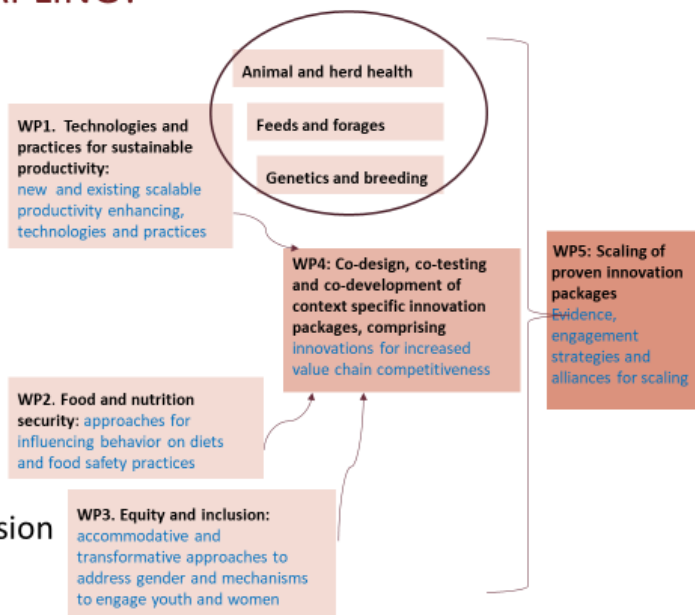
Objective statement

SAPLING aims to enable one million livestock producers, 50% women, in 6 countries to engage in inclusive value chains and achieve sustainable productivity gains between 30-50%, resulting in improved livelihoods

- SAPLING aims to fill critical **productivity** and **value-chain competitiveness gaps** by developing a pipeline of new and existing **demand-driven** and co-delivering **health, genetics, feed, and market systems innovations**, including climate-smart and digital solutions.
- We aim to work in 4 countries with quick wins for scaling (Ethiopia, Tanzania, Uganda and Vietnam), and 2 countries where relationships will be built and packages co-created to achieve intermediate outcomes by 2024 (Mali and Nepal)
- **7 value chains** with high potential for small- and medium- scale producers to capture market growth: dairy (including buffaloes), beef, sheep, goats, poultry- eggs, poultry- meat, and pig. We anticipate targeting more than one value chain in each country

What is SAPLING?

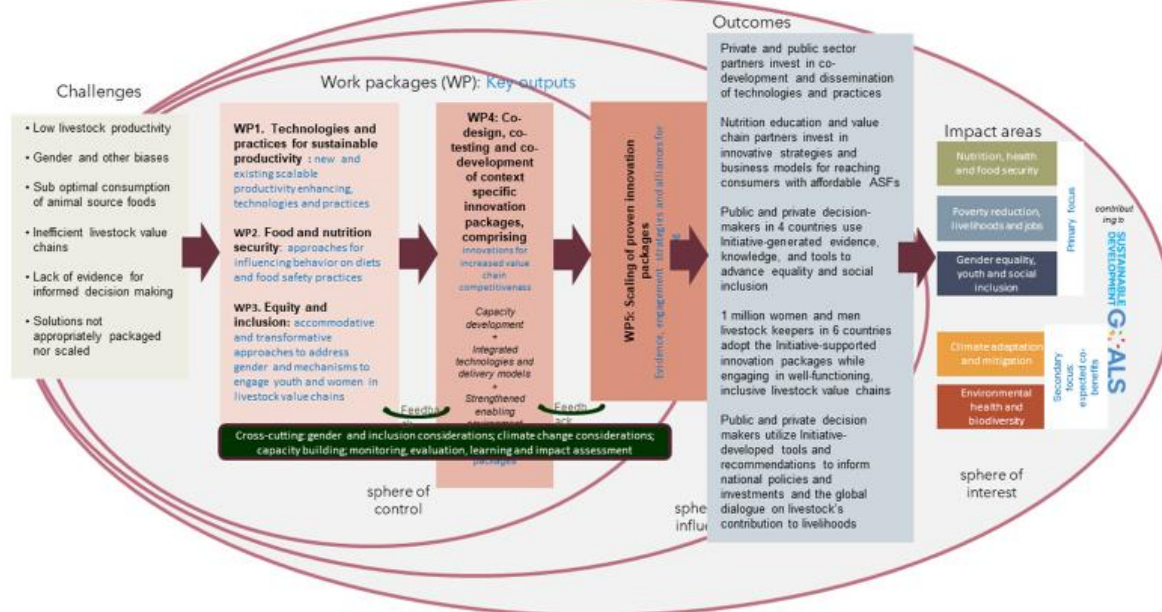
- Sustainable
- Animal
- Productivity
- Livelihoods
- Nutrition
- Gender inclusion



Focus on the work packages

WP1 Technologies and Practices for Sustainable Productivity	With “next user” delivery partners: Develop, adapt, test, demonstrate, and pilot new and existing productivity enhancing, climate-smart, scalable technologies and practices including improved feeds, forages and dual-purpose crops, novel animal health products, herd health packages, improved genetics, improved husbandry, and cross-cutting solutions for environmental sustainability.
WP2 Food and Nutrition Security	Generate evidence on effectiveness of approaches to strengthen the role of ASFs in diets and to reduce social barriers to sub-optimal consumption. Develop and test practices for safe production and appropriate handling of ASFs along livestock value chains. Co-create innovative models to deliver affordable, safe ASFs to consumers.
WP3 Equity and Inclusion	Design and test accommodative and transformative approaches addressing gender- and youth-related constraints (accessing, benefiting, and controlling opportunities and resources) throughout the livestock market system and at the household level. Design and test women- and youth- demanded innovations that provide opportunities and capabilities to engage in competitive livestock value chains.
WP4 Innovation Packages for Value Chain Competitiveness	Generate evidence on innovation packages across sites and value chains. Prioritize innovations at the farm, value chain and landscape level via trade-off analysis. Co-create gender and youth inclusive innovation packages that include technologies/practices, veterinary/diagnostic services, input, extension and service delivery mechanisms, farmer and SME finance and insurance, and market information and output marketing systems.
WP5 Evidence, Decisions and Scaling	Provide compelling scientific evidence and tools that feed into co-delivery of technologies/practices, business-models and policies that will sustainably improve livelihoods. Synthesize evidence and develop communication and engagement strategies to disseminate and advocate for increased investments and better policies at country level and globally.

Theory of change for Sustainable Animal Productivity for Livelihoods, Nutrition and Gender inclusion (SAPLING)



Report on the Nepal virtual stakeholder consultation meeting

Given the importance of livestock in the lives and livelihoods of its people and the commitment of public and private actors to transform food systems through livestock, Nepal is one of six countries identified as a potential partner country for this initiative.

35 participants – 19 drawn from CGIAR researchers, 7 drawn from among the national government officials and research institutes, 7 from nongovernmental organizations and 2 from the private sector took part in the virtual meeting held on 9 July 2021.

The meeting was specifically, aimed to improve the current proposal outline by:

1. specifying which elements and work packages are highest priority for Nepal;
2. identifying missing elements that must be included for it to best serve Nepal's situation;
3. providing feedback to strengthen the proposed approach and framework;
4. identifying the interests of key national actors in different work packages.

In his opening remarks, Jean Balie, acting Regional Director for South Asia in the One CGIAR said that partnerships are essential mechanisms to facilitate co-design and co-delivery of innovations, capacity development and policy changes that propel evidence into impact. He added that the initiative will be working in the most marginal and poverty dense farming systems to test, adapt, target and position livestock and other technologies and practices among the next users while developing strategies to make agricultural value chains more inclusive by 2024.

During the workshop, stakeholders provided feedback specifying the priority interventions, value chains and work packages that can best serve the Nepal situation. These feed back is contained in the subsequent sections of this report.

Dr Bimal Kumar, secretary of the Nepal Ministry of Agriculture and Livestock Development closed the meeting pointing out the need to align the project to the key areas where government work is ongoing, such as nutrition, agribusiness, technology and productivity. He added that it would also be good to address markets since currently they are not well organised and farmers do not make the most out of them for their produce.

A short blog highlighting the key outcomes of the meeting can also be accessed on the International Livestock Research Institute news site here - <https://www.ilri.org/news/upgrading-indigenous-genetic-resources-important-one-cgiar-sustainable-animal-productivity>.

In the subsequent sections of the Nepal SAPLING stakeholders meeting report, we also make available a Powerpoint presentation on what the SAPLING initiative could mean for Nepal, all the feedback provided by the meeting participants on the initiative proposal, suggestions provided on the proposed interventions and work packages as well as a 'piece of advice' given to the Nepal SAPLING proposal design team.

Presentation slides from the Nepal SAPLING stakeholders meeting



What SAPLING could mean for Nepal

V. Padmakumar, ILRI Country Representative

Background



- People BPL 18.7% (2019)
- Food insecure people 4.6 million
- Malnutrition is a key concern:
 - 36% of children under age five are stunted)
 - 27% of them are Wasted (weight to age)
 - 41% of women of reproductive age are anaemic



Animal Source Foods

Dense source of key nutrients

High bio-availability

Some nutrients are critical for pregnant & lactating mothers and children <5 years

Some nutrients are present only in ASF



Livestock farmers

71% of farmers own livestock and poultry



Most are smallholders keeping:
A few chickens
1-10 goats
2-3 pigs
1-2 buffaloes

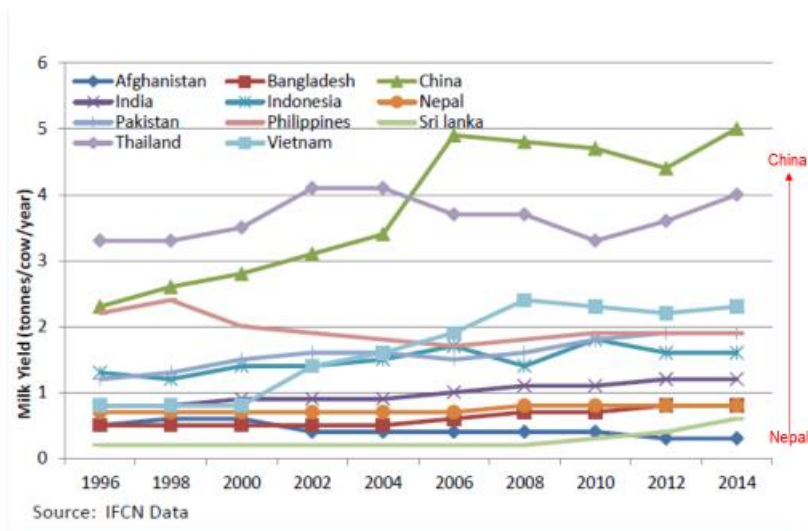
Livelihoods

Income

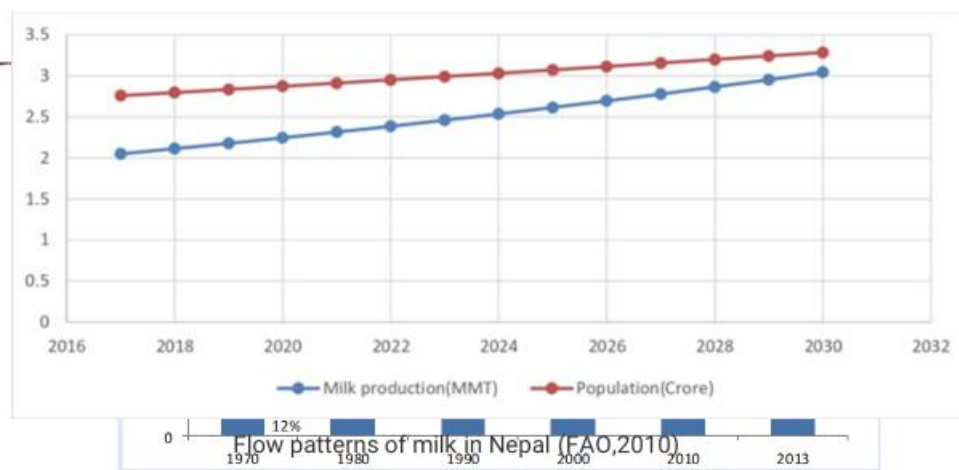
Nutrition

Health

Productivity, yield gap



ASF - growing demand



Trends of milk production. Source: Staal et al. (2016)

SAPLING – what is on offer



Productivity

Improved cattle, buffalo genetics integrated with ICT, genomic and reproductive tools

Forage breeding, improv. of crop residues, off farm feed production, digital DS Tools

Reproductive platform delivering reprod. services (FTAI, Sire certification) in sheep & goat CBBP

Digital farmer support system to promote herd health, vaccine platform to develop candidate vaccines

Food and Nutrition Security

Increased affordability

Behavioral change strategies for increased ASF consumption

Equity and Inclusion

Gender transformative approaches

Empow. marginalized groups, women

Value chain competitiveness

Access to services

Input/output markets

Business models

Digital tools

Scaling

Trade-off analysis

Policy briefs

Decision support tools

Potential commodity VCs



- More researchable issues
 - Long age of maturity
 - Long inter-calving period
 - Seasonal breeder
- Good selection D. (indigenous. Hills)
- Efficient converter of low-quality fibrous feed
- Dual purpose (milk, meat)
- High value product
- Neglected species



- Low input system
- Poor genetics (improved 6.1)
- Inadequate nutrition (low weight at maturity)
- High mortality
- Women empowerment
- Improvement-larger outreach
- Growing demand
- Commercialization opportunities
- Welfare

Proposed choice of commodity VCs and geographical regions

(where research can create maximum impact: Poverty redn, H Nutrition, Env health, CC, Gender)



Species	Terai (59m-610 m)	Hills (610m-4877 m)	Province (population in decreasing order)
Cattle	✓	✓	Province 1
	✓	✓	Lumbini
	✓	-	Province 2
Buffalo	✓	✓	Lumbini
	-	✓	Bagmati
	✓	✓	Province 1
Goats	✓	✓	Province 1
	✓	✓	Lumbini
	-	✓	Bagmati
Pigs	✓	✓	Province 1
	✓	✓	Lumbini
	✓	✓	Gandaki

Feedback on the overall Nepal proposal

Group 1			
Strengths of the proposal	Limitations of the proposal	Priority locations for the proposal in Nepal	Priority value chains for Nepal
1. Integrated approach - keen to discuss and identify how to harness synergies with TAFSSA 2. It is context-driven, stakeholder engagement is the strong part of the project, it addresses the gap between technology-driven and system users 3. Comprehensive concept note 4. Rather than single technology in hand-comprehensive concept note if organizes smallholders could be of value.	1. Gender and youth to be seen as cross-cutting issues 2. It should cover the system approach 3. Human and animal health and global health should be incorporated 4. We need to work in coordination with ILRI and come up with a short term and long-term plan 5. Linkages between crops and livestock not sufficiently clear (competition, trade-offs, harnessing synergies) 6. Integrating poverty and inclusion should be a focus 7. Comprehensive concept note but doing many things could	1. Agro-ecological conditions should be considered- Nepal has diverse conditions and such diversities should be sampled (consider a gradient of environments from terai --> lower mid-hill, --> upper mid-hill, with different degrees of market integration) 2. Site locations is important for market integration and livestock systems. Looking into the existing initiatives to build upon that 3. TAFSSA will likely work in Sudurpachim and Lumbini provinces (district selection underway). There would be opportunities for synergies in these locations, but the process of location	1. Cattle 2. Poultry 3. Focus on local breeds such as local chicken and buffalo in province 2 4. Two VC (buffaloes+goats)

	confuse prioritization. In terms of timing, we have to be realistic, considering the geographic diversity, this needs a good focus and it needs to engage with stakeholders to be demand-driven.	identification is still being finalized now 4. India can't be ignored. There is generally an open border; livestock and also feed inputs move between the countries openly. Much of what one does in Nepal is directly affected by India, and that needs to be taken into specific consideration.	
Group 2			
Strengths of the proposal	Limitations of the proposal	Priority locations for the proposal in Nepal	Priority value chains for Nepal
1. Feed and dual-purpose crops very important to Nepal and well covered in SAPLING 2. Market development for animal products; price competitiveness; sustainability of animal farming systems (e.g. the poultry sector) 3. Supporting and working with the feed companies of the private sector 4. The selection of the buffaloes and the goats' value chain is pertinent and matches Nepal priorities.	1. Not clear if SAPLING will work at the landscape level in agroforestry and grassland-based systems 2. Coaching farmers, and farmers' organizations in agri-business do not clearly appear in the different work packages.	We did not discuss locations in the group	1. Work on the poultry value chain particularly on the feed component is important for Nepal.
Group 3			
Strengths of the proposal	Limitations of the proposal	Priority locations for the proposal in Nepal	Priority value chains for Nepal
1. Clear targets so focused 2. Includes capacity building- in different nodes of the VC 3. Pieces well integrated	1. Focus on local breeds such as local chicken and buffalo in province 2 2. Comprehensive concept note but doing many things could confuse prioritization.	1. Get the right agroecological group- getting the diversity.	

4. Focus on aggregating production from smallholders very important.			
Group 4			
Strengths of the proposal	Limitations of the proposal	Priority locations for the proposal in Nepal	Priority value chains for Nepal
1. Multi-disciplinary, with the whole value chain and inclusion dimensions, environment-friendly, not just technical 2. Focuses on the important high potential species for Nepal - BUFFALO and goats 3. The focus on sustainable and inclusive value chains.	1. For inclusion: make sure to focus on the species that empower women - so what about poultry? 2. Make sure to include the NRM issues - water, soils etc. 3. The institution/policy parts - are they there? NGO/private sector roles...? 4. Local and locally adapted aspects - husbandry, housing, by-products. Focus on local breeds and desired local traits 5. Need to address: the local feed and forage resources and utilization / how to address the local productivity gaps 6. Indigenous breeds important for the sustainability/breed registration system.	1. Lumbini and Bhagwati	1. Buffalo and goat for sure 2. Chicken as well - the local ones for sustainability
Group 5			
Strengths of the proposal	Limitations of the proposal	Priority locations for the proposal in Nepal	Priority value chains for Nepal
1. Gender inclusivity 2. High potential for improvement of the genetic 3. High market opportunities and growth for animal source foods - due to growing demand 4. Several technologies that	1. Quality of inputs was not explicitly stated 2. Should mention the collaboration of the three levels of government 3. Integrating poverty reduction and inclusion should be a focus 4. Focus on local breeds such as local chicken and buffalo in province 2	1. Buffalo should be included in province 2 as well as in province 1 2. Goats in provinces 5, 6 and 7	1. Buffalo 2. Cattle 3. Goat 4. Poultry

<p>can be used and scaled</p> <p>5. Target of the project is appropriate and the livelihood gains will be significant</p> <p>6. The project covers both low and middle/medium groups.</p>	<p>5. Rather than single technology in hand- a comprehensive concept note could be of value if it organizes smallholders.</p>		
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Suggestions on the Nepal interventions and work packages

Group 1	
TOP priority interventions for Nepal	PRIORITY WORK PACKAGES for Nepal
<ol style="list-style-type: none"> 1. Meat, market, whole value chain 2. Milk 3. Buffalos 	<ol style="list-style-type: none"> 1. All the work packages are important we can not prioritise because it is interlinked, it is a complex package and it needs continuous consultation and engagement with stakeholders.
Group 2	
TOP priority interventions for Nepal	PRIORITY WORK PACKAGES for Nepal
<ol style="list-style-type: none"> 1. Quality feed production and feed management 2. Livestock water productivity improvement pathways due to water scarcity 3. Quality feed production and feed management 4. Introduction of resilient farming: Innovations and climate-smart technologies to be introduced for inclusive growth and creation of employment and sustainable farming for women and youth 5. Integration with relevant national policies and programs like Agro forestry policy etc. 6. Genomic assisted selection 7. Importance of crop residues in animal feed. 	<ol style="list-style-type: none"> Package 1: Buffaloes and goats are very relevant. High cost of production, affordability by consumers, low productivity of animals. Not exploiting the genetic potential of the animals.
Group 3	
TOP priority interventions for Nepal	PRIORITY WORK PACKAGES for Nepal
<ol style="list-style-type: none"> 1. Digital technologies to bring efficiency, for farmers and other actors e.g. info sharing 2. Feed management- to improve year-long availability, to reduce the cost of production 3. India- Nepal livestock trade and transboundary markets; how to improve competitiveness 4. Organisation farmers- to improve access to markets, the inclusion of small-scale producers and also improving bargaining power 5. Feed drying technologies- to preserve feed, and enhance the capacity 6. Youth migration- livestock activities to allow youths to stay on the farm instead of migrating. 	
Group 4	
TOP priority interventions for Nepal	PRIORITY WORK PACKAGES for Nepal
<ol style="list-style-type: none"> 1. Indigenous resources - animals and feed/forages 2. Buffalo reproduction, AI, etc. 3. Selecting high genetic merit goats 	<ol style="list-style-type: none"> 1. Upgrading local breeds for resilience; best forages, health interventions 2. Translational research that extension can use 3. Certification system for animals - performance recording

4. Diversifying the stakeholders involved - to ensure scaling 5. Involving the different actors - academic, extension - with clear roles; draw on the capacities and expertise in academia (students and profs). Need to operationalise this.	4. Spell out r4dev roles very clearly.
Group 5	
TOP priority interventions for Nepal	PRIORITY WORK PACKAGES for Nepal
1. Buffalo - Identifying good stock through appropriate genetics and other means 2. Appropriate feeds and forages 3. Effective disease control especially FMD 4. Effective breeding programs for goats 5. Establishing and promoting programs that promote youth and women empowerment.	1. Genetics and breeds, feed and appropriate reproductive technologies 2. Protection against diseases such as FMD.

Word of advice to the Nepal SAPLING team

Here is a word cloud representation of some of the advice given to the SAPLING team.



For more information, please visit <https://cgspace.cgiar.org/handle/10568/114640> and or contact Isabelle Baltenweck i.baltenweck@cgiar.org and Mourad Rekik m.rekik@cgiar.org.

Report on the Ethiopia virtual stakeholder consultation meeting

Given the importance of livestock in the lives and livelihoods of its people and the commitment of public and private actors to transform food systems through livestock, Ethiopia is one of six countries identified as a potential partner country for this initiative.

The Ethiopia SAPLING stakeholders consultation meeting was convened virtually to ‘ground’ and improve the proposed initiative. It was aimed to guide the initiative design team as they formulate the key interventions and work packages to be delivered.

Specifically, to improve the current proposal outline by:

1. specifying which elements and work packages are highest priority for Ethiopia;
2. identifying missing elements that must be included for it to best serve Ethiopia’s situation;
3. providing feedback to strengthen the proposed approach and framework;
4. identifying the interests of key national actors in different work packages.

25 participants – 12 drawn from among CGIAR researchers, 6 from among national government officials and research institutes, 5 from nongovernmental organizations and 2 from the private sector took part in the virtual meeting held on 13 July 2021.

ILRI deputy director general, Siboniso Moyo opened the meeting by highlighting the enormous animal genetic resources in Ethiopia, the importance of livestock to livelihoods, and the commitment of private and public sectors to transform food systems, suggesting that the SAPLING initiative offers opportunities for the country to sustainably improve productivity along priority livestock value chains building on the exemplary, long-standing collaboration between the CGIAR and Ethiopia.

During the workshop, stakeholders provided feedback specifying the priority interventions, value chains and work packages that can best serve the Nepal situation. These feedback is contained in the subsequent sections of this report.

In his closing remarks, Asrat Tera, director-general of the Ethiopia National Animal Genetics Improvement Institute (NAGII) pointed to recent government strategies to improve livestock sector productivity and it is also introducing a major policy shift to enhance animal source consumption. “The SAPLING project comes at a critical time when stakeholders can partner to transform the sector, enhance food and nutrition security as well as contribute towards income diversification.”

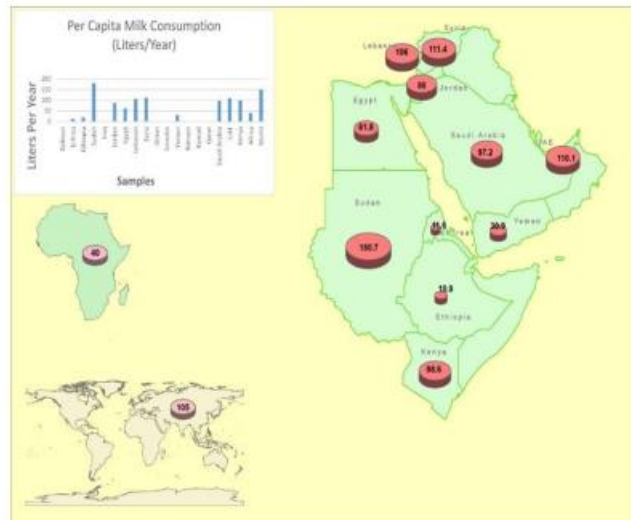
A short blog highlighting the other key outcomes of the meeting can be accessed on the International Livestock Research Institute news site here - <https://www.ilri.org/news/aligning-and-combining-interventions-key-one-cgiar-sustainable-animal-productivity-initiative>.

In the subsequent sections of this report, we also make available a Powerpoint presentation on what the SAPLING initiative could mean for Ethiopia, all the feedback provided by the meeting participants on the initiative proposal, suggestions provided on the proposed interventions and work packages as well as a ‘piece of advice’ given to the Ethiopia SAPLING proposal design team.

Presentation slides from the Ethiopia SAPLING stakeholder meeting

Some facts: Per capita milk and meat consumption (kg/year)

Country	Milk	Meat
Developed countries	217.0	95.7
• Finland	361.2	67.4
• Sweden	355.9	76.1
• Netherlands	320.2	89.3
Developing countries	55.0	31.6
Sudan	180.7	21.0
Kenya	120.0	14.3
Tanzania	42.0	10.0
Sub Saharan Africa	31.0	10.9
Ethiopia	19.0	7.9

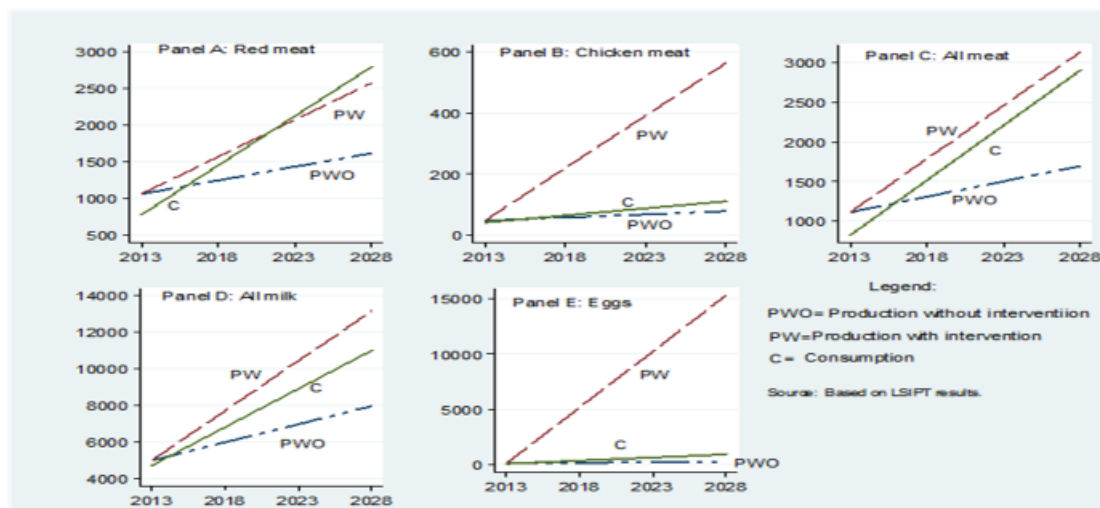


ILRI



Source: FAOSTAT

Demand and supply projections for red meat, chicken meat, milk and eggs from 2013 to 2028, with and without investment interventions



Source: Shapiro et al., 2017

Projections to 2028

Due to exploding demand due to rapid increases in population growth to 127 million people and rising per capita income:

- **Red meat consumption will grow by about 276%** from 775,000 tons in 2013 to 2.9 million tons, with an average annual consumption of 24.5 kg per year. Meat deficit of about 1.3 million, 53% MT
- **Milk consumption will grow by 127%** from 5 billion liters in 2013 to 11 billion liters.
- **Domestic milk production expected to cover more than 71%** of the total consumption requirement representing a production-consumption gap of 3.2 billion liters. Milk deficit of about 3,185 million litres, 29% of milk in 2028.

GTP2 Performance: Re-orienting Livestock Production to Meet Quality Requirements of the High-end domestic and Export Markets

The current situation

1. Live animal export

GTP II – 1.2million animals/474 million USD/annum

Performance- 67million USD/2017 **(14%)**

1. Meat export

GTP II - 92 000 tone/500 million USD/year

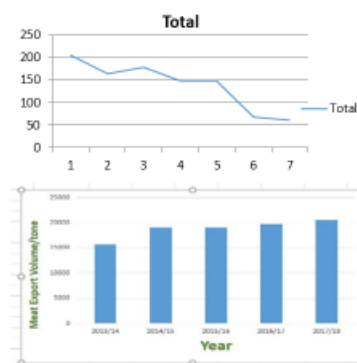
Performance – 21000 tone-2017/101 m USD) **(20%)**

Why low performance?

- SPS
- Low throughput from the source
- **Quality** (the market requires tender, juicy and less fat meat ~ eg for cattle 320 kg at 24 months/ **currently > 4yrs**)

Interventions proposed

- **At source** (strategic feeding health interventions and genetics)
- **At feedlot** (improving feeding efficiency and strengthening bio-security)
- Interventions are proven to be **financially viable**



1.3. Imports of meat types (2006-mid, 2017)



SAPLING – what is on offer



Technologies and Practices for Sustainable Productivity

Improved cattle, SR, chicken genetics integrated with ICT, genomic and reproductive tools

Forage and multi-purpose crop breeding, improv. of crop residues, off farm feed production, fattening technologies

Platform for delivery of improved genetics (synchronization, AI, Sire certification)

Digital farmer support system to promote herd health, vaccine platform to develop candidate vaccines

Food and Nutrition Security

Practices for safe production and handling of ASFs

Increased affordability and safety

Behavioral change strategies for increased ASF consumption

Equity and Inclusion

Gender transformative approaches

Empow. marginalized groups, women

Value chain competitiveness

Access to services

Input/output markets

Intervention packages

Business models

Scaling

Scaling framework

communication and engagement strategies

Decision support tools

Proposed choice of commodity VCs and geographical regions



ACGG sites (Oromia, SNNP, Amhara, Tigray and Addis Ababa regions), with possibility of scaling to other regions



ADGG sites (Oromia, SNNP, Amhara, Tigray and Addis Ababa regions), with possibility of scaling to other regions



Small ruminant VC sites (Menz, Bonga, Horro, Doyogena, Abergelle, Konso) with possibility of scaling to other regions

More thoughts

- Builds on existing initiatives
 - SR value chain
 - ACGG
 - ADGG
 - Gives us the opportunity to continue our successful work
- Closely work with different partners
- Opportunity to take some of the innovations to scale
- Capacity development at different stages
- Spillover effect from other countries because SAPLING will be implemented in six countries



Feedback on the overall Ethiopia proposal

Strengths of the proposal

- Water considerations are included-but need to see how we will collaborate with partners on the ground
- Focus on sustainability and livelihoods
- A good number of beneficiaries
- Research issues on processes of AI systems - what could be an effective system to put in place to reach the necessary farmers
- Nutrition - production of milk and eggs is very important. The growing culture of consuming animal protein.
- Strong focus on internal feed production possibilities.
- Dairy sector consideration is a strong point. Pure dairy cattle are less than 2% of total local livestock share improving that will be good in improving the number of dairies
- Feed improvement is very important. Promoting forages will be very crucial.
- Partner engagement and looking for more partnerships for better scale-up
- Building on the identified priorities/ongoing work. Not starting from scratch.
- Initiative supports 10-year strategy of MoA and aligns with it. Issues of productivity of livestock got high attention
- It addresses the entire VC, not just genetics/feed like previous initiatives
- With a cluster system, opportunity to upscale later to other regions
- Old approach was piecemeal (feed/genetics/health) but this is a full technology packaging that will be scaled up
- Scaling element within SAPLING-to ensure the impact is greater, not just die out after pilot.
- Need more investments in livestock and these approaches that are working directly with farmers are needed, hence this additional project is a great initiative
- The project is in line with exiting government plans
- Being in one CGIAR will aid in pooling human capacity for implementation of the packages/project components

Limitations of the proposal

- Put infrastructure in the place where feeds are being produced
- Better education on consumers for better diet - who would do that?
- Gap on the technical capacity of AI technicians - improve that. Facility problems on nitrogen production - train farmers on accurately detecting heat for timely AI (taking on time to AI technician).
- Clarify if the focus is on research or development? What is the scaling strategy? Need to clarify the scaling strategy
- For dairy, a duration of 3 years as a time to produce high productive cows, maybe too ambitious
- Feed is very critical. The available feed cannot be used efficiently. Ploughing and traction activities. Introduce an efficient tracking system. The available feed is given to oxen and unproductive animals
- 19 litres of milk is quite a difference - lots of limitations in production issues. Raw material prices, managing imports and exports. Intensify the producers to produce big quantities to satisfy the demand in the country. Support policymakers and consult with policymakers - for decisions on exports and what to remain the country
- Role of engagement of national institutions not indicated. Scaling with working packages - real volume of work. modality of SAPLING - how scaling will be done - a lot of investment and money involved
- SAPLING - focus on income generation. Creating wealth for the youth group - un-employment for the youth. Animals with shorter - chicken and small ruminant.
- One region does not seem to be integrated. AA has huge potential for dairy/poultry, better to include those 2 regions
- I recommend poultry and dairy in different sectors/clusters. If the effort is scattered, the impact will be limited. Areas are important for poultry, others for dairy. better to follow a cluster approach
- Intervention relies on land availability for dairy/poultry. Land use is a critical constraint. Lack of supporting land-use policy for livestock activities
- Degree of participation of the private sector? hard to link small farmers to markets. Will it bring profit?
- Extension system has a 1 size fits all approach that does not work for LS. Need for ES to accommodate Agroecology, resources, comparative advantage.
- It's a little bit ambitious in the outcomes listed - they may be a little difficult to achieve
- List partners clearly with the anticipated roles for each - the Ethiopian partners
- May be difficult to see limitations now - but there is too much ambition in improving production and productivity
- The gender balance target at 50% may not be realistic.

Priority locations for the proposal in Ethiopia

- Dairy - more productive animals. Target on high producing animals with the appropriate package - feed, health and market. How to increase the proportion of productive animals
- Lay down the groundwork for the approach of high producing animals - how to produce 50% dairy genetics
- Improving AI - increasing productive crossbreed animals. Building capacity of technicians, improve facilities available for AI. Improve production of nitrogen, help in facilities having more nitrogen. Use irrigate forages –
- Improve the efficiency of AI use - for genetic improvement. Producing more than 50% crossbreeds, appropriate animal taking care

- AI - more of development aspect - promote and implement it properly. The capacity of - liquid nitrogen and technicians. Work of Ministry of Agriculture.
- Feed production and marketing must be addressed and given priority.
- Produce 50% high breeds. AI accompanied by appropriate management technics.
- additional regions could be added: the pastoral system for small ruminants needs to be addressed (Somali, Afar, South). AA for dairy/poultry, Sidama for dairy/poultry/small ruminants
- Look into the rural areas and peri-urban areas rather than focus on the conventional way of identifying locations
- Need to build on work that has been going on in existing regions even as a guide in identifying new regions
- Sidama region

Suggestions on interventions and work packages

TOP priority interventions

- Get more high producing dairy animals (50% crossbred), supported by the package (feed, health)- through more efficient AI systems
- Improve feed availability for milk and meat animals, by reducing animals for traction. How to reduce feed costs???
- Improve AI systems including technical capacity for AI technicians, availability of nitrogen, heat detection- not too much research, more about capacity
- Better forages, promoting forages and fodder markets; small scale irrigation for forage production
- Ensure that livestock provides employment opportunities- e.g. chicken farming
- Understanding why scaling is slow, low engagement of private sector?
- Research on extension systems, based on best practices
- Policy briefings
- Electricity, telecommunication institutions are all critical to the success of the initiative. (infrastructure, supporting tech) make VC more competitive
- Input production is a major bottleneck, we should add input production (captured in WP-4)
- Herd health, focus on younger stock mortality
- Improving input and services related to genetics. improving herd and flock productivity. total number of LS should be reduced/not sustainable
- Feed is a priority. animals are currently underfed, feeding technologies crucial
- Digital solutions are important for sector development. The country is under Ethiopia 2025 strategy on digitalization
- Need for PPPs-engaging PPP into this initiative to incorporate all key stakeholders. + synergy
- Improving the husbandry system; reduce free grazing
- Association feed/poultry/dairy-institutional development and strengthening of these associations. (breeders associations, market, etc)
- Capacity development on all levels

Priority work packages

- Equity/Inclusion? Gender be included as a transformative approach to gender-related constraints. Women and youth empowerment
- Financial policy will enable youth/women to participate, cross-cutting. (automated machines could spur women's engagement)
- WP 2-LS product safety and packaging
- Work package 1 - Food and nutrition good practices should be a cross-cutting activity in package 1, addressing One health and biosecurity issue across the value chain.

- Work package 2 - food and nutrition security is a broader outcome hence can focus on promoting a balance in behaviour change given the trade-offs between more marketing/commercialization versus nutrition of the households
- Work package 3 - work packages 4 and 5 appear more of a strategy to implement the others and may need some finetuning and need to be made more explicit in terms of what they handle exactly.

Priority value chains

- Dairy is a good choice!
- Scaling - link to private entrepreneurs. Protein source foods price is doubling because of feed cost.
- Extension approach - research brings efficient processes from other countries - introduce them. Behaviour change of farmers.
- Should beef be included? People who have prioritized might not have looked at that.
- New dams and aquaculture, issue of fisheries getting huge attention. Can fish be added? Pb: only WorldFish works on fish, ILRI/ICARDA have no experience. But signal interest WF
- What about camels for pastoralists? Milk/meat/income
- There exists the private sector actors in feeds but they can be engaged
- Dairy, chicken sheep and goat are important but given domestic demand and Ethiopia's comparative advantage for export, there is a need to consider fattening - the cow-calf beef type of approach would be a big advantage for the communities, - Women and youth can be engaged to enhance their income and contribute to national growth as well
- Poultry value chain - layers and broilers - layers are more pronounced - but it can be retained as is - poultry value chain
- Feed is critical – it can be considered as a separate value chain to help/enhance overall value chains performance.

Word of advice to the Ethiopia SAPLING team

Here is a word cloud representation of some of the advice given to the SAPLING team.



For more information kindly visit <https://cgspace.cgiar.org/handle/10568/114640> or contact Isabelle Baltenweck i.baltenweck@cgiar.org and Mourad Rekik m.rekik@cgiar.org.

Report on the Uganda stakeholder consultation meeting

Given the importance of livestock in the lives and livelihoods of its people and the commitment of public and private actors to transform food systems through livestock, Uganda is one of six countries identified as a potential partner country for these initiatives.

To 'ground' and further improve the proposed initiative, the Uganda SAPLING stakeholder meeting was convened to guide the initiative design teams as they formulate the key interventions and work packages to be delivered.

Specifically, we aim to improve the current proposal outlines by:

1. specifying which elements and work packages are highest priority for Uganda;
2. identifying missing elements that must be included for it to best serve Uganda's situation;
3. providing feedback to strengthen the proposed approach and framework;
4. identifying the interests of key national actors in different work packages.

71 participants – 24 drawn from among CGIAR researchers, 24 from among the national government, local government and research institutes' officials, 6 from nongovernmental organizations and 17 from the private sector, took part in the virtual meeting held on 13 July 2021.

In his opening remarks, ILRI's deputy director-general Iain Wright introduced the workshop participants to the One CGIAR system noting it has unified governance under which various research centres will be teaming up, through the proposed initiatives to harness capacities. Emphasis is put on continued partnerships with stakeholders for inclusivity.

During the workshop, stakeholders provided feedback specifying the priority interventions, value chains and work packages that can best serve the Uganda situation. These feedback is contained in the subsequent sections of this report.

Dr Juliet Sentumbwe, acting Director of Animal Resources in the Ministry of Agriculture, Animal Industry and Fisheries officially closed the meeting. In her closing remarks, said that the initiative is very relevant to national development plans, adding that the ministry is committed to support and also benefit from the capacities provided and evidence gathered for decision making. She added that it is important to align the project implementation with government priorities such as value addition, feeds, genetics, and animal health to improve productivity, in addition to attempting diversification into piggery, poultry and rabbit value chains that support low-income earners.

A short blog highlighting the other key outcomes of the meeting can be accessed on the International Livestock Research Institute news site here - <https://www.ilri.org/news/national-priorities-guide-one-cgiar-sustainable-animal-productivity-initiative-uganda>.

In the subsequent sections of this report, we also make available a Powerpoint presentation on what the SAPLING initiative could mean for Uganda, all the feedback provided by the meeting participants on the proposed initiative, suggestions provided on the proposed interventions and work packages as well as a 'piece of advice' given to the Uganda SAPLING proposal design team.



What SAPLING could mean for Uganda

Uganda Vision 2040: “A Transformed Ugandan Society from a Peasant to a Modern and Prosperous Country within 30 years”

Several supporting plans

- 3rd National Development Plan (NDP III): 2020/21 – 2024/25 – goal is to increase average household incomes and improve the quality of life of Ugandans
 - The Agro-Industrial Program, 2021-2025 – aims to increase commercialization and competitiveness of agricultural production and agro-processing.
 - Regional Development Program – poverty reduction
-

Background

- 78% of the population live in rural areas and derive livelihood from agriculture
- Child malnutrition is a key concern
 - 30% of children under 5 are stunted, 11% are underweight and only 15% are fed a minimum acceptable diet (DHS, 2018)
- Rise in livestock population, due to rise in demand for animal source foods

Species	Livestock census 2008 (in '000')	Period in years (population in '000')					% increase 2014–2016
		2012	2013	2014	2015	2016	
Cattle	11,409	11,979	13,020	13,623	14,031	14,368	5.2
Sheep	3,413	3,842	3,937	3,842	4,198	4,307	10.8
Goats	12,450	1,4012	14,433	14,011	15,312	15,725	10.9
Pigs	3,184	3,584	3,691	3,584	3,916	4,037	11.2
Poultry	37,448	36,956	43,396	44,698	46,039	46,291	3.4

Source: FAO (2016)

Work package 1: Technologies and practices for sustainable productivity

- **Overall challenges addressed:** associated with low livestock productivity
- **Innovations:**
 - Genetics: E.g. (i) improved pig genetics, both productive and adapted to local environment and (ii) AI based delivery systems
 - Herd health and vaccines: E.g. (i) An experimental vaccine for the control of ASF, (ii) Tools and protocols for assessing antimicrobial use in livestock systems
 - Feeds and forages: E.g. (i) Business models to commercially produce and utilize improved feeds (silage – based diets), (ii) Models to improve quality of concentrate and commercial pig feeds



Work package 2: Food and nutrition security

- **Overall challenges addressed:** High levels of malnutrition coupled with poor nutrition behaviors and low consumption of ASFs as part of overall diets
- Innovations (examples)
 - SBCC strategies for animal source foods consumption to support appropriate consumption of ASFs as part of a diverse nutritious diet
 - Decision support tool for researchers and development practitioners to prioritize food security and nutrition interventions (FS pillars - availability, access, utilization)



Work package 3: Equity and inclusion

- **Overall challenges addressed:** Limited control over resources and decisions by women who do most of the work caring for livestock, and youth are marginalized from income-generation opportunities and assets
- Innovations – examples
 - Tools to assess the empowerment extent of women and marginalized groups in livestock-related interventions - WELI, WELBI
 - GTA toolkit tailored to livestock-related interventions as well as addressing existing gaps



Work package 4: Innovation Packages for Value Chain Competitiveness

- **Overall challenges addressed:** Small holder farmers face challenges to access markets for inputs, services and their livestock produce
- **Innovations – examples**
 - Institutional arrangements for farmers collective action for improved access to inputs and services, and output markets – e.g. dairy hub model
 - Buyer-driven models such as the pig aggregator models being tested under MorePORK



Work package 5: Evidence, Decisions and Scaling

- **Overall challenges addressed:** Scalability of innovations and prioritization and targeting of package of interventions
- **Innovations – examples**
 - Integrated decision-support system assessing investment trade-offs
 - Tools to assess scalability of innovations at the beginning of innovation development, and identification of barriers of scaling (using tools such as Scaling Scan and Scaling Readiness)



Adapted from Sartas et al.

Proposed value chains and geographical regions

Where research can create maximum impact: Poverty reduction, Human nutrition, Environmental health, Gender – women empowerment

Species	Region/location
Pigs	Central
	Western
	Eastern
Dairy	Cattle corridor
	Central
	South – West Western
Poultry (backyard systems)	Northern
	Eastern

ANIMALS presentation slides



ActionNs for Innovative climate change Mitigation and Adaptation in Livestock Systems (ANIMALS)



The Challenge for ANIMALS

- Global recognition that livestock contribute significantly to GHGe
- Global recognition of the importance of adapting agriculture to climate change, yet the livestock sector lags behind crops, even though livestock are critical assets
- Urgent to identify mitigation co-benefits of adaptation interventions
- Landscapes must be part of the solution
- Livestock sector lags in attracting climate finance although it features in many NDCs



ANIMALS' outcomes 2024 → Impacts

1. 150,000 households implement Climate-Smart technologies to improve adaptation and reduce GHGe by 10%
2. 300,000 households and Value Chain actors in 5 countries access risk management services (information, finance, inputs, institutional support)
3. Climate finance investors commit 100M USD for Climate-Smart livestock interventions
4. Land managers implement measures to restore 100,000 ha
5. Policies, plans and climate change reporting systems in five countries use evidence and tools from ANIMALS.

ASFs contribute to nutritional security of vulnerable people

Livelihoods buffered against CC, business opportunities increase along VCs

Climate policies and interventions explicitly target social inclusivity goals

Livestock systems adapted, de-risked and GHGe reduced

Landscape restoration and reforestation improve ecosystem richness, resilience



The work packages

	Main Focus	Example innovations
Work Package 1 Farm level technologies for adaptation and reduction of GHGe	WP1 will co-develop new technologies and scale out proven socially-inclusive and gender-equitable practices that adapt household livestock production to climate stresses such as temperature extremes and variable water availability, while quantifying and promoting practices that offer mitigation synergies from e.g. feed production or manure management.	Improved feed baskets for mixed systems; silvo-pastoral forage system kits; water harvesting techniques; new extension models aimed at youth and women.
Work Package 2 Tailored climate risk management (CRM) services	WP2 will co-design and deploy digitally-enabled services that bundle climate information, risk transfer and credit strategies in livestock agri-food systems. These public-private partnerships will build capacities to use the bundled services; the digital platforms will facilitate rapid scaling.	Index-based livestock insurance; AClimate Global system; heat stress maps; participatory climate services.
Work Package 3 Climate finance for livestock	WP3 will co-design and implement tools, business models and other market-based innovations that crowd-in 'green' finance that incentivizes adaptation and delivers verifiable GHGe reductions by livestock agri-food market system actors.	Livestock Investment Accelerator; business cases for specific value chains; results-based finance mechanisms.
Work Package 4 Landscape level solutions for livestock	WP4 will identify and implement interventions that offset GHGe and land degradation through land use planning and governance, restoration, and avoided deforestation. It will assess the contribution of farm level livestock adaptation and mitigation interventions to sustainable landscapes.	Landscape restoration systems, with guidelines and toolkits; traceability system connected to deforestation monitoring
Work Package 5 Tools for policy impact	WP5 will develop livestock-specific analytical tools and produce evidence that enhances national capacities to plan, monitor and report progress toward adaptation and mitigation targets. These tools will also enable public and private sector decision makers to understand and act on trade-offs and synergies between socio-economic and environmental outcomes and incentives.	Improved data for calculating GHG emissions factors; guidance on MRV infrastructure; integration of climate change targets into macro-level livestock investment strategies.

ANIMALS Innovation Inventory

Farm level technologies for adaptation and reduction of GHGe

- Improved feed baskets for mixed systems; silvo-pastoral forage system kits; water harvesting techniques; new extension models aimed at youth and women.

Tailored climate risk management services

- Index-based livestock insurance; AClimate Global system; heat stress maps; participatory climate services.

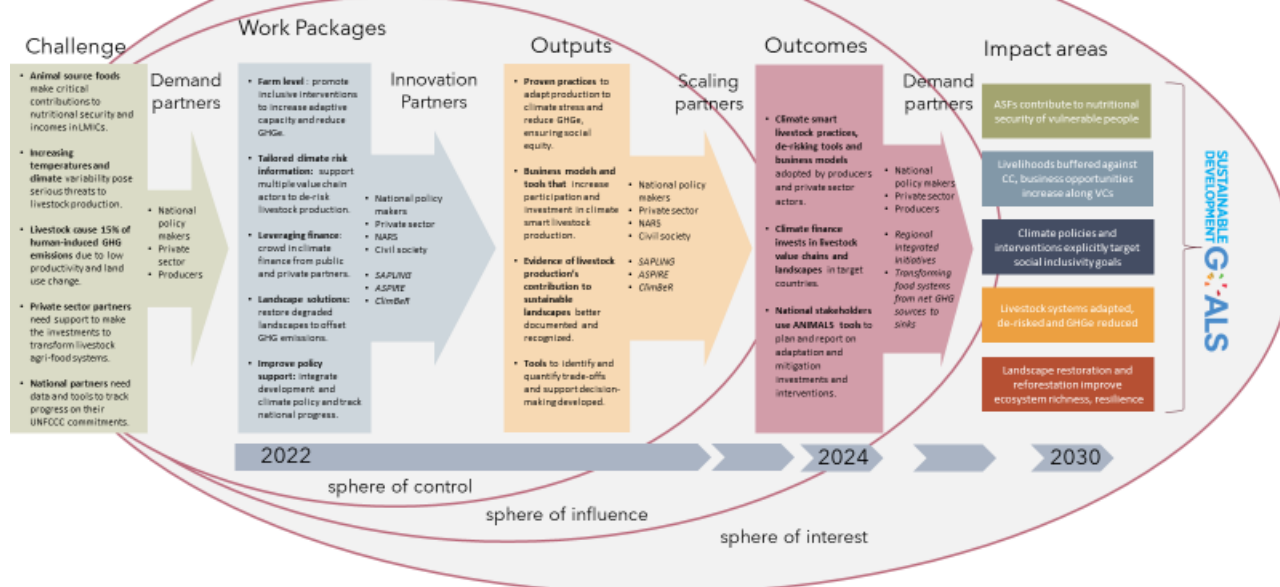
Climate finance for livestock

- Livestock Investment Accelerator; business cases for specific value chains; results based finance mechanisms.

Landscape level solutions for livestock

- Landscape restoration systems, with guidelines and toolkits; traceability system connected to deforestation monitoring;

ActionNs for Innovative climate change Mitigation & Adaptation of Livestock Systems (ANIMALS)



Feedback on the overall Uganda proposal

Strengths of the proposal

- WPs are in line with government priorities (government vision 2040), thus likely to be embraced by policy/decision makers. Documentation of evidence will be extremely valuable
- Building on previous work (experience, evidence) although WP1 wording seems to suggest this is not the case and that new work is taking place
- Focus on improvement WP1; productivity-Well aligned with the ministry/government priorities of Uganda
- Covers whole value chain
- Diversification - dairy cattle not just milk but think of by-products e.g. leather industry an area if tapped in can lead to job creation and exports. Leather to be 1 innovation
- Focus on evidence and policies - having evidence to inform policies
- WP5 is deliberate on generating evidence and supporting policy review as a result
- Working directly with farmers
- The focus on ASF consumption
- Poultry - inclusive species - for the disadvantaged- youth, women, low resources
- Women and youth inclusion
- Gender and youth element. There is a population of persons; the elderly and retirees who need attention for them to have good livelihoods. Usually, these are relatively educated and with some capital and can easily adopt new technologies on their farms
- Intentional focus on gender equality and women empowerment - availability of tools to measure women empowerment
- The 3 pillars of livestock productivity
- Handling the 3 major elements affecting production - Feeding, Genetic improvement and Animal Health
- Holistic, in the sense that we working across the value chain
- The linkages of the work packages - they are neatly interlinked
- Broken down into 5 packages - comprehensive work packages. Scaling innovations is an excellent idea
- Bringing back the aggregation model is a good thing.
- There are considerations to the GHG emissions from the livestock sector. There is the opportunity to work on this aspect starting from the household level to the national level.
- scalability incorporation is good
- Good choice to address food security and malnutrition.
- I like the fact that we are venturing into more animal value chains)- besides pigs
- Food and nutrition security component included - in livestock value chains - this is usually skipped in many initiatives planning yet livestock products are key in diets
- Zoning of livestock focus - Central Piggery; Poultry-North/Eastern
- Inclusion of dairy as well as poultry and the interest in transformative approaches for gender (women and youth) inclusion
- Ability to look at a wide range area central/western cattle corridors; also the specificity of the actions in the proposal
- diagnostics in the past have been very poor. Now well included - labs, extension providers a whole system is a potential solution to scaling bottlenecks in the value chain

Limitations of the proposal

- How SAPLING is tapping into local knowledge and practices is not visible (the government is developing a 'parish model' that is very locally based)

- Need to include animal welfare aspects along the value chain - it affects the quality of livestock products
- Have a system of cross-information happening in the 6 priority countries - conversations between the people in charge of the countries
- More participatory approach is required for local solutions to be developed.
- Research and development targeting strengthening of the animal breeding policy - moving beyond policy documents on paper and in shelves to actual meaningful implementation - knowledge-based decision making in breeding.
- WP5 not clear on where to access evidence from work done, generated evidence without the limited websites etc. finding an easy platform to do this. We need to invest in the dissemination of evidence
- Need to also focus on access to extension services and finance in one of the WP's
- Consideration of farmer preferences for breeds
- Farm succession plans
- How does it effectively articulate policies of feed. Regional integrated initiatives - border trade, livestock production - could be involved in pasture production e.g. hay.
- Food products - rather than emphasize appropriate technology we may need the state of art technology to add value to the market
- How do we create domestic demand for our livestock products
- The packages are comprehensive, hoping the implementation will be robust
- How is the proposal handling primary processes for market availability? Widen the scope of products coming into the market
- On the back of the aggregation model, we need to find out why it collapsed in the first place, what has changed for it to work this time
- Fish and dairy sector are successful in adding value to their production - reflection needed up to the value addition for better market nationally and internationally
- Sustainability - integration into the UG farming systems; so that it doesn't stand-alone)
- Weak in policies and regulations- very important in the areas of deliveries and extension
- Policy that supports/enables the WP2 e.g. subsidies and pricing
- Have we tried to find out why technologies are not adopted/scaling? How can we improve on this?
- Unclear if limited at production or also processing.
- Need to include institutional arrangements to overcome non-tariff barriers to regional trade
- Incorporating COVID-19 and its effects. What impact interventions it will have - should be work package No. If we ignore the impacts of COVID 19 - mental and physiological effects.

Priority locations for the proposal in Uganda

- Beef - Central/South-Western cattle corridor.
- Bees? - for the Northern region including West Nile
- Central - North along the cattle corridor (land abundance and natural pasture)
- Dairy - Intensive systems should consider the Central region; the cattle corridors have semi-extensive systems
- Is Karamoja included for dairy?
- Some areas of Uganda need attention. Like the Busoga region which has a problem of overpopulation and is in known poverty stress.
- Add Eastern regions, Busoga..., usually neglected.
- Eastern and central region
- Eastern region

- Southwest and western regions.

Priority value chains

- Dairy - Cow milk, goat milk; Quality meat - beef, pork, chicken; Backyard poultry - potential impact, access to feeds, women/youth
- Genetic improvement - Poultry - Makerere, Gulu University selective breeding for weight and eggs
- Dairy, pigs and chicken are very important. currently beef is moving at a fast rate - cattle corridor could be an area to consider. So many zero-grazing farmers - many people producing intensively near the city
- Beef as an offshoot of dairy. Indigenous poultry systems are also in the urban and peri-urban areas.
- Goats, beef and dairy
- In some regions bees are now being listed as livestock
- What about Apiculture?
- micro livestock - in honeybees, why not?
- in our group, there was a proposal to include bees for the Northern region and West Nile. My question was whether these are livestock
- Dairy (for income) - easy to convert pasture into meat and milk
- Dairy cattle, due to the importance of milk as an ASF, and livelihood contribution of dairy (ie. nutrition and livelihoods)
- Urban and Peri-urban areas systems for the dairy VC
- Dairy
- As the land available for Livestock production shrinks in the central parts of the country, there is a need to consider smaller animals like goats to ensure production goes on.
- Look at Goats
- Yes goats
- Add dairy goats especially for women and youth inclusion.
- We need to promote other insect enterprises that can provide the proteins for other animals like the maggot farming for poultry, pigs etc. these are technologies around
- some animals may not be livestock but can support the livestock very well. Maggot farming are substitute for other sources of animal protein to the poultry
- I like the idea of maggots as alternative protein sources. thanks
- Our group also identified pigs as one of the priority VCs
- Piggery
- Piggery, due to quick returns and women's / youth involvement, increasing demand for pork.
- Pigs - income
- Poultry - not limited by location
- Poultry (chicken) as it engages a large number of people; not limited to backyard poultry but also commercial enterprises. We need to strengthen the backyard poultry. This caters for the poor. Developed backyard poultry makes the very poor have a source of income and easy access to animal protein as the owner finds it easy to give an egg to the child.
- There is an animal that needs little in-puts but is of high reproduction. yields a lot of meat per time this is the rabbit. I feel we can introduce the rabbits to communities where even the child, taking it as a pet, can raise meat for the family, community as he/she sells some rabbits community

- we need to tease the researchable issues with Rabbits - is it breeds? management? - probably feeds and health are not key? Is integration or acceptance in communities as food not as pets, good?
- Let us think critically about rabbit farming as one of the additional animal enterprises to add to our list of possible animals to encourage in the communities.
- Rabbits can even be kept in the urban setting. Good and cheap source of food for the homesteads.
- Can we add the rabbit as one of the animal enterprises we encourage in the communities in Uganda
- Can we include rabbit farming as well. It is a small animal with great reproductivity. It can thrive on just eating plants with minimal supplementations
- Rabbits, as low capital required to enter (may be attractive to youth), rabbit meat increasing in popularity
- The rabbit is also a very good animal to establish as a value chain in our interventions. It has quick returns, is less cumbersome to keep, has fewer diseases, and readily available feeds are picked from even the roadside. The market looks available and can be promoted through market systems of the project
- Rabbitry and poultry - youth inclusion and food security issues

TOP priority interventions

- participatory methods to enhance adoption and scaling; develop new ASF based menus
- participatory methods to enhance adoption and scaling
- We need to improve the genetics of the Livestock so that we can have productivity per area. This is achievable if good producing, high growth and high multiplication breed of animals are encouraged in the communities.
- Leather industry commands a colossal 500 billion USD on the global market. Diversifying from the conventional meat and milk value chain to the leather value chain creates new opportunities to promote the livestock industry in Uganda
- Leather, manure and products
- Have specific capacity development modules - in all work packages
- Skills, development and capacity management - cross-cutting. Micro and small enterprises - taken on board. Cooperation between the different actors
- Capacity building should continue - indigenous knowledge. Come up with a policy to come up with building structure e.g. bio-safety
- Intensify capacity development in all 4 pillars (feeds, genetics etc.)
- Setting up satellite diagnostic labs in the different regions; strengthening the technical capacity of all extension service providers in sample collection, handling and interpretation of results
- Establishing a reliable database for informed decision making- supporting relevant authorities
- Feeds and forages as a critical factor or productivity.
- Support finalizing the feed policy and how the existing policies are integrated
- Alternative non-conventional feed resources such as insect and earthworm sources of protein need to be explored and promoted from universities research institutions to practice at the farm level.
- Access to finance and building strong links between the actors - entrepreneurs etc.
- Value addition - (i) prolonging shelf life - cold chains (ii) Post-harvest handling (iii) food safety considerations
- Consumption: (i) Awareness of nutritional aspects of animal source foods (ii) Quality assurance of livestock products

- Promote school feeding programs for ASFs
- Consumption: Investment in demand creation e.g. through school feeding programs
- Develop/promote pen-side diagnostic tools for major livestock diseases; Venture into ICT based diagnostic tools
- Sustainable animal health from a nutritional point of view - self medicate e.g. from shrubs they are being threatened by charcoal burning etc. Animal health to be promoted using indigenous methods
- Bio-active ingredients which can be part of animal health management
- Innovate or promote youth-friendly technologies that market ASFs
- Women's and youth empowerment
- Gender and Livestock. Technologies that ease labour associated with animal production. Physical methods of improving livestock production allow women to get involved in animal production. Specific gender mainstream technologies to reduce the workload
- Capacity building, particularly of youth, so that they can join/ enter the livestock sectors. Key areas for capacity building = production and marketing.
- Pilot integrative marketing systems especially to support the informal sector players- in an inclusive way.
- Linking producers to market, for farmers to adopt better practices
- Record management - along the VC
- By-products (manure, wastes from leather products) environmental concerns to be addressed
- Climate-smart technologies- identify them and support adoption
- soil health management. Add conservation work
- Supporting implementation of existing policies (not new ones!) including the feed policy (finalization), breeding.
- policy on standards and quality of feeds distribution (ii) quality of livestock products (iii) regulations and enforcement on the use of chemical (antimicrobials)
- Influence policy related to investment infrastructure to better animal health
- women and youth will help in scaling
- Productivity - (i) feed packages for the different value chains (ii) reliable, accessible AI services (iii) skills for management - for farmers, extension workers. For poultry: distribution of inputs especially vaccines
- Productivity: (i) vaccine research (ii) disease control strategies and policies (iii) access to improved genetics – Genebanks
- Technologies to support linkages across value chain actors
- Value addition: (i) Technologies for value addition - appropriate equipment (ii) Financing

Feedback on ANIMALS proposal

Strengths of the proposal

- Building on previous work - e.g. climate risks and heat stress
- The proposal includes farm-level interventions as well as an aspect of scaling it up to landscape level
- Broad and comprehensive **across** commodities and value chains
- Focus on improving GHG emissions estimates for different livestock categories -- get away from default emission factors towards national EFs
- MRV is coming out clearly - innovation in assessment and monitoring
- Need to have fairness in rewards of farmers to their investment in farm/animal inputs
- Need to ensure that farmers work in groups rather than individuals - so address this aspect - farmer groups to cooperatives.

- Focus on GHG is needed! Moving from research to outcomes -> technologies that help farmers (e.g. water harvesting)
- Climate finance outcome, would have a great effect on stakeholders -> agreement among participants!
- Attract climate change financing for livestock (now mostly directed to cropping).
- Special attention to youth and women (e.g. extension models)
- Link to women and youth is well captured in the proposal. social norms that underpin benefits to women and youth would be good to be addressed/uncovered so that it informs the mode of implementation.
- Beyond on-farm to also include landscapes ==> comprehensive tackling of LS issues
- Need to look at entire value chain including input and value addition - key challenges are feeding diseases and genetics at production then value addition because farmers get poor rewards/quality of input e.g. feed due to poor policies on the same - address how to ensure what is produced meets standards for local and international markets.
- Consideration of landscape approach! Feeds and water are landscape issues, depending on the livestock management system
- Need to have a collaborative engagement of different sector/ value chain actors in the project
- Identification of climate risks in livestock management
- Agricultural insurance.
- Risk management, and the early warning system inclusion in the proposal is good.
- Identification of various innovations for scaling up
- Having the scale-up from farm level to landscape level will help in assessing how livestock interacts with other aspects e.g. crop, climate, etc.
- Discussion around global food system is on decreasing livestock due to greenhouse emissions but tracking systems are lacking to accurately assess how much emissions are from livestock - the proposal could include
- Strong link to genetic improvement (livestock and feeds) as a CC adaptation strategy

Limitations of the proposal

- Link to government programs, i.e. Climate Adaptation Program (NDPIII) -- LS is not captured as a resource! // missed opportunity for investment
- Issues around capacity assessment and building to show how it can be best embedded and sustained
- Data: LS data in general, RS data on pastures, ... -but also need to push UBOS to improve data on climate-smart livestock
- Collection of baseline and characterization of farm systems
- No clear output around MRV of livestock sector - the targets in NDCs are clear, capacities for MRV needs enhancement to advance mitigation action
- Energy access is not covered - needed for processing and value addition and climate change adaptation is a major challenge
- Biogas is not present, manure can be converted to energy
- Focus on extension models (how to deliver the technologies) and specifically relation with ZARIs and farmer institutions
- Mapping different stakeholders in terms of roles and where that takes place.
- Prioritization of locations leaves out important commodity areas
- Take into account other environmental indicators e.g. water soil health in addition to GHG emissions

- Central: High concentrations of piggery in confined systems, but environmental effects here are minimal - more environmental impacts from free-range systems
- Identifying vulnerability in various livestock sectors (beyond cattle)
- Stakeholder mapping and priorities missing.
- Incentives for sustainable adoption of CSA technologies, e.g. cash transfers, markets,
- Utilization of indigenous knowledge about CC adaption
- Climate-smart LS technologies are not known by development partners -- needs more investment (e.g. catalogue + dissemination)
- Link/bridge the gap between technology developers, policies and users

Priority locations and value chains

- Southwestern Uganda, North – but the entire country
- South-Western region: Work is currently ongoing, opportunities for continuity (but already many interventions here)
- There is a categorization of the country - e.g. the cattle corridor. Cattle corridor is where cattle are located and degradation is found, the key driver of deforestation
- Rangelands - cattle presence and degradation.
- Beef (and goats) in N Uganda, Karamoja and Teso
- Dairy in Western, Central and Elgon
- Dairy in Northern region - great potential
- Poultry/piggery in Buganda, Busoga, Central
- Eastern region: high concentration for local poultry
- North-Eastern: manifold livestock activities especially cattle, livelihoods depend on it (Karamoja, Teso etc.), also high amounts of deforestation
- Value chain - dairy, pigs, small ruminants -sheep and goats.
- Poultry: key for equity and inclusion, key for marginalized groups (in contrary to cattle)
- Apiculture?
- Cattle and dairy: farmers interest, involvement in climate change and degradation
- Pigs: many livelihoods depend on it

TOP priority interventions

- Investment in data (collection, methods, ...) and tools/methods
- ways of monitoring. quantification farm-level impacts, use of baselines and improved systems to quantify how to improve the landscapes
- MRV (in terms of GHG and adaptation) for national and international reporting
- channels of collaboration, digitize - information exchange, livestock insurance
- Improving and capacitating extension services
- encouraging farmers to work in and through cooperatives, group/collective marketing, financing/ credit access to support initiatives that reduce GHG emission
- Farm organization can help to adapt, it is missing from the current portfolio – e.g. farmers in groups can negotiate better input prices, can bulk produce
- Improved feeding through the provision of forages
- Pasture improvement: Fodder establishment and improvement, high-quality species, fodder conservation, compile feed baskets for different seasons and production systems
- Regarding climate finance (WP3), development of tools to estimate the mitigation potential at farm level to able to justify and attract climate financing
- To improve climate finance , we need to improve the involvement of all stakeholders
- Value addition, reducing waste. E.g. in milk production
- Record keeping for improved disease prevention and productivity monitoring

- Coping with increased pest and diseases (WP1), reducing livestock losses; resistance to pesticide and antibiotics
- Youth important for digital extension.
- consider those related to gender - need to agree on the criteria e.g. is it inclusiveness - the main objective of the initiative is to address issues of climate change -
- Inputs (eg fertilizer and seeds) have a lot of counterfeits, quality not regulated and controlled (farmers need to be able to quickly verify)
- Create a livestock climate-smart unit within the directorate of livestock
- manure management practices, breeds, feeding, ensure we produce more with less/intensification
- for adaptation: pastures, fodder trees, change in the farming system (free grazing towards paddocking or tethering)
- Fermentation and manure management, GHG emission - look at shifts in breeds as well as feeding
- Heat stress adaptation practices: adapted housing, access to water, knowledge on heat stress adaptation
- For adaptation: pastures, fodder trees, change in the farming system (free grazing towards paddocking or tethering)
- share manure management advice for different farm types and value chains (instead of generic solutions)
- Environmental degradation --> need for restoration + improve grazing management/paddocking + soil/nutrient management.
- Reducing bush burning which is common in the Northern region to increase regrowth and eliminate pest/diseases - BUT comes at high environmental costs! Needs a change of attitude and regulation
- awareness creation across the value chain, policies on livestock and environmental pollution especially water
- Evidence-based policy development -- the practices (tested and documented) informing policies
- Policy monitoring and evaluation is ongoing at the national level but not at the local level, tools need to be tailored to collect data at the local level as they are last-mile users
- Adaptation to climate variability: coping with prolonged drought and feed shortages
- Reduce the number of least productive/unproductive animals.
- Livestock-specific climate-smart technologies are known, tested, demonstrated and disseminated (for all livestock species) -- improve livestock focus in ongoing CSA programs, initiatives and discussions
- sensitization on the importance of climate change and greenhouse gas emissions, also targeting local government and extension

Priority work packages

- Work package 1 - manure management practices, breeds, feeding, ensure we produce more with less/intensification
- Work package 2 - channels of collaboration, digitize - information exchange, livestock insurance
- Work package 3 - specific activity - encouraging farmers to work in and through cooperatives, group/collective marketing, financing/ credit access to support initiatives that reduce GHG emission
- Work package 4 - ways of monitoring. quantification farm-level impacts, use of baselines and improved systems to quantify how to improve the landscapes

- Work package 5 - awareness creation across the value chain, policies on livestock and environmental pollution especially water

Word of advice to the Uganda SAPLING team

Here is a word cloud representation of some of the advice given to the SAPLING team.



For more information, please visit <https://cgspace.cgiar.org/handle/10568/114640> and or contact Isabelle Baltenweck i.baltenweck@cgiar.org and Mourad Rekik m.rekik@cgiar.org.

Report on the Tanzania virtual stakeholder consultation meeting

Given the importance of livestock in the lives and livelihoods of its people and the commitment of public and private actors to transform food systems through livestock, Tanzania is one of six countries identified as a potential partner country for these initiatives.

To 'ground' and improve the proposed initiative given the Tanzania [National Livestock Research Agenda](#) and any other important considerations, this meeting was convened to guide the initiative design teams as they formulate the key interventions and work packages to be delivered.

Specifically, to improve the current proposal outlines by:

1. specifying which elements and work packages are highest priority for Tanzania;
2. identifying missing elements that must be included for it to best serve Tanzania's situation;
3. providing feedback to strengthen the proposed approach and framework;
4. identifying the interests of key national actors in different work packages.

47 participants - 24 drawn from among CGIAR researchers, 13 drawn from among the national government and research institutes' officials, 6 from nongovernmental organizations and 4 from the private sector attended the meeting held on 28 July 2021.

In his opening remarks, Tanzania Livestock Research Institute managing director, Vitus Erick Komba said that this and other One CGIAR initiatives are crucial to help Tanzania achieve its national specific research agendas and he hoped that the consultation would offer valuable inputs for the proposals.

During the workshop, stakeholders also provided feedback specifying the priority interventions, value chains and work packages that can best serve the Uganda situation. These feedback is contained in the subsequent sections of this report.

In his closing remarks, Angello Mwilawa, director of Research, Training and Extension in the Ministry of Livestock and Fisheries said that as stakeholders, they were positive that the initiatives will have an impact on the country given that it adds value to the research and development activities.

A short blog highlighting the other key outcomes of the meeting can be accessed on the International Livestock Research Institute news site here - <https://www.ilri.org/news/extending-past-development-gains-important-one-cgiar-sustainable-animal-productivity-initiative>.

In the subsequent sections of this report, we also make available a Powerpoint presentation on what the SAPLING initiative could mean for Tanzania, all the feedback provided by the meeting participants on the initiative proposal, suggestions provided on the proposed interventions and work packages as well as a 'piece of advice' given to the Tanzania SAPLING proposal design team.

Presentation slides from the Tanzania SAPLING stakeholders meeting

What SAPLING could mean for Tanzania

Amos Omere, ILRI-Tanzania

National Stakeholders' Consultations
28 July 2021



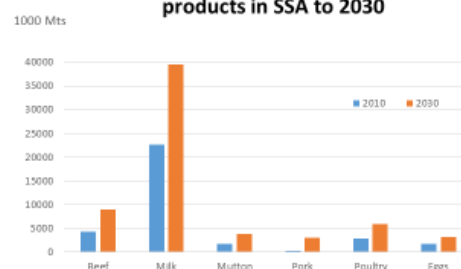
Per capita consumption and growth in demand in the region

Per capita milk and meat consumption (Kg/year)

Country	Milk	Meat
Developed countries	217	96
- Finland	361	68
- Sweden	356	76
- Netherlands	320	90
Developing countries	55	32
- Sub Saharan Africa	31	11
- Sudan	181	21
- Kenya	120	14
- Ethiopia	19	8
- Tanzania	42	10

Source: FAOSTATS

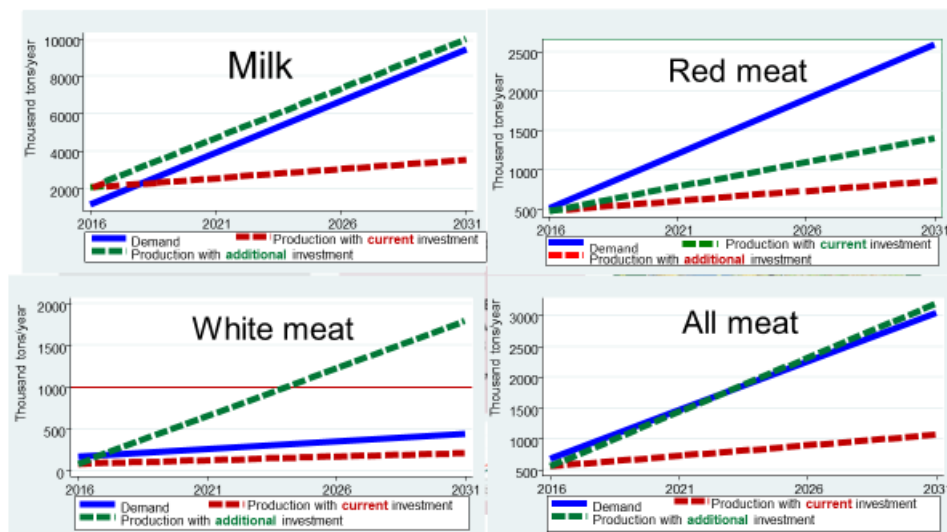
Projected growth in demand for livestock products in SSA to 2030



Source: IFPRI Impact model

- Low consumption of animal source foods (ASFs)
- Strong demand presents an opportunity to transform local smallholder livestock systems for nourishment, health, income & employment
- If demand is not met locally, imports will fill the gap!

Demand and supply projections in Tanzania: current and additional investment scenarios, 2016 - 2031



Source: Stephen Michael et al., 2018: <http://hdl.handle.net/10568/92405>

- Projected milk production can meet local demand
- Red meat alone can NOT close projected red meat consumption, mainly due to limited animal feed sources particularly grazing land.
- Investment in chicken can close the meat production-consumption gap and enable export of red meat.

SAPLING – what is on offer



Technologies and Practices for Sustainable Productivity

Improved cattle, small ruminants, chicken genetics integrated with ICT, genomic and reproductive tools

Forage and multi-purpose crop breeding, improv. of crop residues, off farm feed production, fattening technologies

Platform for delivery of improved genetics (synchronization, AI, Sire certification)

Digital farmer support system to promote herd health, vaccine platform to develop candidate vaccines

Food and Nutrition Security

Practices for safe production and handling of ASFs

Increased affordability and safety

Behavioral change strategies for increased ASF consumption

Equity and Inclusion

Gender transformative approaches

Empowerment of marginalized groups, women

Value chain competitiveness

Access to services

Input/output markets

Intervention packages

Business models

Scaling

Scaling framework

communication and engagement strategies

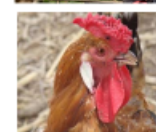
Decision support tools

Proposed livestock value chains

Dairy



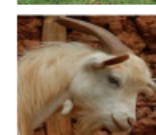
Chickens



Sheep



Goats



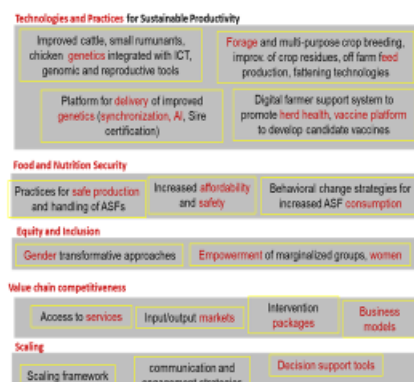
Tanzania National Livestock Research Agenda vs SAPLING



Tanzania National Livestock Research Agenda

- **Revised in 2019** considering Tanzania Livestock Masterplan (TLMP) and other factors
- **Guided by Tanzania Vision 2025:** "...a livestock sector, which to a large extent shall be **commercially run**, modern and **sustainable**, using improved and **highly productive livestock** to ensure **food security**, improved **income** for the household and the nation while **conserving the environment**"
- **National Livestock Research Agenda Vision:** "a research system that shall improve **livestock productivity**, and hence contributing significantly to **food security** and **poverty reduction**"
- **Mission:** research activities leading to development of **appropriate technologies** that are economically, socially and **environmentally sustainable** in order to ensure that, the livestock resources are managed **sustainably** for **improved productivity**, **economic growth** and human **livelihood**
- **Thematic areas:** i) **Livestock genetics** and reproductive technologies; ii) **Pastures, feeds & forages**; iii) **Animal health** and **public health**; iv) Socio-cultural and **economic aspects**; v) **Livestock value addition**; vi) Non-conventional livestock species; vii) Cross cutting issues: e.g., **gender**, **climate change**, animal welfare etc.

SAPLING



What SAPLING could build on: Examples of ongoing /recent projects & partnerships

Dairy

- Maziwa Zaidi: Agri-entrepreneurship, technology uptake and inclusive dairy development in Tanzania
- ADGG
- MoreMilk: Making the most of milk for nutrition and health
- Greening Livestock
- East Coast fever vaccination
- EADD

Poultry

- Women in Business: chicken seed dissemination that also build on ACGG
- Genomics in Poultry: Enhancing natural resistance to Newcastle disease in local chickens

Small ruminants

- PPR: Epidemiology and Control
- CAPP
- SRMP



Livestock, Climate Change and Resilience (LCCR)

Fiona Flintan, ILRI

National Stakeholders' Consultations

28 July 2021



Livestock, climate change and resilience (LCCR)

Livestock, Climate Change and Resilience (LCCR) aims to directly enable 600,000 producers (at least 40% women) in ten countries to better prepare for and manage uncertain futures by improving security of access to resources and adopting management practices that enhance their climate-related adaptive capacities while ensuring household equity and reducing GHGe intensities.

Specific objectives

- Strengthen the resilience of at least ten livestock landscape systems (with a strong focus on pastoral systems)
- Stimulate inclusive and market-driven adaptation and mitigation pathways along ten value chains, through business models and products for a range of VC actors
- Improve access to risk management options and economic opportunities for women and youth, including 20% increase in women- and youth-led enterprises.
- Restore 500,000 hectares of livestock-dominated landscapes to further reduce GHGe and enhance adaptive capacity
- Stimulate sustainable finance by five climate finance investors
- Assist ten governments to plan for livestock climate interventions, improve their monitoring and reporting whilst leveraging more climate finance)

WP1: Build resilient low emissions livestock landscapes and systems

- Research and implementation of interventions to offset GHGe and strengthen ecosystem services
- Improved land use planning decisions including for livestock-based systems, governance, tenure and management of resources including building of institutions,
- Integration of new and/or strengthened innovations, technologies and processes (WP2) to strengthen resilience of livestock-based systems as action research working with system/landscape actors
- Implementation of extension services supporting the above
- Multi-stakeholder platforms for improved d-m processes

INNOVATIONS:

Participatory land use planning
Landscape restoration tools and processes;
Guidelines and toolkits – SRM toolkit;
Participatory rangeland management;
Community based rehabilitation and sustainable watershed management
Traceability system connected to deforestation monitoring;
RangeAdvice (app for estimating/monitoring ground cover);
Women empowerment in pastoralism index (WEPI building on WELI);
Landscape level MSPs;

WP2: Local capacities for resilient, low emissions livestock

- Co-develop with different stakeholders new technologies and practices, to build resilience of households and livestock-based systems to climate stresses;
- Quantify and promote practices at household and landscape level that offer mitigation synergies and build resilience in dryland production systems.
- Develop and assess contribution of farm and community level adaptation and mitigation interventions
- Many of the technologies will be taken from the upstream research undertaken in SAPLING (or other Initiatives). The technologies will go to scale in combination with WP 1, 3, 4.

INNOVATIONS:

Improved feed baskets for mixed systems; silvo-pastoral forage system kits; water harvesting techniques; cactus pear; new extension models aimed at youth and women;

WP3: Digital services to improve resilience and adaptation in livestock value chains

- Development of digital services and technologies
- Surveillance of climate and other key risk factors (drought, disease, market performance) will also be undertaken crowding in other basic service delivery especially in pastoral livestock systems.
- Public-private partnerships will build capacities to use the bundled services, and the digital platforms will facilitate rapid scaling of the services.
- Promote gender and social inclusion in access to these services.

Index-based livestock insurance; AClimate Global system; heat stress maps; participatory climate services; transdisciplinary tool for measuring system-level resilience of pastoral systems and rangelands to climate security challenges; toolkit to climate security proof CGIAR and partners programming on agro-pastoral systems and rangelands;

WP4: Finance to make livestock value chains more resilient and low emissions

- Co-design and implement tools, business models and other market-based innovations to mobilise finance from investors seeking to make livestock value chains more resilient and low emissions in a range of contexts.

Livestock Investment Accelerator; business cases for specific value chains; results-based finance mechanisms

WP5: Policy engagement to foster a resilient, low emissions livestock sector

- Develop analytical tools and produce evidence to enhance national capacities to plan, monitor and report progress towards adaptation and mitigation targets across livestock systems. Pastoral agrifood systems will be supported through cost-benefit analyses, policy initiatives and improved data access/ sharing of information and data management.
- Partnerships with global initiatives to raise awareness of the importance of livestock.

Improved data for calculating GHG emissions factors;
Guidance on MRV infrastructure; integration of climate change targets into macro-level livestock investment strategies;
Framework(s) for undertaking an assessment of benefits of action/costs of inaction of rangeland degradation vis-à-vis rangeland restoration;
Tool for cost-benefit analysis of land use change in livestock systems;
Global rangeland data platform;
Tool for crowd-sourcing data on rangelands

Opportunities for LLRC in Tanzania and vice versa

- Tanzania has signed up to international conventions and commitments related to climate change and biodiversity – this project can help assist reaching these
- A solid partnership with the Ministry of Livestock and Fisheries (and others e.g. National Land Use Planning Commission), research organisations, and NGOs. Opportunities to build stronger relations with others in relation to environment and climate change.
- Clear demand from communities and local government for research and capacity building in issues related to building resilience, rangeland management and other
- Solid foundation for some quick impacts
- Existing facilitating policy and legislation including for land use planning and land tenure
- Interest of development partners in issues that LLRC is supporting. Linkages to global processes etc.

Feedback on the overall Uganda proposal

Strengths of the proposal

- Inclusion of nutrition, genetic and diseases.
- Moving to business-driven market models.
- Having the technologies in combination and not addressed in silos integrating the work across the cross-cutting themes.
- Inclusion of women and youth in the proposal.
- Value chain linkages have a big part of the consideration in the proposal - linking various actors.
- Synergies and complementarity between the two initiatives.
- SAPLING is building on other research projects e.g., CRP, large bilateral projects like Maziwa Zaidi, ADGG, EADD etc.
- Alignment of the proposal to existing Government interventions e.g., TZ vision 2025 as well as TZ LMP. Will get support from Government.
- Scaling part of the proposal addresses sustainability.
- Aligns with Tanzania Research initiative agenda.
- Addresses livestock productivity+ greenhouse emission as global agenda.
- Appropriateness of technologies and innovations that align with other stakeholders.
- Building on the existing initiatives, helping to draw lessons and improve.
- Inclusion of women and youths.
- Opportunities presented on the demand-supply gap.
- Very key value chains have been taken into consideration, dairy, chicken.
- Innovation digital technology such as devices for remote communication with farmers
- Picks up on packages such as building on what was previous CRP work.
- Intention to have evidence-based scaling up tool; evidence can be generated, and scaling can be done.
- Alignment with the livestock masterplan in terms of timing
- Emphasis on gender equity and inclusiveness at the core which is compatible with the partners thinking in Tanzania.

Limitations of the proposal

- Processing/value addition is not clear.
- The strengthening of extension services is not well addressed.
- Does not adequately address post-harvest losses.
- Digital tools for extension strengthening.
- More consultation is still needed.

- Develop Africa Swine fever vaccine
- No details on animal genetics conservation highlighted in the proposals.
- Where do we capture community capital (how will the community participate and contribute to the initiatives? Building on communities' resources and capabilities)
- Address malnutrition issues - 48% of children under 5 are malnourished in some areas in TZ e.g., Rungwe
- How people will take ownership of solutions
- Iringa case where malnutrition levels are very low - how to help struggling farmers to solve those issues.
- Problem statements may be different from what the people in TZ may see/find. Add a work-stream to address the challenges.
- Done with good intentions. Statement of problems made may be different from problems seen with real players within TZ
- Workstream - re-ask questions, asked with CG and ask people on the ground e.g. Tanga, Rungwe etc. May find a whole different set of challenges.
- will contextualize problem statements from demand coming from all system actors in each VC
- Sustainability - how farmers will continue doing what the project has done. Needs to be addressed
- Sustainability and ownership - Farmers struggling with significant survival.
- Understanding language used in the mainstream - how it will translate to people in Rungwe for example.
- consider additional technologies and innovation.
- consider socio-cultural change.
- consider national disease surveillance (understanding the testing capability at the local level).
- consider the coordination amongst pastoralists who are uncoordinated.
- consider the whole value chains of productivity (to observe bottlenecks from production to market).
- Need for clear protocol on engaging the private sector.
- Need to build on the local community food systems to ensure the issue of food sovereignty.
- Consideration of concurrently existing projects/ stakeholders in terms of interaction with farmers and targeted actors; aside from continuity of existing projects.
- Private sector engagement needs to be clear in-service delivery and input supply.
- More of focus on gender rather than women/ youth only without seeing where we leave/ include the men.
- Need for participatory approaches with bottom-up approaches (consideration of farmer needs and voices), need for demand-driven approach.
- Need for catalytic particularly financial/ capital support for women with interest to invest.

Priority locations for the proposal

- Lake zone and Kagera: encouraging investors in dairy too.
- SHOATS -Southern Zone, Central, Northern Zone.
- Look at ASDP and TLMP for priority locations.
- Dairy Northern, Southern highlands.
- Zanzibar - poultry and dairy.
- Dairy: Arusha, Kilimanjaro, Tanga
- Southern Zone (Njombe, Mbeya).
- Small ruminants: Mwanza, Singida.
- Morogoro, Coastal region, Dar es salaam.

- Dodoma, Tabora, Singida (chicken)
- Mtwara and Kigoma.
- Chicken: Manyara, Dodoma and Singida, Lindi, Pwani, Dar es Salaam.
- Potential for Dairy- Southern Highlands.
- Dairy-Arusha, Kilimanjaro, Manyara, Tanga.
- Pigs; Arusha, Manyara, Kilimanjaro, Morogoro (some places)
- Poultry (central points) - Dodoma, Singida regions
- Locations of dairy VC - Tanga region, Moshi, Kigamboni (smallholder farmers), Mwanza/Musoma (low uptake of factory facility), Iringa (effective engagement with farmers).
- Southern Highland - Iringa, Mbeya, Jombe - big potential for dairy. Tanga, Morogoro regions. Northern part - Kilimanjaro region
- Poultry - Southern regions e.g., Mtwara, Luvuma region (ADGG and Women in Business).
- Peri-urban areas for both dairy and chicken
- Start in areas where there is production and processing in place.
- Dairy industry has more structure with established farmer cooperatives - through their organizations.

Priority value chains

- Minister is emphasizing sheep and goats to create impact along the lines of heifer-in-trust schemes (Kopa mbuzi lipa mbuzi).
- Yes, dairy continues to be a priority.
- Chicken/poultry is a priority especially for women (gender inclusion).
- The priority value chains in the initiatives are consistent with national priority VCs.
- We need to consider an existing community-based breeding program for Goats between ICARDA and TALIRI
- Small ruminants - sheep and goats are important. Central - Dodoma and Singida, Southern - Linda and Mtwara, Northern - Arusha and Manyara, Kilimanjaro
- Meat Goat. Efforts to increase goat milk in the industry. Crossbreeding - through NGOs
- More focus on goats - goat meat market is high and more preferable.
- Agree on dairy, chicken, sheep and goats.
- Dairy
- Chicken
- Pig
- Priority for selection of VC based on productivity

TOP priority interventions

- Vaccines and their delivery (Animal and herd health).
- Assisted reproductive technologies
- Engaging youth.
- Feed technologies e.g., the introduction of improved forage species /GHG reduction.
- Extension and market information (use of digital tools).
- Ensuring safe food.
- Evidenced-based advocacy to attract more investors for processing and value addition.
- Collective action for marketing/ strengthening cooperative unions
- Capacity building and continuing professional development.
- Animal identification and record keeping.
- Breeding programs.
- Addressing drudgery especially in processing and feeds.
- Engaging the private sector in new technology dissemination.

- Strengthening partnerships.
- The infrastructure to help smallholder producers market their produce.
- Dairy VC: The issue of marketing (e.g., processing) is very important. If there is no market for products, then not much improvement can be done.
- Equity and inclusion are well emphasised in the initiatives. In the Kilimanjaro dairy system, women play a key role. So, including them in the initiative is very important, especially capturing the benefit of getting involved in the value chains.
- The involvement of the private sector in milk processing. That is, building the link between farmers and the private sector in all the initiatives.
- Targeting regions with high malnutrition problems as part of initiative intervention work packages.
- How do you capture consumers preferences (e.g., consumer awareness of dairy products is very low)? How to view the role of the private sector in linking smallholder producers to markets.
- Issues of food safety (e.g., milk hygiene). The issues of milk adulteration need to be considered when we talk about marketing. That is, identifying food safety hot spots along the value chain.
- Milk marketers need to be captured in our interventions as they play a key role. Sometimes when farmers milk gets rejected marketers can help to market it.
- How to ensure that children have access to milk and milk products at home and school? How to ensure it is safe milk as a large portion of the milk is not safe for consumption (food safety issues)?
- Engagement of the private sector.
- Buy-in into the statement of the problem to make them ambassadors of solutions.
- Dissemination of knowledge about CC smartly packaged and delivered at the country level.
- Marketing of milk - factories offer lower prices from other existing markets.
- Market regulations for more formal market processing of animal products (effective policies).
- Implementation of effective policies to enable market conditions to be easier.
- Feeding intervention - Improve the way of making homemade feeds.
- Breeding Improvement particularly for chicken.
- Feeds and forages- across the 3 species
- Digital database for all value chains
- Genetics- improving the conservation for chicken and dairy- gene banks
- Improve efficiency in aggregation and delivery to markets.
- The supply chain for service and inputs for all the VCs.
- Improved product packaging for marketing.

Priority work packages

- Work package 1: We need to include technologies such as Artificial insemination (AI). How to use technology to make AI more efficient? Making the supply chain of AI more efficient.
- Providing incentives for farmers to produce quality milk (e.g., creating awareness through ICT technology to reward farmers who work on reducing milk adulteration.
- Work package 2: Identifying technologies to detect if there is any kind of adulteration in the milk (e.g., using mobile phones to detect such issues). Technologies and tools to help address issues of adulteration.
- Target youth of the country to be ambassadors of climate change message - equipped with the right knowledge.
- Climate change - dissemination of knowledge in general. Help people take ownership and develop solutions within the country.
- Engage the private sector - take to scale some of the innovations.

- Work package 1 - Boost digital technologies in livestock.
- Work package 2 - Sensitization and promotion of consumption of ASF from childhood

Feedback on the LCCR proposal

Strengths of the proposal

- Good proposal. Very timely. Builds on past work e.g. sustainable rangeland projects and PRM. Not starting from scratch which is good.
- Scaling the existing innovations.
- Building on indigenous knowledge, e.g. Ololili, which is what TALIRI and ILRI worked on in past projects.
- Gender inclusion is part of it. Important to take equity into account with mitigation and adaptation.
- Upscaling is part of the initiative which is important.

Limitations of the proposal

- Strengthen indigenous knowledge components.
- Investments in the environment - does it not need public investment? Is collaboration with governments strong enough in the proposal?
- Ongoing project with Care Int and Land Coalition - there are innovations on climate change and indigenous knowledge, targeting pastoralists. Can this be strengthened?
- Locally available forage seeds need to be multiplied for scaling - is this strongly addressed?
- Resilience should be more prominent in the initiative. Adaptation to climate and environmental change is key.

Priority locations for the proposal

- Coast region: hotspot for conflict.
- Kilosa, Mvomero - Morogoro region.
- Lake region: expressed interest in scaling PRM
- Kagera region
- Arusha and Manyara regions -> prolonged dry season and vulnerability to climate change, local network support.

Priority value chains

- Dairy: key in terms of climate and environment.
- The feed value chain for a working dairy value chain (2nd beef and 3rd goat).

TOP priority interventions

- Building on local communities' needs.
- Building local capacities is key.
- Strengthening risk surveillance along feed value chains.
- Sustainable and participatory rangeland management -> can have a significant impact to reduce land conflict! There is demand.
- Indigenous knowledge on local forage varieties -> involves people themselves, builds on locally available resources, multiplication is important.
- Indigenous knowledge on local forage varieties -> involves people themselves, builds on locally available resources, multiplication is important.
- Indigenous/local pastures established.
- Digital services delivered through ICT is key to improve communication -> how to improve productivity, feed availability
- The finance mechanism needs to be locally embedded; we can also mobilize local resources not only outside funders.

- Providing access to feed -> it is a low-hanging fruit!
- Link policy engagement with ongoing national initiatives, e.g., National Climate Change Plan which was finalized in May 2020.

Priority work packages

- WP1: Building on local communities' needs
- WP3: Building local capacities is key
- WP3: Strengthening risk surveillance along feed value chains
- WP4: Finance mechanism needs to be locally embedded, we can also mobilize local resources not only outside funders
- WP5: Link policy engagement with ongoing national initiatives, e.g., National Climate Change Plan which was finalized in May 2020.

Word of advice to the Tanzania SAPLING team

Here is a word cloud representation of some of the advice given to the SAPLING team.



For more information, please visit <https://cgspace.cgiar.org/handle/10568/114640> and or contact Isabelle Baltenweck i.baltenweck@cgiar.org and Mourad Rekik m.rekik@cgiar.org.

Report on the Vietnam virtual stakeholder consultation meeting

Given the importance of livestock and health in the lives and livelihoods of people and the commitment of the public and private actors to transform food systems, Vietnam is one of the countries identified as a potential partner country for these initiatives. To 'ground' and improve the proposed initiatives, the Vietnam SAPLING stakeholder meeting was convened to guide the initiative design teams as they formulate the key interventions and work packages to be delivered.

Specifically, to improve the current proposal outlines by:

1. Better understanding Vietnam's priorities;
2. Specifying which elements and work packages are highest priority for Vietnam;
3. Identifying missing elements that must be included for it to best serve Vietnam's situation;
4. Providing feedback to strengthen the proposed approach and framework.
5. Identifying key actors in Vietnam and their interests in different work packages.

83 participants - 38 drawn from among CGIAR researchers, 15 from among the national government agencies, 19 from research institutes and 11 from international development partners took part in the meeting held 30 July 2021.

In his opening remarks, Vu Thanh Liem, deputy director general, International Cooperation Department, Ministry of Agriculture and Rural Development said the current COVID-19 pandemic has brought into sharp focus the interconnectedness of people, animals and the environment. People cannot attain sustainable development from the livestock sector without paying attention to ensuring safe food and good health for people. He welcomed feedback and recommendations from stakeholders to make the initiative really meet the needs of Vietnam over the next years.

During the workshop, stakeholders provided feedback specifying the priority interventions, value chains and work packages that can best serve the Vietnam situation. These feedback is contained in the subsequent sections of this report.

Participants further discussed potential partners to work with including government ministries, national and international research organizations, universities, bureau of standards, farmer groups, women's groups, consumer associations and the media.

In his closing remarks. Dao The Anh, vice president from the Vietnam Academy of Agricultural Sciences expressed his appreciation that the One Health initiative can fit well with the livestock strategy to 2030 of Vietnam and help Vietnam to transform its food systems. He noted that the design team should make the One Health approach applicable at the grassroots level.

A short blog highlighting the other key outcomes of the meeting can be accessed on the International Livestock Research Institute news site here - <https://www.ilri.org/news/new-cgiar-initiative-vietnam-must-bring-sectors-together-and-make-one-health-applicable>.

In the subsequent sections of this report, we also make available a Powerpoint presentation on what the SAPLING initiative could mean for Vietnam, all the feedback provided by the meeting participants on the initiative proposal, suggestions provided on the proposed interventions and work packages as well as a 'piece of advice' given to the Vietnam SAPLING proposal design team.

Presentation slides from the Vietnam SAPLING stakeholder meeting

Background

EM account for ~15% of total population, highest concentration in Northern mountains and Central Highlands regions

Poverty, malnutrition and gender inequality most prevalent in EM communities in NM and CH regions

Indicator	National average	NM & CH
Population in rural areas	63%	90%
Per capita income (per person/month)	2,637,000 VND	1,161,000 VND
Poverty rate	7%	23%
HHs near NPL	6%	14%
Food insecurity	7%	14%
Malnutrition (children under 5)	18% - underweight 24% - stunted 6% - wasted	23% - underweight 35% - stunted 7% - wasted

Source: GNS, 2015; UNDP, 2015

Animal Source Foods

High-quality and readily digested protein and energy

Readily absorbable and bioavailable micronutrients

Pork is the most consumed meat, followed by poultry, beef and buffalo

Livestock production

Recently approved livestock strategy sets a 4-5% annual growth in the next 5 years, and 3-4% in 2026-2030

Emphasizes on sustainable dev't, competitiveness, disease and environmental protection, food safety and quality

	Pigs			Cattle			Buffalo			Poultry		
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
Vietnam	27,407	28,152	19,616	5,655	5,803	6,060	2,492	2,425	2,388	385,457	408,969	481,079
Northern midlands and mountain areas	6,787	7,120	5,109	990	1,023	1,082	1,404	1,367	1,332	80,472	87,287	97,903
Central Highlands	1,806	1,842	1,544	755	771	832	87	87	96	18,639	19,939	24,759
Mekong River Delta	3,505	3,456	1,686	727	748	850	29	26	23	66,094	70,196	82,505

Source: GSO

SAPLING in Vietnam – what is on offer

Work package 1: Technologies and practices for sustainable productivity

- **Challenges addressed:** low livestock productivity & efficiency, and poor animal husbandry, management
- **Innovations:**
 - **Animal genetics:** (i) Gendered business models for improved pig genetics delivery; (ii) Conservation and improvement of indigenous pig genetic resources
 - **Herd health and vaccines:** (i) Digital farmer support system to promote herd health, (ii) Vaccine technology for ASF control, (iii) Disease decision tools for impact assessment and prioritization, (iv) Public Private Partnership for delivery of vaccines and biosecurity packages, (v) Value chain monitoring of antibiotics and medicines, (vi) Business models for delivery of veterinary inputs
 - **Feeds and forages:** (i) Forage selection & breeding, (ii) Business models to commercially produce improved feeds (forage, silage, processed feed), (iii) Diagnostics, analytical and decision support and tools for feed quality analysis and animal nutrition



Work package 2: Food and nutrition security

- **Challenges addressed:** Role of ASF in diets and social barriers to sub-optimal consumption, food safety and gender imbalance (including children) in food and nutrition security and health
- **Innovations:**
 - Increased affordability
 - Social and behavioral change strategies for safe production, handling and increased ASF consumption
 - Digital support tools for nutrition interventions and extension



Work package 3: Equity and inclusion

- **Challenges addressed:** Low decision-making power for ethnic minorities, women, youth engagement in livestock systems
- **Innovations:**
 - Context-specific gender transformative approaches
 - Empowering ethnic minorities, women, youth
 - GTA toolkit tailored to livestock-related interventions as well as addressing gender-related gaps



Work package 4: Innovation Packages for Value Chain Competitiveness

- **Challenges addressed:** Limited access to input and output markets, services, limited value addition, high production and transaction costs, low market competitiveness for smallholders
- **Innovations:**
 - Market-driven business models
 - Institutional arrangements for collective marketing
 - Livestock market information systems to reduce farmers' vulnerability to market risk
 - Standardization and certification frameworks to enhance food safety and competitiveness
 - Guidelines for innovation prioritization, innovation packaging, and dissemination mechanisms



<https://north.vietnam.com/vietnam-markets-vietnam/>

Work package 5: Evidence, Decisions and Scaling

- **Overall challenges addressed:** Low scalability of innovations and prioritization, and targeting of interventions package; and weak nexus among farmers, researchers and local authority in scaling
- **Innovations:**
 - Integrated decision-support system assessing investment trade-offs
 - System analysis, identification of barriers and scalability assessment
 - Seed supply systems for scaling feeds & forages



Proposed VCs and geographical regions

Where research can create maximum impact: Poverty reduction; Nutrition, health & food security; Gender equality—women empowerment; Environmental health and ecosystem benefits

Species	Region/location
Pigs	NW Highlands
	Central Highlands
	NE Highlands
	Mekong Delta
Beef cattle & Buffalo	NW Highlands
	Central Highlands
	NE Highlands
	Mekong Delta

Pigs and Beef Cattle VCs in NW



- Local Ban pigs commonly reared
- Small-scale production <6 pigs/HH/year
- 50-100% produced for home consumption
- Low market competitiveness
- Productivity, market, environmental barriers
- Gender inequality, low decision-making power
- Potential for improved productivity, competitiveness and growth, market dev't
- Biosecurity, vaccines & antibiotics, disease mgt
- Breed selection and breeding
- Equity and inclusion especially H'Mong



- Cattle and buffalo mainly raised for meat
- Local breed most popular
- Inadequate nutrition, winter feed shortage
- Small-scale production, low inputs, market access
- Increasing demand
- Gender inequality, low decision-making power
- High potential with improved forage, labour and capital
- Breed selection and breeding
- Commercialization opportunities, collective action
- Equity and inclusion especially H'Mong

Feedback on the overall Vietnam proposal

Strengths of the proposal

- Cross boundary is a major strength across different agencies.
- Good focus on nutrition security.
- Prioritize some regions: Northern areas are in need of prioritization.
- The proposal is relevant to Vietnam context - showing interagency coordination can have cross cutting view from production to transportation, market access to end users.
- Potential for scaling up.
- Nutritional security (WP 2).
- Relevant for Northwest Vietnam.
- Inclusion and empowering ethnic minorities and women (gender inclusion).
- Good coverage of the 5 WPs.

Limitations of the proposal

- More emphasis needed to social aspects.
- Criteria to select region focus not specified as situation is different in different regions.
- At moment only have a big picture - but will need to go to details.
- Location selected needs to be looked at in social dimension - could have influence on success of initiative.
- Inclusiveness is not only about women and youth but should also consider ethnic minorities.
- Need to encourage forage production to protect the environment for harsh conditions.
- Need more focus on relationship between livestock and environment.
- Have not mentioned about the human resources - people in rural Vietnam are the elderly.
- Context-specific impact pathway needs to be clear to link different WPs.
- Different production practices should be tailored to specific species and regions.
- Breeding would take long time and not ideally a top priority within a short time frame.
- Though we focus on smallholders, we need to consider big/commercial farms and value chains as commercial farms in Northwest Highlands (NWH) is quite limited.

Priority locations for the proposal in Vietnam

- For northern uplands, nutrition is needed.
- Unspecific criteria for site selection. Need to ensure location selection to match well with the project objectives.
- Region specific interventions will be better approach.
- Mountainous areas of Vietnam.
- NWH specifically targeting ethnic minorities with different cultural backgrounds (large ruminants and poultry).
- Northwest border with Laos (Lao Cai border) as limited research in this area so far and land use change resulting in transition to fruits trees.
- Central Highlands - large ruminants.

Priority value chains for Vietnam

- In northern Vietnam, priority value chains are beef and pigs.
- Cattle, goat, pig.
- Large ruminants (cattle and buffalo).
- Poultry.
- Local pigs (NWH).

Suggestions on SAPLING interventions and work packages

TOP priority interventions for Vietnam

- Improve productivity for better livelihoods. Economic issues - farmers interest on initiative will depend on economic benefits.
- Improve productivity for upland areas. Quality in livestock production - production to dining table in lowland area.
- Focus on entry point – NWH to focus on technical measures, feeds and forages for cow and disease treatment.
- Improve herd and breed but cannot be done in short term.
- Focus on feeds and forages and disease treatment. Common disease but farmers don't know medication to treat. Improved materials for plantation.
- Focus on feeds and forages (for uplands), and on value chains and market access (for deltas).
- Support cooperatives that focus on VIETGAP.
- Focus on the mountainous areas.
- Change the attitudes of the youth.
- Animal feed prices and reduced area for forage production.
- Build capacity at the university level at the local levels. It is advised to incorporate university students in the project.
- Agroecology transition (crop livestock integration).
- Low-cost technologies, for example, using medicinal herbs as forage, and also for human use.
- Better coordination between different actors in the supply chains to address high costs and poor infrastructure.
- Address low market access and competitiveness in Son La. High competition from fish producers, high production costs, for example, feed. Raise awareness for farmers in NWH to improve market access, production and market risks mitigation.
- Dual-purpose crops for animal feed, for instance, cassava in NWH and sweet potato in Central Highlands can fit well with ethnic minorities.
- Address winter feed shortage using improved varieties.
- Improved feed and animal nutrition, sustainable practices.
- Engage social science partners for gender interventions.
- Inclusion and gender equity.
- Support farmers with branding to increase market competitiveness. Support creation of farmer groups and cooperatives to strengthen value chains.

Priority work packages for Vietnam

WP1 needs find ways to alter the antibiotics used in curbing diseases / emphasize on small holder livestock and incorporate the government livestock strategy 2030 to ensure sustainability of smallholder livestock keepers.

WP1: Improved winter feed, dual purpose crops.

WP2 (Nutrition):

- much relevant. Leverage users - look at our value chains to see if they meet needs of consumers.
- needs to involve health workers as community have strong confidence in health workers.
- Access to food to ensure access to nutrition benefits and strike balance in diet for consumers. When children are stunted which intervention to use to ensure mother is aware of what to do.

WP3:

- Delta region communication is easier but more challenging in NWH and other regions.

- Gender issues in livestock production is not a major issue. Focus on communication. In ethnic minority groups, women can play role of decision makers.
- Equity package should be region specific.
- Quality and productivity: educate consumers and strengthen behaviour change communication.
- Enabling environment: look at feed system and their sustainability.
- WP3 should focus on human resources, especially the human labour in the rural areas.
- Inclusion and gender equity - Empowering ethnic minorities, women, engage social science partners for gender innovations.

WP4 needs specific activity focusing on quality input and output market, for example, for pig - some of the markets are fragmented and need have incentives for farmers.

WP4: Improved market access and competitiveness, supply chain coordination.

Feedback and suggestions on the One Health proposal

Group: Zoonoses control

Priority zoonoses control challenges for Vietnam

- Limited testing capacity of medial and vet agencies.
- Limited budget for zoonosis control.
- Inefficient vertical collaboration among agencies at different levels.
- Disease surveillance is not active enough due to inadequate knowledge of pathogens.
- Long border with animal trading poses high risks to pandemic from neighbouring countries.
- Inter-disciplinary and inter-ministerial collaboration is not strong enough, and in form of legal documents, for example circular 16 which includes only five zoonotic diseases but not other zoonosis yet.
- Poor supply chains in the livestock sector poses a barrier to ICT application.
- Very little inter-disciplinary research on wildlife and wildlife sampling.
- The perception of infectious zoonotic disease by various actors is limited.
- The role of the environment sector is still not clear or limited using a One Health approach.
- Limited disease prioritization (60 zoonoses in Vietnam) and targeted diseases surveillance and diagnosis.
- Limited surveillance system in place and capacity for detecting new pathogens.
- Very limited information on disease burden for zoonoses.
- Mechanism for implementation of coordinated actions is not enough placed and intersectoral collaboration (e.g. public and private sectors) is not effectively established.
- Zoonoses is considered as lower important and gains limited priority at the government level, even lower since COVID emergence and African swine fever emergence.
- Implementation and budget challenges across the ministries.
- Ongoing encroachment of human settlement into wildlife habitat.

TOP priority zoonoses interventions for Vietnam

- Need interdisciplinary and inter-ministerial collaboration in controlling zoonotic pathogens.
- Interventions needed to raise awareness of the public and high-risk groups on pathogens, for example rabies.
- Priority technical measures needed for specific species and pathogens, for example, influenza-H5N1, dog-rabies, civet-SAR CoV1, bat-Corona virus.
- Apply ICT in diseases management and reporting, especially for smallholder farmers and actors along the value chains.
- Stronger engagement of the private sector needs to be considered for disease surveillance, control and scaling.

- Allocate sufficient budget for risk-based surveillance.
- Restrict the trade and consumption of high-risk wildlife species.
- Need to prioritize sharing information from both sectors (humans and animals) on a regular basis with support from ICT (internet, mobile phone etc.).
- Not only do disease screening, but also develop surveillance system across the sectors.
- Integrate participatory approach in disease surveillance and control.

Actions to ensure inclusion in control of zoonoses

- Women inclusion. Need more balance in work division between men and women in family so that women can arrange to attend other social activities.
- Awareness raising and communications activities should also target women, farmers, youth on diseases risks and preventions.
- Enhance the roles of women and youth in commercial farming as their roles are often neglected at big scale production.
- Supporting policies regarding to biosecurity, breeding, capacity development and communications are needed to promote their products
- Enable women and youth to access techniques and credit.
- Need to define different livestock production systems in different regions to optimize the participation of women and youth.
- Raise awareness of family members to get consensus between husband and wife to agree on final decisions on zoonotic diseases prevention and management.
- Increase understanding /awareness for zoonoses in the community.
- More actions are needed to include ecological aspects using a One Health approach.
- Social / economic aspects of affected actors and groups need to be considered for more effective zoonoses control.
- Enhance risk communication at various levels and for relevant groups.
- The policy/decision makers need to be included at the beginning of project as well as for interventions in order to make impacts.

Actions to reduce zoonoses risks from wildlife

- Strengthen evidence-based management and communication for related state agencies (medical, vet, forestry rangers), local authorities, hunters, traders and consumers.
- Better control over hunting, trade and consumption of wildlife is needed.
- Closer inter-sectoral coordination to manage wildlife zoonotic diseases is needed.
- Strengthen resources and testing capacity of wildlife stakeholders (agriculture, forestry/environment, microbiologists).
- Need to well manage wildlife farming activities (biosecurity and disease management).
- Risk communication needed to understand consumer demand for wildlife.
- Regulate the biosecurity for wildlife farming and wildlife legal trade based actual risks.
- Establish disease surveillance in wildlife in collaboration with stakeholders (e.g. NGO, WCS, TRAFFIC).
- It is important to consider social and economic aspects of wildlife trade, what are barriers for change and drivers.
- The definition of wildlife should be clearly determined by the authorities.
- Local level (province or district), better coordination and mechanism are necessary to respond to challenges from wildlife trade.

KEY partners for zoonoses control in Vietnam

- Ministry of Agriculture (MARD): One Health Partnership (OHP), Forestry Protection Department (FPD).

- Ministry of Environment and Natural Resources (MONRE): Department of Biodiversity Conservation.
- Ministry of Health (MOH): General Department of Preventive Medicine (DPM), National Institute of Hygiene and Epidemiology (NIHE).
- Universities and research institutions.
- Hospitals.
- Vietnam One Health University Network (VOHUN).
- International partners: ILRI, FAO, OIE, USAID, WWF, Embassies, STOP Spillover (USAID-funded project).
- Animal sector: Department of Animal Health (DAH), Department of Livestock Production (DLP), National Institute of Veterinary Research (NIVR).
- Human health sector: NIHE, NIMPE, universities (including medical school, public health), national/provincial level hospitals, private hospitals/laboratories, VOHUN.
- Media (risk comms).
- Environment sector: INGO, CSO, forest protection department.
- Wildlife: Traffic, WCS.
- Social / economic science: IPSARD (national), and international NGOs.
- Private sectors (e.g. Vietnamese poultry association).
- Research institutes: Pasture Institute, CIRAD.
- Consumer association.
- Pharmaceutical companies.

Group: Food safety

Priority food safety control challenges for Vietnam

- Low awareness of smallholder farmers, consumers and other actors on food safety practices.
- Smallholder slaughterhouses not meeting food safety standards despite monitoring.
- Unclear food safety standards applied to wet market and supermarket.
- Comms has not yet worked effectively to change awareness of actors.
- Alarming safety of street food.
- AMR, AMU at farm level.
- Undue attention paid to Salmonella-related diseases.
- Poor infrastructure of slaughterhouses.
- Cross contamination in transportation.

TOP priority food safety interventions for Vietnam

- Improve risk comms.
- Introduce food safety culture in food safety package. Integrate anthropology, social and food science. (SafeGRO to collaborate with related stakeholders to study this).
- Improve monitoring at slaughterhouses.
- Improve product traceability.
- Comprehensive comms strategy needed.
- Develop framework to assess risks, comms behaviour change, barriers of food safety practices. Organize participatory consultation workshop for designing comms activities.
- Review and renew recommendations of the World Bank food safety technical report.
- Develop pilot models for each actor.
- In addition to comms strategy, monitoring component and evidence on AMR are needed.
- Capacity development for all actors along the value chain.
- Behaviour change comms applied throughout value chain actors. Identify critical points and unpack messages in easy ways to the public.

Actions to ensure food safety inclusion

- Women empowerment: consider women in all activities (farm, lab, field). Need to study the roles of male and female at household level. Gender should be considered from design phase.
- Low awareness of people at farm level leads to low impacts of capacity development. Need to consider this point to ensure they benefit from capacity development activities.
- Youth inclusion improvement through financial and technical support.

Water quality management actions to enhance food safety

- Water treatment from livestock.
- Adequate water provision for wet market.

KEY food safety partners in Vietnam

- SafeGRO, a food safety project funded by Canada Government.
- Nation Nutrition Institute (NIN) (a JICA-funded food safety project).

Group: AMR

Priority AMR control challenges for Vietnam

- Weak veterinary system.
- Weak monitoring system for the use of veterinary drugs, prescription drugs, drug trading.
- Weak agent detection capacity at grassroots level.
- Lack of data and evidence on the harmful effects of antibiotics on human health.
- Poor perception of farmers and other actors of the proper use of antibiotics.
- Gaps in policies and law enforcement on AMR and AMU.
- High level of antibiotics residue, but not announced.
- Lack of human and financial resources for AMR and AMU monitoring and management.
- Loose monitoring of drug stores.
- Value chain management not good enough (from farm, feed to storing) leading to inappropriate use of antibiotics.
- Ineffective intersectoral collaboration (limited information sharing among state agencies, hospitals, research institutes and related stakeholders).

TOP priority AMR interventions for Vietnam

- Develop multi-stakeholder engagement models.
- Raise awareness and develop capacity on AMU through different comms channels (mass media and social media). Specific messages need be defined for specific target audience.
- Build a model of biosafety, raising livestock in an organic direction, proceeding to use antibiotics for sick animals with antibiotics suitable for doses.
- Build evidence demonstrating the harms and dangers of drug abuse and poor management
- Point out how production activities on land can affect aquatic products. Testing results need to be shared among medical, vet and environment sectors. Then use ICT and social media to disseminate the information.
- Develop capacity to detect and identify pathogens, especially at hospitals at grassroots level (human health) and at farm level (vet).
- Manage farm inputs and outputs to handle antibiotics residue to avoid spreading antibiotics into the environment and vice versa.

Actions to ensure AMR inclusion

- Establish clubs and provide training at grassroots levels to raise awareness of small livestock groups on proper use of antibiotics.
- Encourage circulating livestock production (crop-livestock integrated production) in an organic direction.

- Work on a certification mechanism to recognize safe and clean products to encourage good practices among livestock keepers.
- Raise awareness of gender equality for engaged actors in the livestock value chains. Clearer task division between male and female needed in livestock production.

Water quality management actions to control AMR spread

- Link the project to soil and health issues.
- Value chain-based management.
- Manage and check the quality of water sources used for production.
- Define methods of managing and handling antibiotics residue to avoid spreading antibiotics into the environment and vice versa.

KEY AMR partners in Vietnam

- State agencies: MARD, MOH, MONRE, DLP, DAH, CDC, RIA, NIAS, NIVR.
- Local authorities: commune health care system, agriculture division.
- International partners.
- Private sector.
- Mass media.
- Value chain actors: feed producers, farmers, pharmaceutical companies, consumers.
- Cooperative and mass associations (women, youth union).
- Local officers at grassroots level: local extension and vet officers.
- Economic and social science experts to provide evidence to farmers.
- Universities (medical, agriculture and forestry, environment).
- VOHUN.

Group: food safety and AMR

Priority One Health (FS & AMR) challenges for Vietnam

- AMR and food safety: contaminated water reuse (wastes of urban, industrial, agricultural practices,...).
- Antibiotic in the feeds for pigs/animals.
- Limitation in the data/information/data use on antibiotic use to identify the critical points that need interventions in the value chain.
- Lack of evidence on antibiotic use in production system.
- Limited capacity to use mobile apps because agriculture extension staff and farmers are not young and skilled enough at this.
- Existing law on antibiotic but the legislation and enforcement not good enough.
- Interest conflict among actors in the value chain (farmers' incentives, wholesalers). Difficult to convince for preventing AMR among actors.

Priority One Health (FS & AMR) interventions for Vietnam

- ICT services for farmers to access veterinary advice. Potential for IVR-based advisory systems where digital literacy is limited.
- AMR: communication on AMR and AMU; tools to prevent diseases (vaccines, biosecurity); advice to farmers on how to deal with diseases (vet expertise); remove antibiotics from feeds; role of environment and health risks.
- Evidence of how not using antibiotic can benefit production is important to support the behaviours change of antibiotic prescriber.
- Evidence generation on the benefits not to use AMR and follow food safety practices.
- Change the social behaviour of farmers.
- Majority of the serious aquatic animal disease are caused by viruses. While antibiotics does not work to treat viruses, it gets used in view of mortality events observed in farms.

- Integrate AMR and food safety messages into education system (introduction of AMR into curriculum).
- Public and private certification systems presently being used in Vietnam is showing some benefits. Can be scaled up to cover more farmers and more commodities.
- Food safety: training for changes of actors to increase customers and policy recommendations.

Actions to ensure inclusion

- Farmers: farmer groups, agricultural extension services.
- Work through Farmer Union, Youth Union, cooperatives (new law to enhance and enable farmer cooperatives and groups).
- Youth Union: agriculture as a business opportunity, generate income from production in their hometown. Government strategy to reduce rural-urban migration. Encouraged by gov't. Dept of Science and Technology in every province supports local entrepreneurs.

Actions to improve water quality (related to FS & AMR)

- Understand the fate and transport and risks of organic, inorganic, microbial, AMR contaminant.
- Provide management strategies - flow from contaminated water to animal/people health.
- treating waste before entering the water systems
- Understand flows of contamination - what are the main sources and how do contaminants get into food systems via water? what are the likely effects of mitigation measures?

KEY partners in Vietnam

- KEY partner: MARD (OHP, VAAS), MOH (NIN), MONRE.
- Mass association: Farmer Union, Youth Union, Cooperatives (new law to enhance and enable farmer cooperatives and groups)
- Private sector (food companies), industrial associations (pork and seafood association)
- Vietnam Food Safety Technical Working Group which is currently led by ILRI.
- Universities (for education)
- Network: MALICA.

Word of advice to the Vietnam SAPLING team

Here is a word cloud representation of some of the advice given to the SAPLING team.

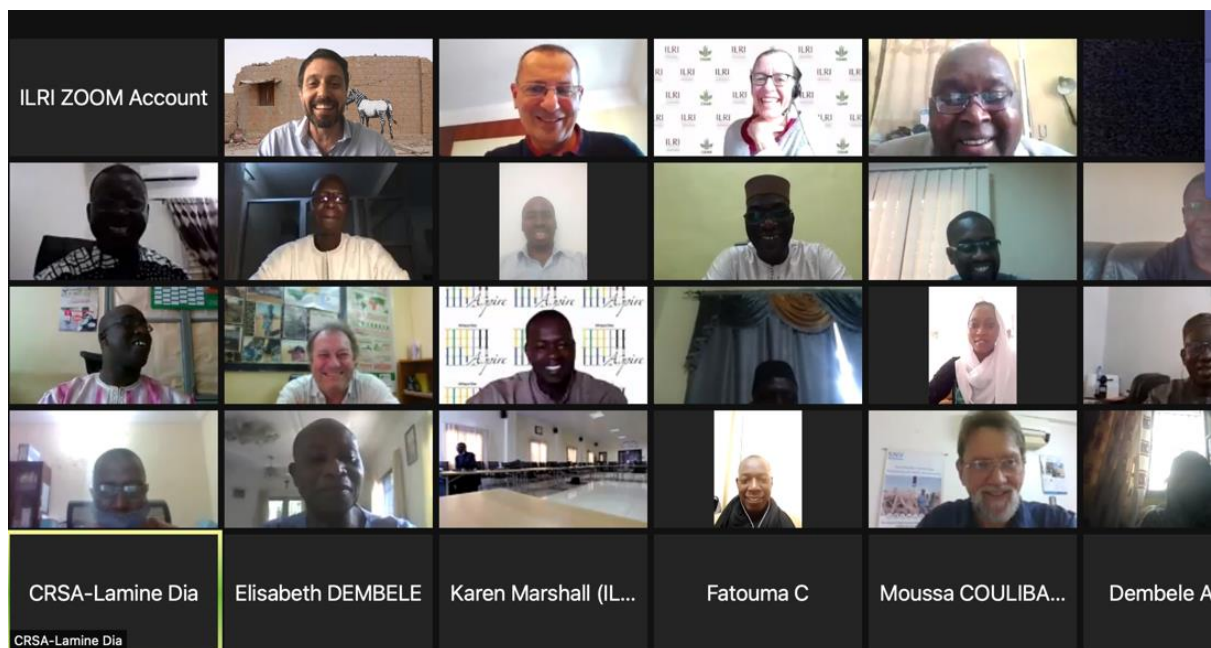


For more information, please visit <https://cgspace.cgiar.org/handle/10568/114640> and or contact Isabelle Baltenweck i.baltenweck@cgiar.org and Mourad Rekik m.rekik@cgiar.org.

Report on the Mali stakeholder consultation meeting

The summary of this meeting is available in French [here](#).

A value chain approach needed for the One CGIAR sustainable animal productivity initiative in Mali



Livestock market in Mali. Credit: Stevie Mann/ILRI

In the framework of the new CGIAR research portfolio at the 2030 horizon, a stakeholders' consultation meeting was organized on September 10, 2021 with all of main actors in the livestock sector in Mali. The meeting was dedicated to discuss one of the One CGIAR initiatives addressing the livestock sector. It refers to « Sustainable Animal Productivity for Livelihoods, Nutrition and Gender inclusion (SAPLING) », a description of which is available [here](#). The meeting was jointly organized between the CGIAR centers led by ILRI and the Institute of Rural Economy (IER) in Mali. Around 50 persons took part in the discussions.

Mali is one of the seven countries that are targeted by SAPLING initiative. SAPLING is one of the new CGIAR initiatives representing major and priority investment domains in the area of agricultural research and research for development. These initiatives bring together internal and external capacities to address major challenges as stated in the United Nations Sustainable Development Goals (SDGs). SAPLING interventions aim at reducing productivity gaps in the livestock sector and at increasing livestock value chains competitiveness by capitalizing on existing and developing new innovations in the main pillars of animal health, genetics, feed and forages and market systems. Contextualized innovation packages will be co-created with the main system actors during the inception phase of the initiative.

The discussions during the meeting were organized around : (1) a presentation of SAPLING initiative, (2) the priority value chains for Mali, (3) identification of the missing elements in SAPLING that are important for Mali, and (4) identification of the main geographic areas where SAPLING activities should be implemented. Interesting and fruitful discussions between the participants took place in the plenary and the working groups.

In his introductory speech, the science director at IER, Modibo Sylla welcomed the new initiative and stressed the alignment between the initiative outcomes and the general orientations of the government in Mali to promote inclusiveness of the sector of livestock through a greater involvement of women and youth in the livestock value chains. He also praised the excellent level of collaboration between the livestock technical services in Mali and ILRI/CGIAR. M. Sylla concluded his speech by inviting all participants to effectively contribute to the discussions and make suggestions for the improvement of SAPLING design and content.

Mourad Rekik from ICARDA presented to the participants the main objectives of the One CGIAR, its vision, its global target geographies, its main perspectives and its contribution to the global effort in reducing hunger and in improving the livelihoods of poor small-scale farmers all over the world. Isabelle Baltenweck from ILRI presented the general outline of the initiative SAPLING. The initiative aims to engage 1 million livestock producers (50 % women) in competitive and inclusive value chains and achieve productivity gains between 30 and 50%, leading to higher farmers' income.

Abdou Fall, the regional representative of ILRI for West Africa presented how SAPLING can contribute to improve the livestock value chains in Mali. Abdou Fall presented the general context of the livestock sector in Mali, the challenges and the opportunities before going through an analysis on the relevance of SAPLING interventions to increase livestock productivity in Mali.

The participants were then invited to split into 3 working groups and address the following points :

5. specifying which elements and work packages are of highest priority for Mali;
6. identifying the missing elements that must be included to meet Mali situation;
7. providing feedback to strengthen the proposed approach and framework;
8. identifying the interests of key national actors in different work packages.

The main reached conclusions are summarized herein :

1. The priority value chains : Three (3) priority value chains were identified by the participants in the different working groups ; these are « beef cattle », « small ruminants » and « traditional poultry ». This choice is justified by the fact that the two first value chains are the most important at the national level while poultry resources (traditional and industrial sectors) are the basis for a fast growing livestock sector in the country. Through the beef cattle and small ruminants value chains, important research topics will be covered by addressing the dominant production systems in the country: peri-urban, intensive system, agro-pastoral and extensive systems.

2. Animal health by (i) addressing the challenge of a better vaccination coverage to control the main endemic diseases, (ii) promoting the thermostable vaccine against Peste des Petits Ruminants and jointly developed by ILRI and the Laboratoire Central Vétérinaire ; and iii) the development of an efficient protocol for the control of animal Pasteurellosis.

3. Further recommendations were made by the participants in order to improve livestock productivity in Mali :

- a) Improvement of the quality of data related to the livestock sector in Mali ;
- b) More efficient monitoring of the markets data, with real time information on the market flows to guide livestock traders;
- c) Reduction of the feeding gap by promoting forages and by supporting feed manufacturers;
- d) Development of the livestock infrastructure (i) ensuring good animal housing standards and by capacitating the extension agents and ; ii) facilitating farmers' access to financial institutions ;
- e) Development of the traditional poultry sector which provides an important flow of quality animal source foods to urbanized areas where consumption is high;

In his closing remarks, M. Modibo Sylla, reiterated the strong commitment of all the key actors in Mali to the CGIAR, in order to contribute to the success of SAPLING initiative towards attaining its goal of improving the livelihoods of livestock keepers in Mali, with a focus on women and youth.

Ce que SAPLING pourrait représenter pour le Mali

Abdou FALL, ILRI- West Africa

National Stakeholders' Consultations
10 Septembre 2021



Contexte

Mali: Pays Sahélien, faible revenu, économie non diversifiée, dominante Agricole, rapide croissance population (3%), population jeune (69% moins de 19 ans)

Taux de pauvreté de 47%, s'est détériorée due aux crises politique, climatique et sanitaire; 90% de la pauvreté est rurale, concentrée dans le sud du pays

Indicateur	
Population rurale	63%
Taux de pauvreté	47%
PIB/Habitant, 2015	\$760
PIB Agricul.	40%
PIB Elevage	19%
Insécurité alimentaire	
Malnutrition (Enfant moins de 5 ans)	25 %

Secteur Elevage

Important cheptel : Bovins: 15 M Ovins/Caprins: 32 M Volaille: 37 M chameaux: 1 M

Activité productive pour 85% de la pop.

Potentiel et Opportunité: Forte demande en produits animaux au Mali et dans la sous-région pour stimuler la croissance économique a travers la transformation de l'élevage

Grand contributeur au commerce intra régional: Production nationale satisfait la demande du pays et fournit les animaux de boucherie et moutons de Tabaski aux pays côtiers de l'Afrique de l'Ouest

Grande diversité génétique: 8 races bovin, 6 races ovins, 5 races caprins, 5 races équins

Multiple contraintes:

1. Institutionnelle, législative et réglementaire: Capacités limitées, faibles investissements, manque d'infrastructures; couts de transactions élevés
2. Grands gaps de productivité et de compétitivité
3. Persistance de maladies infectieuses avec faible couverture vaccinale; accès difficile aux intrants et services veto
4. Changement climatique, risques sécuritaires exacerbent problèmes liés à l'accès aux ressources de base (pâturages eaux)

Source: GSO



Quelle est l'offre de SAPLING au Mali



Work package 1: Technologies et pratiques pour une productivité durable

- **Défis à relever:** Faible productivité & inefficience, et gestion non-optimale des troupeaux
- **Innovations:**
 - **Aliments et Fourrages:** (i) Sélection de cultivars d'espèces fourragères spécifiques ou à double fins, (ii) Modèles d'affaire pour la production commerciale de d'aliments du bétail de meilleure qualité (fourrage, aliments manufactures), (iii) Outils de diagnostic, d'analyse et d'aide à la décision pour aliments du bétail et la nutrition
 - **Santé animale et vaccins:** (i) Plateforme devpt vaccins: PPCC, PPR, (ii) Outil de décision pour la priorisation et évaluation d'impact, (iv) Model d'affaire pour des services de santé animale plus accessibles
 - **Génétique animale:** (i) Plan d'amélioration génétique par le croisement, utilisation des outils génomiques (ii) Plan Communautaire d'amélioration génétique des ovins



Work package 2: Sécurité sanitaire et alimentaire

- **Défis à relever:** Rôle des denrées d'origine animale (DOA) dans les régimes alimentaires; barrières sociales à leur déficit de consommation, sécurité sanitaire des aliments, et sécurité sanitaire et nutritionnelle inégalitaires liée au genre
- **Innovations:**
 - Stratégies de changement social et comportemental pour une production, une manipulation et une consommation accrue de DDA en toute sécurité
 - Outils digitaux d'appui aux interventions et en conseil agricole en matière de nutrition

Work package 3: Equité et inclusion



- **Défis à relever:** Insertion des jeunes dans les emplois fournis par l'élevage; autonomisation des femmes et jeunes dans les processus de prise de décision
- **Innovations:**
 - Approches de transformation de genre spécifiques au contexte
 - Autonomisation des femmes et des jeunes
 - Outils pour la transformation genre adaptée aux interventions en élevage



Work package 4: Paquets d'Innovation pour la compétitivité des chaînes de valeur animales



- **Défis à relever:** Accès limité aux marchés des intrants et des extrants, aux services, à la valeur ajoutée limitée, aux coûts de production et de transaction élevés, à la faible compétitivité du marché pour les petits exploitants
- **Innovations:**
 - Modèles d'affaires axés sur le marché
 - Arrangements institutionnels pour la commercialisation collective
 - Systèmes d'information sur les marchés d'élevage pour réduire la vulnérabilité des agriculteurs au risque de marché
 - Cadres de normalisation et de certification pour améliorer la salubrité et la compétitivité des aliments
 - Lignes directrices pour la priorisation et la mise en paquets des innovations et les mécanismes de mise à l'échelle



Work package 5: Evidence, processus de prise de decision et mise a l'échelle

- **Défis à relever:** Potentiel d'adoption, priorisation et ciblage des paquets d'innovations et interventions; manque de lien entre producteurs, chercheurs, autorités locales pour la mise a l'échelle
- **Innovations:**
 - Outils intégrés d'appui à la décision pour effectuer des arbitrages dans les options pour les investissements
 - Système d'analyse, identification des barrières et évaluation des mécanismes de mise a l'échelle

Quelles chaines de valeur

Créer le maximum d'impact: Réduction de la pauvreté, Nutrition; Sante, sécurité sanitaire et alimentaire, Egalite Genre, autonomisation des femmes, Sante et bénéfices environnementaux et Eco systémiques



Caprins



Ovins



Bovins bouchers



Bovins mixtes

Recherches et Développement en Elevage au Mali vs Agenda de SAPLING au Mali

Axes stratégiques de la politique nationale de développement de l'élevage

- Amélioration de l'alimentation par la promotion des cultures fourragères
- Amélioration de la sante animale par une meilleure couverture vaccinale, renforcement des systèmes d'information zoo-sanitaire, reformes des SSA
- Améliorations des performances zootechniques: meilleure gestion des troupeaux, amélioration génétique (sélection races locales performantes, croisement avec races a haut rendement **laitier**)

Orientation des grands projets d'investissement sur l'élevage: PADEL/M, PRAPS II, USAID FTF

- Amélioration de sante et de la sécurité sanitaire des aliments
- Amélioration de la productivité du bétail avec le développement des cultures fourragères
- Appui a l'investissement prive
- Investissements massifs sur les infrastructures commerciales et de transformation pour favoriser l'accès aux marchés du bétail et des produits animaux

L'Offre du SAPLING



Alliance



Technologies et pratiques pour une productivité durable

Amélioration de la génétique des bovins, des petits ruminants et des volailles grâce aux TIC, à la génomique et aux outils de reproduction

Sélection de fourrages et de cultures polyvalentes, amélioration des résidus de culture, production d'aliments pour animaux en dehors de l'exploitation, technologies d'embouche.

Plateforme pour la production d'une génétique améliorée (synchronisation, IA, certification des taureaux).

Un système numérique d'appui aux producteurs pour promouvoir la santé de animale, une plateforme de vaccins pour développer des candidats vaccins

Sécurité alimentaire et nutritionnelle

Pratiques pour une production et une gestion sûres des AFS

Amélioration de l'accessibilité et de la sécurité

Stratégies de changement de comportement pour une consommation accrue de ASF

Equité et Inclusion

Approches transformatrices du genre

Autonomisation des groupes marginalisés, des femmes

Compétitivité de la chaîne de valeur

Accès aux services

Marchés d'intrants/produits

Paquets d'intervention

Modèles d'entreprise

Scaling

Cadre de mise à l'échelle

stratégies de communication et de mobilisation

Outils d'aide à la prise de décision

Proposed livestock value chains

Produits laitier



Volaile



Ovins



Caprins

