



Notes from a Vietnam virtual stakeholder consultation
on two proposed One CGIAR initiatives on Protecting
Human Health through a One Health Approach and on
Sustainable Animal Productivity for Livelihoods,
Nutrition and Gender inclusion, 30 July 2021

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Compiled by Chi Nguyen

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Background and objectives

To implement its [research and innovation strategy to 2030](#), 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) and Protecting Human health through a One Health approach (One Health) are two initiatives currently being developed by ILRI, ICARDA, Alliance of Bioversity and CIAT (ABC), IFPRI and other partners.

Given the importance of livestock and health in the lives and livelihoods of people and the commitment of 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, 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. 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.

Feedback on the overall SAPLING 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 behavior 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.
- Interdisciplinary and interministerial 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 interdisciplinary 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 interministerial 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.

Chat feedback: What livestock challenges or one health matter most

- Good legislation but challenges in implementation
- Collaboration
- Animal nutrition
- Small scale household production
- Small scale producers not able to take advantage of market opportunities offered by livestock
- AMR, biosecurity and emerging/re-emerging diseases
- Animal feed
- Price of animal feed
- Food safety
- Sustainability
- Balancing livelihoods, environmental impacts and ecosystems services
- Lack of production forage
- Evolving land use & diseases
- Antibiotics contamination in animal source-foods and fresh fruits and vegetables
- Disease burden
- Effective and economical control measures against animal diseases given limited budget/resources and typical characteristics of small and sparse livestock production scale
- Greenhouse gas from livestock
- Water environment and human health links
- Actions to ensure inclusion (farmers, women/youth, value chain actors, among others)

Chat feedback: Advice for the team

- System thinking
- Equity regarding to the ethnic minorities
- Find synergies/overlaps between the two initiatives — a lot is possible
- Sustainability of project.
- More time needed for consultation with Vietnamese partners on priorities and challenges
- Crop livestock integration system
- Logistic management and value chain coordination
- Use technologies especially for communication
- Multisector involvement
- Coordination among projects of donors in the country to maximise the resources
- We need a system approach to improve animal production industry
- Understand more the new livestock strategy of Vietnam
- Climate variability and climate change impacts.
- Encourage convergence of key development departments on One Health at the national level
- Focusing on smallholder
- Focus on hot issues and solve them
- Linkages with other initiatives i.e. use of RTB as feed and agro-silvo-pastoral
- More focusing on social aspects
- Context-based interventions
- Engage the policy makers and private sectors at the beginning of project development
- Early identification of pathogens in humans and animals, so that appropriate antibiotics can be used
- Link your new initiatives with PREZODE

Meeting Participants

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Annex 1: One Health presentation slides



Overall objective of the initiative

The One Health approach recognizes the interconnections between the health of people, animals, and their shared environment.

This initiative will generate evidence and develop tools enabling the redesign of food systems *to improve human health* based on One Health principles.



Why do we need an initiative for One Health?

- Increased frequency and severity of infectious diseases (including Covid-19) as people encroach on wildlife habitats and livestock and fish production systems intensify.
- Animal production systems are reservoirs of zoonotic pathogens, from which 60% of human pathogens originate
- Antimicrobial Resistance AMR causes 700,000 deaths annually and is projected to kill 10 million each year by 2050
- Foodborne disease takes a toll comparable to that of tuberculosis, malaria, and HIV/AIDS, but receives a small fraction of the investment from international donors
- Solving these challenges requires a One Health approach
- Leverages unique CGIAR capacity on One Health in food systems



Objectives

Protect human health through the improvement of the detection, prevention, and control of zoonoses, foodborne diseases and AMR in LMICs, by:

- Generating evidence to enable risk-based prioritization of geographies, pathogens, AMR genes, and exposure pathways, for surveillance, risk mitigation, incentivization of stakeholders, and regulatory enforcement.
- Evaluating impacts of technologies, tools, and approaches to identify and control zoonoses and AMR, and improve food safety and water quality.
- Integrating innovations into government partners' policies and programs and disseminate knowledge for further scaling.

Research contexts selected based on zoonotic emergence, AMR & human health risk:

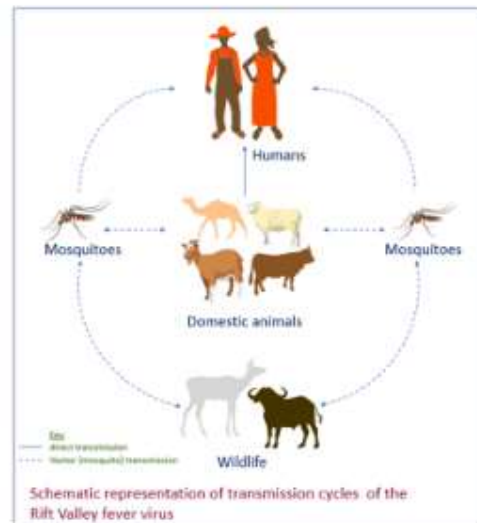
- Wildlife-livestock interactions
- Intensifying food systems
- Informal food systems

Between 4.3 to 41 million cases of disease could be averted annually through these efforts.

WP 1: Zoonoses

Pre-empt emergence and spread of zoonoses with epidemic and pandemic potential at the interface of wildlife, livestock, and people through surveillance, identification of high-risk behaviors and geographies;

Reduce incidence of zoonotic pathogens associated with poverty.



Example Innovations in Zoonoses

1. Mapping of zoonotic disease emergence risk based on diverse data sources to identify and manage high-risk wildlife-livestock-human interfaces, and development of interventions to address this risk.
2. Development and deployment of new and existing diagnostic assays for use at slaughterhouses, enabling prevention of infected meat from entering the market and streamlining of zoonotic surveillance and control services.

WP 2: Food Safety

Reduce the burden of foodborne disease with a focus on animal-source and other perishable foods, including in informal and traditional food systems, through simple technologies and non-punitive governance approaches implemented along food value chains from production to consumption.

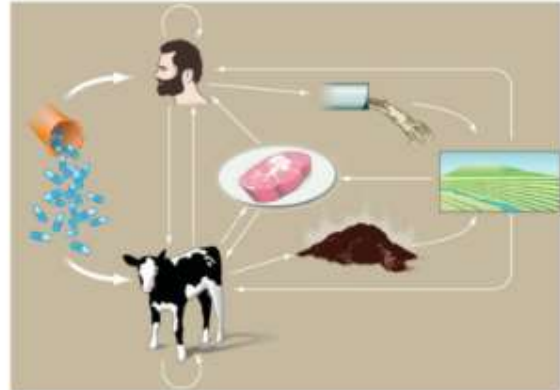


Example Innovations in Food Safety

1. Support of value chain actors to improve food safety through training, certification and promotion of consumer demand, and of governments in the development of feasible, non-punitive approaches to regulatory enforcement.
2. Simple, context-specific physical (e.g. color-coded surfaces and containers for raw and cooked foods) and behavioral technologies (e.g. nudges) to facilitate food safety practices by food system actors throughout the value chain.

WP 3: AMR

Reduce selection and spread of AMR from livestock, fish and crop production systems through reduced and better-targeted AMU, surveillance of AMU and AMR in animals and animal-source foods, improved manure management, and a better understanding of the environment as a reservoir for AMR.



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Example Innovations in AMR

1. Evidence on how livestock and fish production and farm profits are affected by reducing antimicrobial use while implementing alternative herd and fish health approaches.
2. ICT-based tools to enable farmers, agrovet dealers, and/or veterinarians to address livestock diseases without the use of antimicrobials.

WP4: Environment: Water and Wildlife interfaces

Improve land use and water management for the reduction of health risks, with a focus on pollution from agriculture and aquaculture, including zoonotic pathogens and antimicrobial residues and genes, and high-risk wildlife-livestock-human interfaces.



Example Innovations in Environment

1. Public strategy for the adoption and replication of good practices for the safe use of marginal quality water from farm to fork in informal settings.
2. Business models for resource, recovery and reuse of animal waste.

WP 5: Economics, Governance, and Behavior

Test effects of capacity building, incentives, and monitoring on behavior of value chain actors and government personnel providing support or oversight for relevant sectors through randomized evaluations. Model economic impacts of epidemics and control measures.



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Example Innovations in Economics, Governance, and Behavior

1. Performance management and accountability systems for public servants responsible for implementing surveillance and enforcement of antimicrobial use and food safety regulations.
2. Systems to facilitate compliance of small-scale producers, traders or vendors of livestock and aquaculture products with food safety, antimicrobial use, and animal waste management standards.

Prioritization process

To enable **impact within 3-year period**, regions and countries have been selected based on:

- 1) Existing CGIAR relationships
- 2) Government interest in One Health
- 3) Intensifying animal production systems and/or wildlife involvement in food systems

East Africa: Kenya, Ethiopia, Uganda

West Africa: Cote d'Ivoire

South Asia: India, Bangladesh

Southeast Asia: Vietnam



Themes/Research questions/Innovations selected based on potential for long-term impact on human infectious disease burden

Key CGIAR and External Research Partners



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

Isabelle Baltenweck
Mourad Rekik

National Stakeholders' Consultations
July 2021



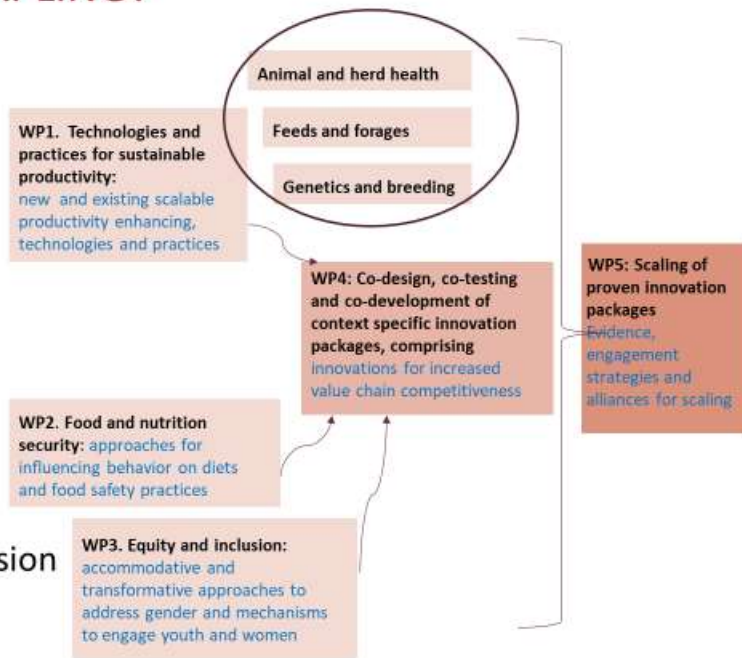
Objective statement

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



Links with other Initiatives

LCCR: Livestock, Climate Change and Resilience

OneHealth: herd health

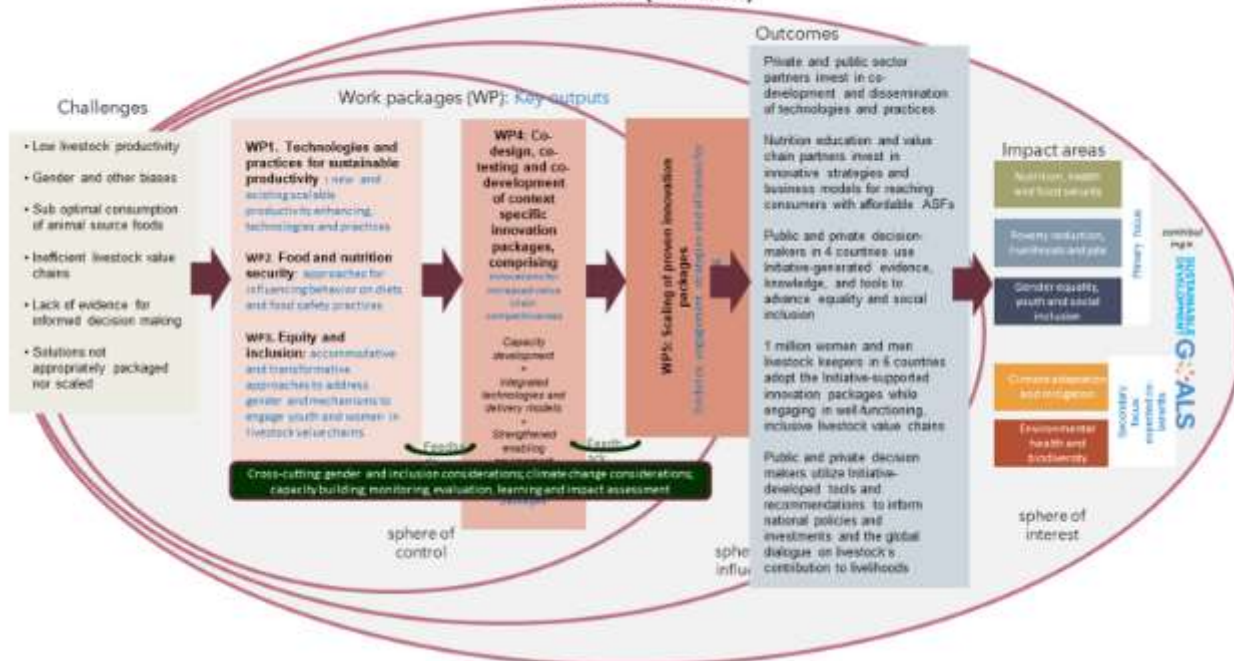
Sustainable intensification : technologies and market innovations

Excellence in breeding: feed traits (forages) and genomic selection

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)



What SAPLING could mean for Vietnam

Mary Atieno, ABC Vietnam



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-eastern.com/aftr/cr-markets-eastern/>

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