Livestock CRP Priority Country Project

2019-2021

Country Project Plan – VIETNAM

This plan outlines key components of what the Livestock CRP proposes as a 2.5-year project aiming to consolidate CRP research to date (Livestock and Fish and Livestock CRP, respectively) and translate it into a pilot with flexible combinations of integrated interventions. The project will generate evidence needed to attract development investment to take a bundle of possible interventions to scale by national development partners. The plan has benefited from input from national partners and will be adapted accordingly as the detailed plan is being implemented.

Project Title:

Livestock-led interventions towards equitable livelihoods and improved environment in the North-West Highlands of Vietnam

Project Objectives:

Overall objective:

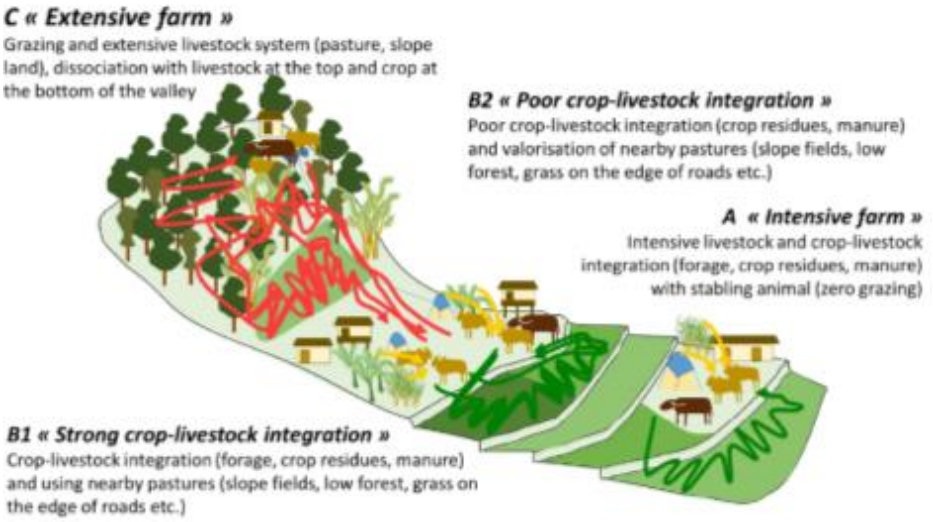
To stimulate system transformation (livelihoods, environment, equity, and market access) to empower highland farming communities through bundled livestock-based interventions in North-West (NW) Vietnam.

Specific objectives:

1. To intensify sustainably and equitably smallholder crop-livestock production in NW Vietnam by (i) identifying, testing and evaluating bundled livestock-based interventions, (ii) improving knowledge and skills in animal husbandry and (iii) increasing awareness of environmental degradation;
2. To identify, facilitate and evaluate institutional innovations that stimulate local livestock product development, market linkages and effective service delivery for a sustainable commercialization, benefiting equitably all gender and ethnic groups in NW Vietnam;
3. To identify and promote inclusive inter-sectoral environment and agriculture policy dialogue and interactions at different levels that address trade-offs and synergies and lead to more conducive and effective policy attention to smallholder crop-livestock smallholder systems in NW Vietnam.

Details and Justification for the Integrated bundles:

Overall Concept	Three types of farming system can be distinguished in the NW highlands: intensive systems in the lowlands, mixed crop-livestock system in the mid-altitudes and extensive systems in the high altitudes (Figure 1). Different bundles of interventions will be targeted to these three types of farming systems, as their challenges and their needs are different. A landscape perspective will be applied to look for interactions and trade-offs across the system types. In the lowlands, where access to markets is better and where capacity for innovation is higher, the long-term vision is for animal agriculture to be the basis for transformative market-driven innovations that ultimately produce branded, healthy and sustainable 'green' livestock-source products (in first instance: dried beef and local pork) to sell in major cities of the region and Hanoi. This will be done through a market research component, with outreach to consumers, awareness raising on food safety, quality and environmental footprint of livestock products, with potential linkages with A4NH. In mid-altitudes, beef and pork producers will be connected to the lowland transformers, stimulating sustainable production and developing market-oriented livelihoods. In the long term, for the emerging and semi-commercial crop-livestock farmers in the midlands, the aim is to generate more income through stronger crop-tree-livestock interactions, more efficient use of available biomass, improved animal health and linkages to markets with the lowland producers and value chain actors. In the highlands, ethnic minority farmers (H'Mong and Thai) predominate. Here, the focus will be on animal husbandry, resilience against diseases, and generally enhanced productivity, as the systems are characterized by their remoteness and a fragile environment. Local pig breeds are kept in these areas and could attract added value by linking to the markets in the lowlands, raising farmers' awareness on livestock's potential for income generation. Across the three types, a landscape and sustainable intensification approach will be used, considering the five sustainability domains defined in the Sustainable Intensification Assessment Framework (productivity, environment, economic, social and human; Stewart et al., 2018). The notion of 'landscapes' is understood in a soft way. Although we do not plan to engage in complex modelling studies, we do plan to consider social and environmental aspects as well as economic interests, institutional arrangements, and the variety of actors involved. The landscape aspects will be addressed at farm level (landscape position, slope, etc.), community level (management of communal resources, policies, etc.) and at policy level (inter-sectoral coordination and complementarities). Sustainable intensification means here not only intensification of livestock production (beef cattle and pork), but also system intensification taking account of labour issues, natural resource use, manure for coffee etc. Because

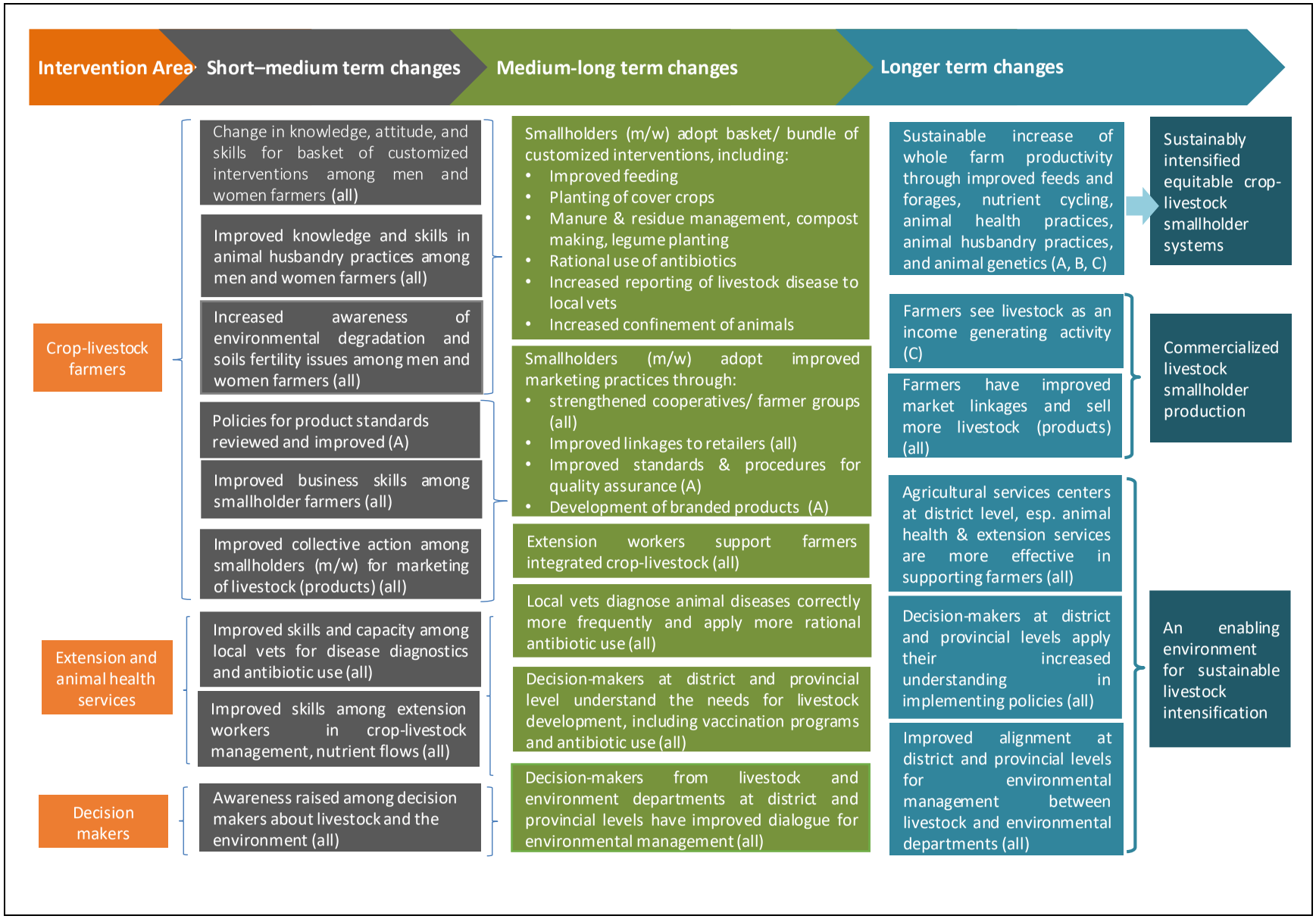
	of our livestock focus, all our research will include livestock and its links to the wider system.  Figure 1. Farming systems types in Son La province (Blanchard et al., 2018). The activities carried out by the project will be developed through four work packages: 1. Consolidate existing work on livestock development in NW Vietnam 2. Conduct rapid preliminary diagnoses to allow development of integrated interventions along with scaling partners 3. Pilot intervention combinations with scaling partners 4. Consolidate learnings
Flagship Components:	
Genetics	The genetics component of this project will link to the identification or creation of market pull for specific product(s). Whilst the final set of interventions will be decided on after further assessments, specific consideration will be given to (a) the use of community-based artificial insemination (i.e. community level synchronization and subsequent AI, resulting in a crop of animals born, and thus ready for market, at about the same time) for beef cattle and (b) the use of community-based artificial insemination for exotic and / or local Ban pigs. Additionally, producer capacity building on breed-choice and breeding will be included, as part of the overall producer capacity building program.
Health	The major animal health constraints and threats in the three farming system types will be identified. The actions for the flagship will be directed to herd health (incl. husbandry and biosecurity), antimicrobial use (AMU) and vaccination: particularly, to increase the capacity of animal health workers and

	local vets, to train farmers on improving herd health management (including appropriate drug and vaccine use). Vaccine policy, animal husbandry and biosecurity, and animal health training materials will be provided for relevant stakeholders.
Feeds & Forages	A basket of feed/forage options will be identified for the three farming systems types, and options will be tested, documented and refined. Selection of appropriate feed options will be based on assessments made using the G-FEAST approach. The options will range from legumes as cover crops and feed and climate-smart grasses, to feed conservation, better utilization of by products, and concentrates, and will be established in connection with the Livestock and Environment flagship. Feed action plans will be developed with local communities using G-FEAST outputs as a starting point. Action plans will set out a series of promising feed options which will be tested using action research approaches with farmers. Farmers will be trained, and recommendations and training materials will be provided for extension workers.
Environment	Optimal nutrient management for each type of farming system will be assessed through nutrient balances and nutrient cycling studies at farm level. Demonstration trials and field visits will be established together with the Feeds and Forages flagship. Capacity of extension staff in nutrient management will be supported, through synthesis of "good practices". Raising awareness on the importance of nutrient management and the wider environmental (nutrients, greenhouse gases and water) footprint of livestock production will be a key activity.
LLAFS	To trigger changes at farm level towards sustainable intensification, a market pull is likely to be required. Linkages between producers, slaughterhouses, transformers, traders and retailers will be improved, and creation of farmers groups and better governance will be supported, particularly for the lowlands and midlands. Opportunities for product branding, standards and procedures (incl. traceability) will be explored and developed for selected products, such as dried beef or specialty pork products. The participation of women and members of ethnic minorities will be assessed and supported, to allow all community members to have the opportunity to benefit from the improved market linkages. Intensification is occurring within the context of fast-changing livestock production with producers reacting dynamically to changing market opportunities, disease risks, resource constraints, innovative technologies as well as regulatory and policy shifts. Data will be collected to characterize and analyze these dynamics, for which the recent African Swine Fever outbreak is one example.
Cross-cutting Components:	

Gender and equity	The project site was chosen for its high proportion of ethnic minorities, and thus a strong focus on ensuring equity is recognized as being important to achieving maximal project impact. As described under the LLAFS interventions section, the team will conduct a 'deep dive' on gender and livestock in the selected communes, as the preliminary assessment has not been able to identify potential differentiated constraints and opportunities for women and men. For now, the project will ensure equal participation and benefits in project activities - ensuring that women and men are giving equal opportunities to attend workshop, trainings and other events.
Youth	The project is not targeting youth farmers a priori, but will include them in the various activities, particularly those with a market orientation.
Capacity Development	Capacities of farmers, extension services, national researchers and government agents will be built throughout the project. International and local students will be trained in the frame of the project.
Policy dialogue	The project will organize workshops to present plan and findings to policy makers at district and provincial level, which may contribute to the new livestock sector planning and help them to shape the policy of livestock in North West. As the Vietnam livestock law will take effect from 1 January 2019, the evidences of the project will help show how the livestock law is implemented at a district level.

Theory of Change:

The ToC is based on the vision that emerging and semi-commercial crop-livestock farmers will generate more income through stronger crop-tree-livestock interactions, leading to higher whole farm productivity and reduced environmental degradation. One assumption underlying this ToC is that considering multiple sustainable intensification (SI) domains simultaneously has higher chances to successfully lead to better outcomes (livelihoods, markets, environment) compared to a single domain focus.


Intervention Area
Short–medium term changes
Medium-long term changes
Longer term changes
Crop-livestock farmers
Extension and animal health services
Decision makers
Change in knowledge, attitude, and skills for basket of customized interventions among men and women farmers (all)
Improved knowledge and skills in animal husbandry practices among men and women farmers (all)
Increased awareness of environmental degradation and soils fertility issues among men and women farmers (all)
Policies for product standards reviewed and improved (A)
Improved business skills among smallholder farmers (all)
Improved collective action among smallholders (m/w) for marketing of livestock (products) (all)
Improved skills and capacity among local vets for disease diagnostics and antibiotic use (all)
Improved skills among extension workers in crop-livestock management, nutrient flows (all)
Awareness raised among decision makers about livestock and the environment (all)
Smallholders (m/w) adopt basket/ bundle of customized interventions, including:
• Improved feeding
• Planting of cover crops
• Manure & residue management, compost making, legume planting
• Rational use of antibiotics
• Increased reporting of livestock disease to local vets
• Increased confinement of animals
Smallholders (m/w) adopt improved marketing practices through:
• strengthened cooperatives/ farmer groups (all)
• Improved linkages to retailers (all)
• Improved standards & procedures for quality assurance (A)
• Development of branded products (A)
Extension workers support farmers integrated crop-livestock (all)
Local vets diagnose animal diseases correctly more frequently and apply more rational antibiotic use (all)
Decision-makers at district and provincial level understand the needs for livestock development, including vaccination programs and antibiotic use (all)
Decision-makers from livestock and environment departments at district and provincial levels have improved dialogue for environmental management (all)
Sustainable increase of whole farm productivity through improved feeds and forages, nutrient cycling, animal health practices, animal husbandry practices, and animal genetics (A, B, C)
Farmers see livestock as an income generating activity (C)
Farmers have improved market linkages and sell more livestock (products) (all)
Agricultural services centers at district level, esp. animal health & extension services are more effective in supporting farmers (all)
Decision-makers at district and provincial levels apply their increased understanding in implementing policies (all)
Improved alignment at district and provincial levels for environmental management between livestock and environmental departments (all)
Sustainably intensified equitable crop-livestock smallholder systems
Commercialized livestock smallholder production
An enabling environment for sustainable livestock intensification

Main Outcomes and Key Monitoring & Evaluation Indicators:

The outcomes outlined in the figure are the same for the three farming system types. Tools that can be used to measure the indicators mentioned for each outcome are indicated in brackets.
Farmers in Mai Son, specifically ethnic minorities, men and women at the three levels (lowlands, mid-lands, highlands) have:

1. Sustainably intensified crop-livestock smallholder systems

Indicators: *- Increased farm productivity (HH tool)*
- Improved farm incomes (HH tool)
- Increased farm household resilience (diversified farming systems, livestock disease better managed) (HH tool)
- Reduced environmental degradation (CLEANED)*

2. Commercialized livestock smallholder production

Indicators: *- Improved market linkages (HH tool & market actors with a focus on output market agents)*
- Quality, safe products (Food Safety tool)
- Branding (market research – consumer demand for products in project communes, Son La and Hanoi including "green" dimension)

In addition, at community and up to provincial level, steps are taken:

3. Towards enabling policy for sustainable livestock intensification (Desk review & KII)

Indicator: *- Improved dialogue between livestock and environmental departments*

*input needed for CLEANED: herd composition, productivity, feed basket, fertilizer/manure management (from HH Tool & additional FEAST assessments)

Overall Evaluation Approach

We recognize that over two years there is limited opportunity to see impact; even if it is possible to utilize a (quasi-) experimental design. Therefore, Livestock CRP priority countries agreed to have a common over-arching evaluation approach using Contribution Analysis applied to the ToC. Embedded within this may also be a more detailed research design providing the opportunity for before/after and with/without comparisons.

Research Design

The baseline will be carried out in three groups of communes.

1. Treatment: the two communes selected for the project, Chieng Chung and Chieng Luong (see Site Selection document), that include all three types of farming systems.
2. Control: Two control communes were selected to match to the 'Treatment' communes, based on similar characteristics (altitude, population and livestock density, poverty level, ethnic minority, main species, accessibility), Chiềng Chăn and Mường Bằng.
3. Contrasting: Additional communes will be selected within the district of Mai Son to capture the variation in the district, thereby allowing for a representative district-level characterization.

Counterfactuals (group 2 above) are included to ensure the design is appropriate to an impact assessment approach (and for utilization of LLAFS protocol on evaluation of innovations). However, due to the short length of this first component of the project, the project will also use evidence

generated from Contribution Analysis of our Theories of Change to evaluate and provide learning to the project.

Research Questions

The over-arching research questions that will be addressed as part of this initiative are:

1. How do these bundles of livestock-based interventions (targeted to different domains?) contribute to more sustainable and equitable smallholder production in NW Vietnam, and how does improving the knowledge and skills in animal husbandry and increasing awareness of environment degradation contribution to this?
2. What institutional innovations stimulate local livestock product development, market linkages and effective service delivery and contribute to sustainable commercialisation of these in NW Vietnam?
3. What policy aspects are required and can be implemented to provide enabling conditions for these changes to occur?

Specific research questions for individual or clusters of activities will be developed at a later stage.

Methodologies

<u>Characterization and definition of the bundles of intervention</u>

The aim of the characterization phase was to focus on identifying the main constraints to SI, using rapid assessments, to guide the design of the bundles of interventions. Between September and October 2019, several focus group discussions and key informant interviews were carried out in Mai Son:

- G-FEAST: method of Duncan et al. (2019)
- Forage seed system analysis: network analysis (Delaquis et al., 2018)
- Livestock diseases and constraints: PEG tool (developed by ILRI)
- Value chain mapping and assessment of livelihood options, including gender considerations
- Genetics: rapid assessment using secondary information and key informant interviews to capture breeding operations in the selected communes as well as constraints and opportunities for livestock genetic improvement.
- Secondary data collection: maps and other information about trends (past, current, future) of bio-physical and socio-economic context
- Land use change mapping using Terra-i and Global Forest Change.
- Forages suitability mapping using Targetool and RCP8.5 scenario (IPCC, 2013)
- Policy review
- Open discussions: seed resources and management, markets, communal resources, stakeholder perceptions, infrastructures, institutions, nutrition, disease prevention, genetic knowledge gaps, gender roles and norms etc.

Baseline

- Rapid multi-indicator survey, including the outcome indicators: RHoMIS (Hammond et al., 2017)

Interventions

The Genetics Flagship will pilot community-based artificial insemination of pigs and / or cattle. Here animals belonging to a farmers' group (or similar) will be synchronised and then subsequently inseminated in batches, resulting in a crop of animals that can be jointly marketed. Here particular attention will be paid to the choice of genetics used (specifically the sires providing the semen) both at the breed and individual animal level, to ensure it is improved i.e. producing animals that are both productive and adapted to the local environmental conditions. The project will subsidise up to 1000 inseminations as part of this pilot (performed for different groups at different times), and also help building the capacity of local artificial insemination service providers through provision of equipment and / or training. Prior to the pilots commencing the genetics flagship will collaborate with LLAFS to determine whether appropriate markets exist, or can be created, to absorb the crops of animals, specifically considering beef cattle, exotic pigs, and local Ban pigs. At this point a go/no-go decision will be taken as to which (if any) of the species / breeds the pilots will take place for, as well as the optimal size of the animal crops. The flagship will continue to collaborate with LLAFS on marketing of the animal crops, as well as monitoring of the intervention including at a livelihood level from a gendered lens. The flagship will also collaborate with the feeds and forages and health flagships on producer capacity building and bundling of interventions to ensure that the improved genetics can be expressed.

Animal Health flagship will evaluate the major impact of animal health constraints on productivity and livelihoods from the selected communes in Son La province. To start the access to animal health services and vaccination policies will be assessed. Based on this, Interventions will be combined into herd health packages (e.g. on-farm biosecurity, herd health management and rational use of vaccines and drugs), and tested in site-specific contexts taking into account how women, men and young people are using specific interventions and what integrated approaches could strengthen equitable usage of such options. Appropriate novel training tools for farmers, community animal health workers, veterinarians and drug dealers will be developed and tested. Lessons on how best to address holistic herd health will be generated and may be applied elsewhere in other provinces of Vietnam. Especially, efficient herd health interventions will reduce the need to use antimicrobials, and thus reduce the risk of antimicrobial resistant (AMR). An important part of this research is how health relates to reproductive management and interacts with other management factors, such as genetics, feed resources and LLAFS. Therefore, there will be close consultations with other Livestock CRP flagships on how to optimize and make the most cost-effective interventions for closing the yield gaps. This monitoring activity will be conducted together with the other flagships to capture all relevant aspects.

The Feeds and Forages flagship will tailor feed basket options for the different types of farming systems based on the G-FEAST assessment carried out in the targeted communes. The options will range from the integration of forage legumes in tree plantations and in rotation on staple crop fields, the inclusion of improved grasses e.g. in contour lines as cut-and-carry material, to the recycling of crop residues. Appropriate solutions for winter storage will be proposed and tested. These options will be implemented with a set of farmers in each commune and at each landscape position, and their impact on key indicators of the sustainable intensification domains (see set 1 above) will be monitored. This monitoring activity will be shared with the other flagships to cover

all relevant aspects, particularly with L&E and LLAFS. Feed options will take account of the possible need to feed batches of animals emerging from synchronized breeding approaches developed by the Genetics Flagship.

Under Livestock and Environment, CLEANED (Notenbaert et al., 2019) will be carried out to evaluate the environmental impact of the bundles of interventions. Detailed nutrient flow studies will be implemented in a participatory way to identify the sources and sinks of multiple biomass resources at farm level, and propose options to improve resource use efficiency in a sustainable manner, using key sustainability indicators from the five dimensions, and paying particular attention to trade-offs in resources uses and resources allocations. Based on the analysis of resources allocation and potential for improvement, different system trajectories will be studied.

Awareness on the environmental footprint of livestock production and issues in soil fertility management will be raised through trainings as well as through improved dialogue and feedbacks from different types of stakeholders (market actors, policy makers,…), using multi-agent approaches.

Under LLAFS, market research will be conducted to assess potential demand for high value livestock products from the selected communes within Mai Son district. The research will target traders, retailers, restaurants and consumers in large towns and Hanoi, as well as key informants. Experience from supporting branding of local products (e.g. local plums) will be taken into account. The results will inform the assessment of suitable value chain interventions at farm and market levels in the selected communes. However, specific interventions will be selected by a participatory process including various stakeholders. The interventions could include, *inter alia*, the support of farmers' groups towards meeting the market requirements for specialized high-value products, the organization of 'business to business forums', linking potential traders/ buyers to farmers, or the testing of new brands with consumers, based on unique characteristics of local products (including 'green' or organic characteristics).

Under LLAFS and depending on the severity of the ASF outbreak in the selected communes, an assessment of the livelihood impacts of the outbreak will be conducted, by looking at the changes in livelihood options pursued by households, following the outbreak. This would complement the current work by ILRI and national partners on assessing the impacts of the ASF outbreak on the Vietnam economy, in support of updating national policies and regulations on animal disease management. Beyond the shock created by ASF, the LLAFS team will use data from the planned two rounds of household surveys to also investigate other drivers of rapid changes in livestock production systems in Mai Son district. For instance, it has been reported that increased labor demand by coffee plantations in high-land villages has led to decreased cattle rearing. Such analysis will allow interventions to be better targeted towards communities which are investing to strengthen livestock production and towards species which are increasing in popularity.

Finally, LLAFS will take the opportunity of this on the ground work to do a 'deep dive' on gender and livestock in the selected communes. Past research, including the recent assessment, has not been able to clearly differentiate women's and men's roles in livestock systems- in terms of decision making, labor, control over assets and income, capabilities etc. LLAFS will invest in qualitative, in-depth and longer-term sociological research.

Study Area and Target Population

The site selection followed a systematic process, detailed in Annex. Briefly, Northwest Vietnam was a logical choice given the high density of ethnic minority people, high levels of relative poverty, high livestock density, importance of livestock for livelihoods (Figure 1) and pressing environmental, market and production problems, as well as the proximity to Hanoi for logistic and field operations supervision. A set of indicators were chosen to select at provincial and district level. The selected province, Son La, is the largest mountainous province in northern Vietnam with a total area of 1.4 million ha and a total population of 1 million people. The population consists of 12 ethnic groups, comprising 55% Thai, 18% Kinh, 12% H'mong, 8% Muong and 7% others.

The target site is the district of Mai Son, which offers a diversity of farm types, from grazing and extensive systems at the top of the mountains to intensive farms with strong crop and livestock integration at the bottom of the valleys, with a variety of socio-economic and ecological conditions. Livestock species include buffaloes, beef cattle, pigs, goats and poultry, with a combined holding of 0.36 TLU/capita. Feed sources include planted forages, natural grazing areas, maize, cassava, sugar canes, natural forest. The poverty rate is 18.5%.

The target population is not the poorest, but includes farmers who have at least some capacity to innovate and adopt new techniques. In this line, farmers should possess at least cattle and/or pigs to be included in the project.

Sampling

The bundled interventions will be implemented at commune level. Therefore, as a basis for evaluation of these interventions, households will be randomly selected at commune level to provide representative data at this level. Although the stratification by livestock production type, determined by feed access and crop-livestock integration will be considered during the implementation of the interventions, sufficient data is not available for this stratification to be applied for the base-line survey within the evaluation framework.

Subsequent to the base-line household survey, households and villages will be categorized into one of the types from Figure 1.

Households will be sampled from household lists that include the number of animals kept for each livestock species. Households selected must have at least cattle and/or pigs, and households with only chickens will be excluded from the survey. In the treatment and the control communes, around 200 households will be sampled. In order to have a good representation of Mai Son, an additional 240 households will be sampled at district level.

Baseline data on other actors than farmers along the value chain and within public services will be collected subsequently.

Tools

In addition to the tools mentioned in the section on Key Monitoring & Evaluation Indicators, we will use G-FEAST, RHoMIS, and PEG. More tools might be added for specific activities at a later stage. The LLAFS protocol on evaluating institutional innovations will be followed (counter factual and indicators tracked).

Resources

The core team included in the priority country Vietnam work is detailed in Table 1. Budget details and FTE for each one are given in the worksheet attached.

Table 1. Core project team - Livestock CRP Vietnam

	Name	**Institution**	**Flagship / Cross-cutting**	**Discipline**
Posted in-country				
Leaders	Sabine Douxchamps and Nguyen Hung	CIAT and ILRI	F+F/L&E/Health	Forages, Environment and Health
Field coordinator	Mai Thanh Tu	ILRI/CIAT		
Supporting Scientists	Karl Rich	ILRI	LLAFS	Economics
	Hu Suk Lee	ILRI	Health	Health
	Nguyen Thinh	ILRI	LLAFS	Livelihoods
	Le Thi Thanh Huyen	NIAS	Genetics	Breeding
Posted out-country				
Supporting Scientists	Michael Peters	CIAT	F+F	Forages
	Alan Duncan	ILRI	F+F	Feeds
	Horacio Gonda	SLU	F+F	Feeds
	Isabelle Baltenweck	ILRI	LLAFS	Livelihoods
	An Notenbaert	CIAT	L&E	Forages
	Karen Marshall	ILRI	Genetics	Breeding
	Ulf Magnusson	SLU	Health	Health
	Barbara Wieland	ILRI	Health	Health
	Nicoline De Haan	ILRI	Gender	Gender
	Jane Poole	ILRI	M&E	RQ
	Nils Teufel	ILRI	M&E	Economics
	Iddo Dror	ILRI	Cap Dev	Capdev

Calendar of Activities

WP	Activity	Responsible	2019									2020											
			Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Project design and workshops	Planning meetings	Sabine																					
	Proposal submission	Sabine																					
	Virtual meetings	Sabine																					
	Partnership mapping	Hung																					
	Stakeholders engagement in Mai Son	Hung, Tu																					
	Son La workshop to share findings before interventions in SonLa	Sabine, Hung																					
	Final workshop in Son La/Hanoi	Sabine, Hung																					
	Meeting with IPSARD/MARD to link to Livestock Law implementation	Hung, Sabine																					
Site selection	Province selection	Sabine, Jane, Hung																					
	District selection	Sabine, Jane, Hung, Thinh, Huyen																					
	Commune selection	Field team																					
Assessments	Stocktaking review Son La	Tassilo																					
	Genetics	Huyen																					
	Policy review	Dung, Hung																					
	F&F + L&E	Rein, An																					
	AH + LLAFS	Hu Suk, Thinh																					
Baseline	RHoMIS modules agreed	Sabine																					
	Baseline preparation	Nils, Thinh																					
	Ethical approval	Hung, Tu, Alice																					
	Mai Son visit	Tu, Hung																					
	Enumerators training	Tu, Thinh																					
	Implementation	Tu, Thinh, Nils																					
	Reporting	Mark, Nils																					
Interventions	Beneficiary selection	Jane, Nils,..																					
	Implementation																						
M&E																							

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Annex A – Implementation Plan

Annex B – Other major activities

Describe other major activities ongoing or planned in-country, by flagship and partner

LLAFS ILRI- assessment of the impact of the ASF outbreak on the Vietnam economy, to inform policies including compensation schemes- funded by FAO and ACIAR (contact persons: Karl Rich, Thinh Nguyen and Hung Nguyen). Investigating recall errors in diet diversity and food shortage perceptions through comparing monthly with annual recall data (RHoMIS); on-going survey in Thai Nguyen province (contact: Thinh Nguyen, Nils Teufel)

The Feeds and Forages flagship will carry out a feed supply and demand assessment, following the method of Blümmel et al.

There was a discussion with IPSARD about how Vietnam Livestock CRP could be linked to the implementation of Vietnam Livestock Law (effective 1 January 2019) in Son La Province.