Australian Government

Australian Centre for International Agricultural Research

Final report

Small research and development activity

project	**Developing a Regional African Swine Fever Socioeconomic and Livelihood Impact Assessment Framework**
project number	LS/2019/187
date published	21 June 2021
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approved by	Dr Anna Okello
final report number	FR2021-017
ISBN	978-1-922635-14-3
published by	ACIAR GPO Box 1571 Canberra ACT 2601 Australia

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1 Acknowledgments

The authors wish to thank the Australian Centre for International Agricultural Research for supporting the development and piloting of the SELIA Framework. Particular thanks to Anna Okello, Todd Sanderson, Mai Alagcan and Mara Faylon.

After the first draft of the SELIA Framework was completed, a Community of Practice (CoP) was established to provide feedback and workshop ideas for the next iteration. To facilitate this, a forum and workshop were held at ACIAR House in Canberra on the 12-13th of March 2020. We wish to thank the CoP for their valuable insights.

SELIA Community of Practice

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This framework was refined through a process of pilot testing and reflection, with pilot studies conducted in Timor-Leste and the Philippines during July, August and September 2020. For these field pilots the authors gratefully acknowledge the contributions of the Timor-Leste Ministry of Agriculture and Fisheries, the Department of Science and Technology's Philippine Council for Agriculture, Aquatic, and Natural Resources Research and Development (DOST-PCAARRD), the Department of Agriculture Bureau of Animal Industry, The Philippines, Central Luzon State University, The Philippines, Central Bicol Statue University of Agriculture, The Philippines and Menzies School of Health Research.

We gratefully acknowledge the generous contributions of the research participants and facilitators in these countries. We gratefully acknowledge contributions from the following people:

ASF-SELIA pilot studies, additional researchers and authors

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2 Executive summary

African Swine Fever (ASF) is a severe, contagious viral disease for which there is currently no vaccine. Present in Africa, Europe and Russia for a number of decades, ASF was first reported in China in August 2018 and has since spread through 12 countries in East and South East Asia. Up to 50 percent of the global pig herd is at risk from ASF and the ongoing impact of ASF on the lives and livelihoods of pig-keepers and pork value chains in the region is severe.

Economic analysis of impacts of ASF in Asia has mostly concentrated on an aggregated set of measurements of economic costs, rather than providing a more nuanced analysis of the qualitative and quantitative impact of ASF on livelihoods of smallholders and associated value chain actors.

In order to support governments in developing effective mitigation policies, bilateral donor agencies in designing support projects and for multi-lateral funding agencies in developing loan packages in support of sectoral reform a more consistent, integrated methodology for assessing qualitative and quantitative socio-economic and livelihood impacts of animal is needed.

In order to address this gap, this SRA has developed a Socio-Economic and Livelihood Impact Assessment (SELIA) Framework for animal disease through a collaborative process and conducted pilot testing of tools within the framework in Philippines and Timor-Leste to refine aspects of the framework and test its usefulness in the field.

The SELIA framework aims at providing an integrated approach that joins together a variety of tools used in the analysis of livelihoods, value chains, production systems, and animal diseases. It adopts a mixed-methods approach to data gathering, analysis, synthesis and interpretation and is designed as a scalable/flexible framework supporting the socio-economic and livelihood impact assessment for a range of livestock diseases, which is adaptable to different assessment needs and data availability contexts.

The SELIA framework incorporates two important innovations. First, the sustainable livelihoods approach is embedded into the socio-economic impact assessment methodology. Second, SELIA builds upon and integrates a variety of tools to address impacts amongst a wider range of value chain actors. With both quantitative and qualitative outputs, sensitising clients to tangible and intangible impacts of livestock disease both within and beyond the farm gate, SELIA delivers a richer, more contextually sensitive output than previous frameworks.

As this SRA concentrated on collaborative framework development and testing in the field the main current impacts are on the capacity of research collaborators in MAF (Timor-Leste) and CLSU and CBSUA (Philippines). These researchers have increased capacity in planning and implementing qualitative and quantitative research tools including focus group discussions, key informant interviews, value chain mapping and spatial group model building. If the SELIA framework is further developed and utilised to undertake full analyses in Timor-Leste and Philippines and in other countries in the region, then it is anticipated that there is good potential for the achievement of scientific, capacity and community impacts within a five-year timeframe.

Key recommendations for follow up activities from the SRA include: (i) developing a regional SELIA fund supported by donors interested in supporting further work in socio-economic and livelihood impact assessment of animal disease across the region; (ii) continuing the ASF-SELIA activities in Philippines and Timor-Leste, both in terms of adding depth to the initial pilot activities and through expanding the pilot activities through utilising new tools and expanding geographic scope; (iii) Further developing and refining elements of the SELIA framework; and (iv) Piloting and roll-out of SELIA in other countries in the region.

3 Background

First reported in China in August 2018 and now in twelve Asian countries (Figure 1), African Swine Fever (ASF) is a severe viral disease for which there is currently no vaccine. The disease is contagious and is spread by live or dead pigs, raw and cooked pork, vectors and fomites (OIE, 2019a). ASF is putting 50% of the global pig herd at risk in China alone, and while not a zoonosis, the impact of ASF on the lives and livelihoods of pig-keepers and pork value chains in affected Asian countries and the region cannot be underestimated(D Smith et al., 2019). In March 2020, ASF was confirmed in Papua New Guinea, making it an ever higher priority now that it is on Australia's doorstep (Honan, 2020).

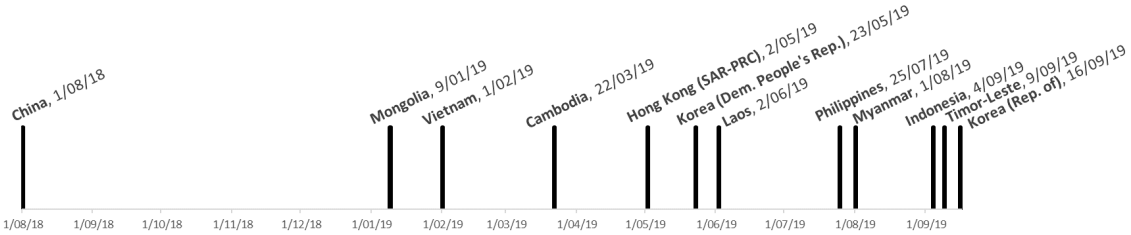

Figure 1 Temporal emergence of African Swine Fever in Asia based on OIE reporting data (OIE, 2019b)

The narrative around the impacts of ASF in Asia has largely concentrated on the potential impact on commercialised pig farming systems and slaughtering operations. Economic analysis of impacts so far has largely been based on assumptions that ASF will cause national industries to become increasingly commercialised with smallholders moving out of pig production across the region. However, these analyses have concentrated on a more aggregated set of measurements of economic costs along the value chain, rather than analysing the impact of ASF on livelihoods of smallholders and associated value chain actors.

There is a need for a more consistent methodology to analyse socio-economic and livelihood impacts of ASF in order to support governments in allocating compensation, bilateral donor agencies in designing support projects and for multi-lateral funding agencies in developing loan packages in support of sectoral reform. Adopting a more consistent methodology implies a level of coordination and cooperation between funding bodies and international organizations operating in this space. A regional fund, constituted around an agreed framework for analysis, would be an ideal vehicle for this cooperation.

The focus countries for this SRA, the Philippines and Timor-Leste were chosen because of the importance of smallholder pig production to livelihoods and culture, the emergence of ASF in 2019, alignment with Australian government strategies and ACIAR activities, and complementarity to partner (FAO/OIE/ADB) activities. Most importantly, key agencies within the governments of both countries have expressed interest in socio-economic and livelihood impact analysis of ASF and have requested support for this activity.

In the Philippines the pork sector is the second largest agricultural contributor to GDP and the most productive livestock sector by production volume and value. As of January 1st 2019, the national big herd numbered 12.7 million with 64 percent of these pigs residing in backyard farms (Philippine Statistics Authority, 2019). Since ASF emerged in the Philippines in July 2019, the government has introduced greater surveillance, movement restrictions and penalties, increased biosecurity measures, culling and compensation schemes, including for backyard farmers (Department of Agriculture Communications Group, 2019). The immediate impacts of ASF in the Philippines are still being felt and the road to recovery will require significant investment. Desiring to make best-informed decisions, the Department of Agriculture has requested involvement in this SRA.

In Timor-Leste, livestock are kept by the majority (87.2%) of households. Pigs are kept by a total of around 146,000 households with a national herd estimated at almost 420,000 (DNE, 2016). The most common pig production system is an extensive scavenging system, with few pigs raised in confined smallholder semi-intensive and intensive systems. While pork consumption is low, pigs play a prominent and integral role in the economy of ceremonies; Given the sums of money paid for live pigs, the value of the national pig herd is around USD160 million – more than USD1000 per pig keeping household (Dominic Smith et al., 2019). ASF emerged more recently in Timor-Leste and the government has been working to increase public awareness, surveillance and biosecurity measures. No compensation has been offered to farmers to date.

The context in Timor-Leste provides a contrasting case to the Philippines as the OIE has found the veterinary sector in Timor-Leste to be severely under-resourced (D Smith et al., 2019; Dominic Smith et al., 2019; Weaver et al., 2014). Multiple institutions within Australia are currently supporting the Timor-Leste Ministry of Agriculture and Fisheries in the response to ASF. This SRA will bring Australian institutions together to increase awareness and cooperation and sensitise stakeholders to the ASF-SELIA approach.

4 Objectives

The overall aim of the Small Research Activity (SRA) was to develop and sensitise a framework for Regional African Swine Fever (ASF) Socioeconomic and Livelihood Impact Assessment (SELIA).

This overall aim is linked to three key objectives:

1. Develop a transferable framework for ASF socio-economic and livelihood impact assessment (ASF-SELIA framework) that is ready for adaptation and uptake in the Asia-Pacific region.
2. Conduct discussions and pilot simulations with partners in the Philippines and Timor-Leste to test and refine the ASF-SELIA framework
3. Foster widespread engagement in ASF-SELIA framework development through the establishment of a Community of Practice among stakeholders in Southeast Asia and Australia.

5 Methodology

The development of the SELIA framework followed a collaborative, iterative process, with improvements, additions and refinements to the initial methodology benefiting from formal and informal interactions with key stakeholders in Australia and the region. Formal interactions included extensive discussions and information sharing at the ASF Forum and ASF-SELIA Workshop and discussions through the Community of Practice.

In addition to the stakeholder consultation approach, the framework development and refinement has included pilot field testing of framework elements in Philippines and Timor-Leste in collaboration with partners.

The methodology is designed to achieve the three mutually supportive objectives of the SRA. Development and refinement of the SELIA Framework (Objective 1) is strengthened through collaboration with Australian and international stakeholders and via field testing in the Philippines and Timor-Leste. At the same time capacity and engagement of partners in Philippines and Timor-Leste is strengthened (Objective 2) and a greater sense of community amongst stakeholders is engendered (Objective 3) though participating in framework development and refinement.

The methodology for the various activities under the SRA is presented in detail in the following reports and documents: (i) Draft SELIA methodology as presented to ASF Forum and ASF-SELIA Workshop; (ii) ASF Forum Proceedings; (iii) ASF-SELIA workshop report; (iv) Community of Practice meeting notes; (v) SELIA Framework; (vi) Report of Philippines Fieldwork; and (vii) Report of Timor-Leste Fieldwork. An overview of the methodology is given in this section.

First Draft ASF-SELIA Methodology Development

During February and early March 2020, a first draft methodology for Socio-Economic and Livelihood Impact Assessment of ASF (ASF-SELIA) was developed by Dominic Smith, Tarni Cooper and Tom Weaver. The first draft methodology was grounded in a review of existing approaches to assessing impacts of disease, a review of the applicability of Sustainable Livelihoods to disease impact assessment, and recent experience of the authors in conducting rapid impact assessments of ASF in Asia. The draft ASF-SELIA methodology included a description of the key elements of the methodology, including (i) Defining the scope of the assessment; (ii) Identifying data needs and collection methods; (iii) Data Collection; (iv) Data Analysis; (v) Analytic Context; and (vi) Reporting.

The draft methodology included a broad outline of the key “points of difference” proposed for SELIA – the inclusion of the Sustainable Livelihoods Framework into the methodology and the assessment of impacts on a wider range of value chain stakeholders. The draft methodology was designed to act as a stimulus for discussion at the ASF Forum and ASF-SELIA workshop in March 2020.

ASF Forum

The ASF Forum (see Forum Report in Appendix 1 to this report) was convened by the SRA on the 12th March 2020. The forum gathered more than twenty-five animal disease and economics experts from Australia, Timor-Leste, the Philippines, UK and international organizations including FAO, OIE and ILRI to share information and discuss the socio-economic and livelihood impacts of ASF.

The morning session included presentations giving updates on the African Swine Fever situation across the region as well as reports and discussions on the impact of ASF on farmers and other stakeholders in Timor-Leste and the Philippines. Australian support related to ASF was discussed in the afternoon, with the inclusion of reports and

information from Department of Foreign Affairs and Trade, Department of Agriculture, Water and Environment, Australian Pork Limited and ACIAR.

Researchers from University of Liverpool, University of Sydney, CSIRO and ILRI presented on various different research initiatives and techniques relevant to impact analysis for ASF. This was followed by a lively panel discussion and question and answer session. Finally, the participants split into four working groups (Timor-Leste, Philippines, Australia and Researchers) to answer a short series of specific questions related to their group, which were an important resource to guide activities of the SRA moving forward.

ASF-SELIA Workshop

The ASF-SELIA Workshop was convened by the SRA on the 13th March 2020 and started with five short presentations on methodological topics, with the remainder of the day being dominated by open, full-group discussion. There were only five presentations, including the introduction to the day. The discussions in the ASF-SELIA workshop formed a solid basis for the implementation of the remainder of our SRA including the revision of the SELIA Framework and the development and implementation of fieldwork in the Philippines and Timor-Leste(see Workshop Report in Appendix 2 to this report).

Field Testing

The SELIA Framework was refined through the field testing of SELIA data gathering tools in conjunction with partners in the Philippines and in Timor-Leste. The training and field testing in both locations was conducted between June 2020 and September 2020, during a time of COVID-19 restrictions on travel between Australia and the field sites and high levels of COVID-19 infection in the Philippines.

Despite these challenges, the pilot activities generated a large number of useful insights, relevant to improving the framework and tools, relevant to assessing ASF impacts in both countries, and also relevant to conductive productive, collaborative field research during a human disease pandemic.

Philippine Fieldwork

In the Philippines, a subset of the tools under the data gathering module were piloted: (i) secondary data gathering and analysis; (ii) Focus Group Discussions; (iii) Network Mapping; and (iv) Key Informant Interviews (see Figure 2). A full report of the Philippines Fieldwork is included as Appendix 3 to this report.

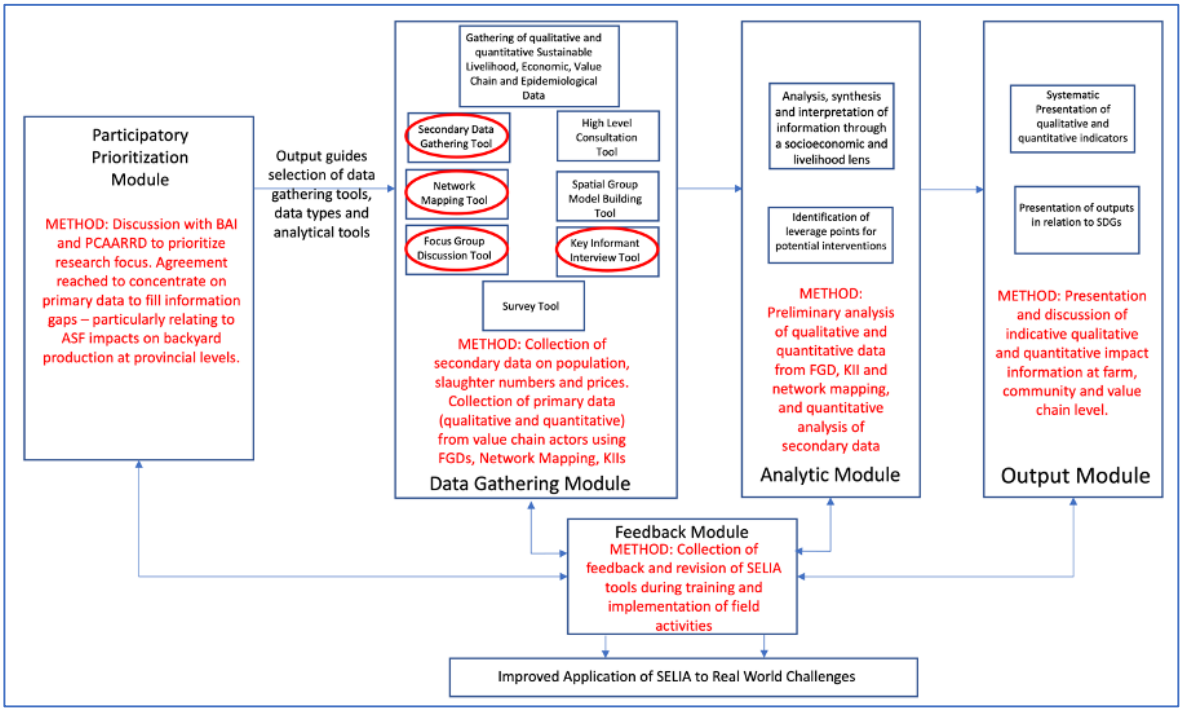

Figure 2: Pilot Implementation of the SELIA Framework in the Philippines (selected tools and applications in red)

A significant amount of data relevant to conducting an impact analysis of ASF is available online from the Philippine Statistics Authority (PSA). We accessed relevant data from the PSA database (https://psa.gov.ph/pages/survey) for the two regions where fieldwork was subsequently undertaken - Region III (Central Luzon) and Region V (Bicol Region). The purpose of secondary data gathering was to support the undertaking of a preliminary quantitative assessment of ASF impacts in the two regions and to identify gaps and ambiguities in the data in order to better guide the fieldwork to gather primary data in the two regions.

The University of Queensland team held discussions with BAI and PCAARRD to establish research needs and priorities and to agree on research sites and research collaborators. Rapid estimations of financial loss to the pig industry in the Philippines had already been conducted by the Department of Agriculture using national and regional level data. However, it had been difficult to assess the full impacts and extent of ASF due to the additional resources required to gather detailed information at the local level and the impact of COVID-19 on resourcing and movement restrictions.

Study sites had one key inclusion criterion, that the communities studied had been impacted by ASF. Other than meeting this criterion, as this was a pilot study only, sites were chosen according to convenience for researchers, reducing travel to mitigate COVID-19 risk. The two locations agreed on were **Camarines Sur province**, Bicol Region and **Nueva Ecija province**, Central Luzon Region, focusing on San Jose City.

Field researchers were from two universities selected by PCAARRD from their university network, the National Agriculture, Aquatic and Resources Research and Development Network (NAARDN) that have an excellent track record in collaborating on agricultural research. The universities were Central Bicol State University of Agriculture and Central Luzon State University. Each university allocated three researchers to the project, with one in the role of Team Leader.

Only one person had been involved in previous field-based research and none were previously trained in mixed methods research. However, this did not prove to be a barrier; due to passionate engagement in the training, preparation and field work, and a

commendable focus on listening to and learning from participants with open minds, as well as their outstanding capacity, the field research team performed to a very high standard. There may have indeed been a benefit to their being less experienced in 'the field'; they perhaps had fewer preconceived ideas about the on-the-ground situation than their more experienced peers.

Training of researchers was conducted in English, over three days using Zoom. Training sessions were 3-3.5 hours per day. Each session was structured around a PowerPoint presentation and displayed through Zoom. The first day was dedicated to Key Informant Interviews and Foundational Principles, such as the overview and aims of the project, roles and responsibilities and ethics. This session was the least practical of the three days, with the remaining two, Focus Group Discussions and Network Mapping being mostly hands-on learning. The outputs from each team for every activity were reviewed by the training team who provided feedback both during sessions and in between. Following the sessions, university teams practiced using the tools and provided further practice outputs for review.

During the researcher training and practice sessions it became apparent that the level of detail required in the FGD could be overwhelming, resulting in patchy data collection. This was overcome by designing a data collection template for the field teams. The teams welcomed this innovation as they were able to check at a glance, whether they had collected all information required from each activity before moving to the next.

Given the gap in knowledge in how ASF was affecting smallholders, their communities and connected value chain actors, and owing to resource and time constraints for the pilot activities, the primary data collection methods from the SELIA Framework chosen for testing were Focus Group Discussions (with farmers), Network Mapping (with mixed value chain actors) and Key Informant Interviews.

Sampling for Key Informant Interviews was purposive; the interviewees were selected to ensure each of the four stakeholder-specific interview guides could be piloted. Sampling for Network Mapping was also purposive, aiming to bring together voices across the pig-pork value chain.

For FGDs, the aim was to include two different scales of smallholder enterprise. Neither university believed the terms 'backyard' vs 'non-backyard' pig raisers were not suitable for defining very small and slightly larger enterprises, given the fact that both are commonly found on residential properties. However, in each location, the proposed FGD group classifications were slightly different; in Nueva Ecija, researchers defined smaller scale as 'part-time' pig raisers (where income streams are heavily mixed) and slightly larger as 'full-time' pig raisers. In Camarines Sur the research team used the number of pigs kept as the defining feature as they explained, it is common even for larger scale farmers to have mixed livelihoods. The research team divided participants on whether they owned ten or fewer pigs, or eleven or more as provided by the Municipal Agriculture Office of Pamplona, which was based on their latest list and depopulation report. The total number of participants were 33 in Camarines Sur and 39 in Nueva Ecija (see Table 1, below).

Table 1 Pilot activities conducted and details of participants in each study location

Activity	Nueva Ecija, Central Luzon	Camarines Sur, Bicol
Key informant interviews	1. Livestock Inspector at City Veterinary Office (male) 2. Animal handler and ASF response team at City Veterinary Office (female) 3. Agri-supply business owner (female) 4. Agri-supply business owner (female)	1. Meat Inspector at City Veterinary Office/Animal Health Worker (female) 2. Pig trader and pork seller (male) 3. Meat inspector at locally registered meat establishment (male) 4. Team Leader (feed monitoring) at a private company

	5. City Veterinarian, meat inspector and regulator (male) 6. City Slaughterhouse Master (female) 7. Pig trader (male) 8. Pig trader/meat vendor (female)	5. Senior Meat Control Officer (male, 56yo) 6. Piggery utility worker, backyard pig raiser, butcher, private livestock technician (male)
Focus Group Discussions	1. Part time pig farmers, women, (average age 50yo) 2. Part-time pig farmers, men (average age 53yo) 3. Full time (commercial) pig farmers, women (average age 55yo) 4. Full time (commercial) pig farmers, men (average age 41yo)	1. Pig farmers with 10 or fewer pigs, 5 women, (average age 45yo) 2. Pig farmers with 10 or fewer pigs, 5 men (average age 45yo) 3. Pig farmers with >10 pigs, 6 women (average age 50yo) 4. Pig farmers with >10 pigs, 7 men (average age 57yo)
Network Mapping	One group of participants (9 men, 7 women, average age 45yo): i. Veterinary Officer/Animal Health Worker x 2 ii. Housewife/pig farmer x 4 iii. Farmer/pig farmer x 7 iv. Call centre agent/pig farmer x 1 v. Poultry supply owner/agri-input supplier x 1 vi. Meat stall owner/pig trader x 1	One group of participants (4 men, 1 woman, average age 26yo): i. Meat Inspector at City Veterinary Office/Animal Health Worker ii. Self-employed, feed retailer, pig farmer iii. LGU veterinarian iv. Animal technician/livestock inspector LU v. Student, son of pig farmer

Timor-Leste fieldwork

In Timor-Leste, the Spatial Group Model Building Tool was trialled in order to develop a proof of concept system dynamic model of ASF impacts.

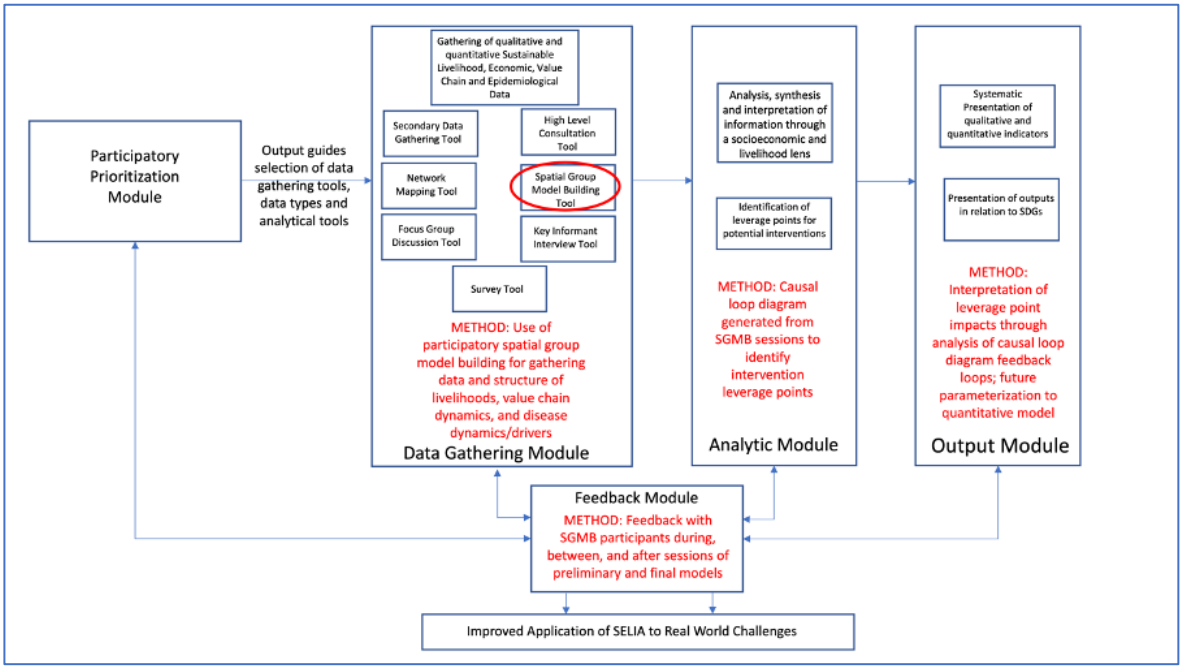

Figure 3: Application of SELIA tools and modules in Timor-Leste (selected tools and applications in red)

Researchers from the University of Queensland (UQ) and the International Livestock Research Institute (ILRI) partnered with staff from Veterinary Services within the Ministry of Agricultural and Fisheries (MAF) and Menzies School of Health Research to conduct the field research in Timor-Leste. A full report of the Timor-Leste Fieldwork is included as Appendix 4 to this report.

In total six staff from MAF participated in SD and SGMB training. Given travel restrictions due to COVID-19, UQ and ILRI conducted online training for MAF staff prior to MAF staff facilitating three face-to-face SGMB workshops in Dili with participants from the pig value chain. During and between these workshops UQ and ILRI researchers provided online real-time coaching and mentoring support.

Training on SD and SGMB was conducted by ILRI between the 22nd to 30th June 2020. Six MAF staff participated in six initial online training sessions of 90-120 minutes each which covered: (i) an introduction to systems thinking and SGMB; (ii) planning an SGMB process; and (iii) using key SGMB tools (Layerstack, cause and consequence mapping, and development of concept modules). Training sessions were conducted via Zoom and utilized a range of online tools, such as Padlet[1], Jamboard[2], and Vecta[3]. While training activities covered critical points of SD and SGMB theory, sessions were weighted towards the use of participatory modelling tools in order to build the skills and confidence of MAF staff to facilitate critical elements of upcoming SGMB sessions.

Following the formal training workshops, another two sessions (two to three hours in length) with MAF staff were held to plan the agenda for the SGMB sessions and to conduct a practice run of participatory tools. These practice runs helped MAF and ILRI researchers trial different workshop techniques, ultimately settling on a blended online and offline approach. This approach consisted of MAF staff facilitating in-person SGMB sessions with stakeholders using tactile participatory tools and a virtual coaching presence from ILRI and UQ through the use of Zoom and WhatsApp voice and video technologies. Five additional MAF staff attended these practice sessions and acted as mock participants during exercises solely led by the MAF SGMB team. Feedback was provided during training sessions by ILRI and further one-on-one sessions held with key MAF facilitators in the days leading up to the SGMB workshops. It was decided to focus on a smaller geographic location as the boundary of the model, with the MAF team selecting Tasi Tolu, a peri-urban area in Dili.

Three SGMB workshops were held at the MAF office in Dili between the 4th to the 14th of August. Workshops were scheduled to last for half a day. A total of thirteen participants from across the pig value chain attended workshop one, which dropped to twelve for workshop two and nine for workshop three. Of the thirteen participants, two were female, and while the majority of participants identified themselves as pig farmers (9), pig traders (2) and veterinary technicians (3) also attended. Workshops one and two were held on consecutive days and workshop three nine days later which may explain the drop in

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[1] Padlet training page is located at https://ilri.padlet.org/krich20/kw15rqtl5fawjdo2

[2] Google Jamboard is a web-based platform for real-time collaboration and brainstorming. Jamboard provides a simple way of replicating a whiteboard online. It allows participants to write sticky notes and link/cluster them together by colour or with freehand text in a shareable fashion with others in the workshop. See https://jamboard.google.com/?pli=1

[3] Vecta is a free online editor for collaborative graphics editing. It mimics the participatory GIS features of Layerstack by including a feature whereby layers of information can be overlayed on top of one another. See https://vecta.io/

attendance. MAF staff facilitated the workshop, playing the key SGMB roles of Lead Facilitator, Assistant Facilitator, Notetaker, Liaison/Translator, and Logistician.

The team from ILRI acted in the Process Coach roles and maintained a virtual connection with the Liaison/Translator throughout the workshops. The Liaison/Translator would translate critical elements and act as the process coaches' 'voice' in the workshop. This allowed researchers from ILRI to ask further questions, probe for specific details, and provide nuanced course correction during participatory exercises. During breaks in the workshop the processes coaches were able to speak directly to the lead facilitator to provide further feedback. Two video links between the process coaches and the workshop were maintained: a broad camera link that captured and recorded the entire workshop space (via Zoom) and a second handheld camera link (via WhatsApp) which the Liaison/Translator could use to show details of workshop outputs, such as Layerstack maps.

The objective of the first workshop was to introduce SD and SGMB to workshop participants and to use Layerstack to understand the spatial dynamics of the pig value chain and the impacts of ASF. Following on from the Layerstack exercise, a prioritization exercise on problems connected with ASF took place with participants selecting: (i) Lack of technical services; and (ii) Loss of income from pig farming. In workshop two, these two problems were explored through developing cause and consequence maps and identifying critical feedback loops which drive system behaviour.

Based on the issues and relationships identified, four concept modules were selected to cover the pig value chain and ASF. These modules on pig production, veterinarian services, socio-cultural practices, and farm finances were developed by SGMB participants in workshop three. Concept modules used basic SD terminology of stocks, flows, converters, and feedback loops to understand relationships in the pig farming system and the impacts of ASF. Stocks reflect the state of the system at a given point in time, and represent, for example, an accumulation of services, goods, funds, or knowledge. Flows denote changes over time and regulate the inflow and output of goods or services from a stock. Feedback loops are circular causalities that regulate flows through delayed circular causal (and often nonlinear) relationships among model components.

6 Achievement against activities and outputs/milestones

Objective 1: To develop a transferable framework for ASF socio-economic and livelihood impact assessment (ASF-SELIA framework) that is ready for adaptation and uptake in the Asia region.

no.	activity	outputs/ milestones	completion date	comments
1.1	Review existing methodologies for analysis of socio-economic and livelihood impact of livestock disease	Review report of methodologies and concepts	30/09/2020	Incorporated into final draft Framework document
1.2	Hold a forum for Australian and international institutions to provide insights from their work on ASF impact analysis and for Philippines and Timor-Leste to provide an update on the context of ASF in their countries	International ASF Forum for Information Exchange ASF SELIA Workshop for Methodology Discussion and Development	12/3/2020 13/3/2020	Forum and Workshop held on 12th and 13th March. Forum proceedings report presented to ACIAR and shared with stakeholders on 20/3/2020 Methodology workshop report presented to ACIAR and shared with workshop participants on 20/3/2020
1.3	Draft ASF socio-economic and livelihood impact assessment (ASF-SELIA) framework for Southeast Asia.	Finalized SELIA Framework and Toolbook	First Draft 12/3/2020 Second Draft 1/7/2020 Final Draft for comment 30/9/2020	First Draft methodology developed and shared at the ASF forum on 12/3/20 and the ASF-SELIA workshop on 13/3/2020 Second Draft Framework sent to ACIAR for comment on 6/7/2020 Final Draft of Framework and Toolbook delivered to ACIAR on 30/9/2020
1.4	Analysis of gaps and needs for effective decision making by decision-makers in the Asia Pacific Region to inform the SELIA framework development, and help develop and evaluate a business case and suggest next steps for a business plan beyond the SRA.	Business Case and Business Plan	31/10/2020	Activity sub-contracted to CSIRO

Objective 2: To conduct discussions and simulations with partners in the Philippines and Timor-Leste to test and refine the ASF-SELIA frame

no.	activity	outputs/ milestones	completion date	comments
2.1	Refine and localise ASF-SELIA framework through collaboration with BAI and PCAARRD in the Philippines on an exercise on the prioritisation of assessment activities and socio-economic analysis using secondary data, both publicly available and institutional	Agreed localised framework elements, collated secondary information and plan for field work to gather primary information and refine framework	July 2020	Consultation with BAI, PCAARD at the ASF Forum and ASF Workshop Two online meetings with BAI, PCAARRD and ACIAR (May12th and June 4th) Consultation with BAI and PCAARRD on analysis and interpretation of data from Philippine Statistical Authority (PSA) for Region III (Central Luzon) and Region V (Central Bicol)
2.2	Refine and localise ASF-SELIA framework through collaboration with MAF in Timor-Leste on training of trainer (ToT) activities and participatory information gathering to incorporate livelihood and vulnerability assessments and SD modelling as part of SELIA	Refined framework, collated primary information and final fieldwork report	August 2020	MAF partners participated in six online training sessions which covered: (i) an introduction to systems thinking and SGMB; (ii) planning an SGMB process; and (iii) using key SGMB tools. MAF Partners co-facilitated 3 participatory SGMB/SD activities with stakeholders from the Dili peri-urban zone.
2.3	Build capacity of partner organizations in Philippines through participation in development and localisation of ASF-SELIA framework, and pilot activities	Refined framework, collated primary information and final fieldwork report	August 2020	Capacity of CLSU and CBSUA partners was built through (i) online training sessions delivered by the UQ research team and including exercises for the team to conduct between training sessions; (ii) practice sessions conducted in both locations (including feedback from UQ researchers; and (iii) mentoring and support from the UQ team while implementing focus group discussions, key informant interviews and value chain mapping exercises.

Objective 3: To foster engagement in ASF-SELIA through a Community of Practice among stakeholders in Southeast Asia and Australia.

no.	activity	outputs/ milestones	completion date	comments
3.1	Convene a Community of Practice for Australian and international institutions to provide insights from their work on ASF impact analysis and for Timor-Leste and Philippines to provide an update on the context of ASF in their countries	Community of Practice convened and giving guidance to implementing team		Community of practice formal (online) meetings in April, May, June, July and November 2020 which were helpful in developing the SELIA framework. After that point, rather than holding monthly meetings, the project team had frequent consultations with community of practice members (including BAI, PCAARRD, MAF, ILRI, DAWE and CSIRO in relation to field implementation and refinement of methodology.
3.2	Hold a final online workshop for regional stakeholders on findings and next steps	Framework documents and COP meeting presentations	20/11/2020	Stakeholders in Philippines and Timor-Leste have been involved in pilot testing and feedback and also in discussing next steps. Community of practice meeting on 20th November to feedback results and discuss next steps
3.3	Deliver SRA findings to key Australian stakeholders for feedback	Framework documents and COP meeting presentations	20/11/2020	Community of practice meeting on 20th November to feedback results and discuss next steps

7 Key Results and Discussion

7.1 Confirmation of importance of incorporating qualitative indicators into the SELIA Framework

The development process and piloting has validated the need for incorporating quantitative and qualitative measures of impact in the SELIA Framework. The rich qualitative information gathered from relatively small piloting activities in the two countries have shown that a comprehensive understanding of ASF impacts cannot be gained from the collection and analysis of quantitative data alone. These qualitative insights have important implications for policy-making and effective enforcement of control and recovery measures.

Livelihood capitals and other elements of the sustainable livelihood framework provided a lens through which to view these impacts. Certain findings, such as less tangible, psychosocial impacts are not well-covered by the framework but were captured in the analysis. A sample of illustrative findings for the Philippines are given below:

- Financial capital – Most actors suffered significant financial losses as a result of ASF, but some actors were actually able to increase profits and suffered little or no negative qualitative or quantitative impacts of ASF.
- Human capital and psychosocial impacts – The findings revealed the deep, emotional impacts of ASF. Farmers and animal health workers experienced trauma during depopulation campaigns, which continues to impact them today. Some farmers expressed an inability to plan for their future livelihood activities as they were still too distressed. There were also cases of impacts on human safety as pig-keepers threatened those workers sent to depopulate their herds.
- Social capital – Animal health workers were running depopulation campaigns within the communities in which they lived. Where depopulation was not supported by the community, the social networks and wellbeing of animal health workers were risked.
- Physical capital – Timely and appropriate compensation for depopulation was clearly important. While compensation classically involves cash payments, farmers in this study explained that they would prefer replacement pigs of good genetic value; where entire areas are depopulated, cash may be insufficient to assist farmers in recovering from ASF.
- Natural capital – There were narrative accounts of where community members feared compensation would be insufficient and therefore, they hid their pigs from government staff until they succumbed to ASF. Carcasses were discarded in the rivers. Conversely, there were some improvements in management of waterways as these ASF-related problems exposed underlying mismanagement of waterways and these farmers were banned from keeping pigs beside them.
- Vulnerability context – Communities differed in the underlying stressors they faced in addition to ASF, and some of these were seasonal. For example, one community was dealing with the threats seasonal typhoons impose on their livelihoods and ASF was superimposed over this. In addition, this year, COVID-19 exposed all communities in the Philippines to increased vulnerability and while not a specific focus of the research, it featured heavily in personal accounts of livelihood stress.
- Transforming structures and processes – Movement restrictions for ASF control had varied impacts on value chain actors. Some benefited from reduced competition while many suffered due to restricted markets.

7.2 Confirmation of importance of primary data gathering

Even in the Philippines, where there is a high level of availability of detailed secondary data, to gain an accurate picture of the nuanced impact of ASF it is vital to collect both qualitative and quantitative primary data. A good example of this is interpreting swine population data.

Quarterly estimates of the overall swine population in both the commercial and backyard sectors were accessed from the PSA database (https://psa.gov.ph/pages/survey) These are collected at the provincial and regional level, enabling comparisons of population at backyard and commercial level over time to be made. However, the data alone do not give any insights into the reasons for the changes in population or whether population changes are due to changes in weaner numbers, breeding pig numbers or piglet numbers. In order to present a clearer picture, the swine population data would need to be combined with additional secondary or primary data.

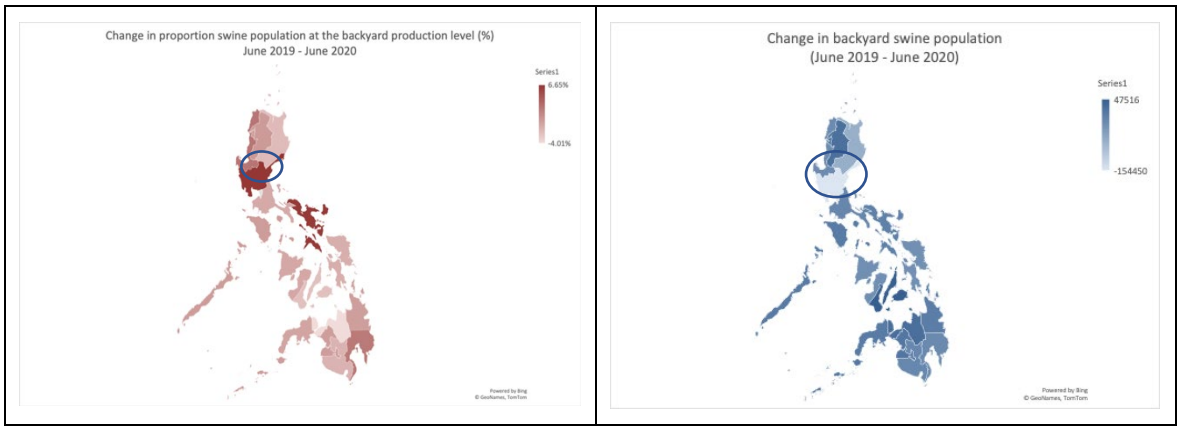

Figure 4: Changes in proportion of swine population and overall level of the swine population (head) raised at the backyard level by region (June 2019 – June 2020)

Figure 4 illustrates the need for caution when interpreting swine population data if it is to be used for targeting heavily impacted sites. In the left-hand map, Region III (circled) is the region with the largest increase in the proportion of swine raised in the backyard – an increase of almost 7 percent between 2019 and 2020 (during the time period of ASF outbreak). However, as shown on the map on the right hand side, in terms of changes in absolute numbers of swine raised at the backyard (and hence potential impact on smallholder farmers), Region III has the largest decline in the whole country, with almost 155,000 less swine raised in the backyard in June 2020 than in June 2019. Where viewing the left-hand map in isolation could lead a reader to perceive that the impact of ASF was not great in Region III, the right-hand map suggests an entirely different story, warranting further investigation.

7.3 Confirmation of importance of assessing impact across the value chain

The development process and piloting has validated the need to include an assessment of impact on a wider range of value chain actors in the SELIA Framework. Pilot testing of the framework has revealed significant differences in impact of ASF across different value chain actors. For example, commercial farms with biosecure supply chains have (in many cases) benefited from increased pork prices and the exit of smallholders from the

production system. In the short-run many traders were also able to benefit from panic sales of pigs at low prices by farmers as at the same time, the prices of pork in the market had remained unchanged, or in many cases even increased. Conversely, in most cases input suppliers were heavily impacted through reduced sales; they explained, the sum-total market size of smallholdings was larger than the fewer commercial farms (that were largely spared from ASF).

7.4 Robust nature of Framework proved through fieldwork in challenging circumstances

The field testing experience has shown that the use of a well-designed and planned set of instruments – even in the case of extreme COVID-19 related challenges – can produce a rich set of qualitative and quantitative data to form the basis of a comprehensive impact assessment.

- Experience and lessons learned from the Philippines

The pilot validated the use of classical participatory tools for conducting a rapid SELIA at the community and value chain level. In addition, the network mapping tool showed promise as a first step in collaborative change-making as stakeholders saw the strength in uniting together to help their sector survive ASF.

The Philippine pilot study yielded rich, contextual data and highlighted several important themes for further research and consideration by the Philippines government. In brief, findings centre around the vastly unequal impacts, both positive and negative, of ASF on different communities (depending on underlying vulnerabilities) and on different stakeholders along the value chain, impacts of ASF on human wellbeing, and potential leverage points for improving ASF control. These findings have been shared with government partners and are currently under the process of peer-reviewed publication.

- Experience and lessons learned from Timor-Leste

Based on the issues and relationships identified, four concept modules were selected by the group to cover the pig value chain and ASF. These modules on pig production, veterinary services, socio-cultural practices, and farm finances were developed by SGMB participants in workshop three. The concept model developed through the SGMB process indicates several leverage points within the system to lessen the socio-economic impacts of ASF in Timor-Leste. These were focused around strengthening government veterinary services, building trust in the system, and providing conditional financial support for impacted farmers.

(i) Build trust between small-scale pig farmers and veterinarian technicians. Increased trust and connection points assist prevention, reaction, and recovery from an ASF outbreak.

(ii) Strengthen services available from MAF. Effective services encapsulate having enough VTs to ensure pig producers can access applicable training, quality veterinary services, and timely information on disease outbreaks and preventative measures.

(iii) Provide start-up loans/cash grants to small-scale pig farmers conditional on application of farm biosecurity practices. Strong demand for live pigs for cultural purposes could keep the price of restocking pig farms beyond the financial ability of many small-scale farmers, particularly those who have exhausted household savings. Providing microloans or cash grants to restock pig farms could help to stabilise live pig prices and broaden the number of pig farmers who can re-engage in the livelihood.

While there were some challenges related to co-designing SD models using an online modality, overall the SGMB tools enabled high levels of participation from workshop attendees and the information that surfaced was new and pertinent to the MAF team. Tools facilitated active discussions between participants and encouraged different viewpoints to surface from the multiple stakeholders. The work further provides an analytical template for future quantitative studies as well. This research is under the process of peer-reviewed publication.

8 Impacts

Given that this was a relatively short SRA aiming to collaboratively develop a draft framework and test the framework in the field, current project impacts are limited to capacity impacts.

However, if the SELIA framework is further developed and utilised to undertake full analyses in Timor-Leste and Philippines and in other countries in the region, then it is anticipated that there is good potential for the achievement of scientific, capacity and community impacts within a five-year timeframe.

8.1 Scientific impacts – now and in 5 years

Whilst there are no significant scientific impacts achieved during the life of the SRA, it is anticipated that scientific impacts could be achieved within 5 years in two major areas. The first area where there is potential for scientific impact is related to the methodology developed under the SELIA framework. The methodology contains novel elements-including the integration of Sustainable Livelihoods and associated qualitative indicators of impact into an economic impact assessment framework for livestock disease. This enhances the ability to make a comprehensive quantitative and qualitative assessment of disease impact across a range of value chain stakeholders and has high potential to be adopted by researchers beyond the SRA.

The second area with potential for scientific impact beyond the SRA is related to the methodology developed to conduct training and fieldwork in the Philippines and Timor-Leste remotely in collaboration with partners in the two countries. The COVID-19 pandemic meant that travel between Australia and partner countries was impossible and travel within the countries themselves (particularly in the Philippines) was significantly restricted during the time of SRA implementation. In order to overcome these constraints the research partners developed new methodologies for online training sessions and inclusion of online elements in implementation of primary data gathering exercises. Of particular potential scientific impact beyond the SRA are techniques developed to undertake group value chain mapping exercises remotely using online collaborative tools and techniques developed to remotely facilitate Spatial Group Model Building (SGMB) sessions.

In addition to undertaking further SELIA based analyses, a key part of the pathway to scientific impact will be publishing at least three peer-reviewed articles, with two concentrating on methodology and preliminary results from the field and the other concentrating on novel methodological developments in light of COVID-19.

8.2 Capacity impacts – now and in 5 years

The main current impact of the SRA is in the development of capacity of staff of partner organizations as a result of their active participation in collaborative research activities of the SRA.

In the **Philippines**, PCAARRD network partners Central Luzon State University (CLSU) and Central Bicol State University of Agriculture (CBSUA) were the main on the ground partners for conducting pilot activities, including recruiting and obtaining free and informed consent from participants, conducting Focus Group Discussions, Value Chain Mapping, and Key Informant Interviews. Prior to this SRA, staff from the Universities were experienced in undertaking surveys for gathering quantitative information, but did not have significant knowledge of sustainable livelihood concepts or value chain concepts, and did not have experience in facilitating participatory activities or collecting qualitative data for analysis.

Capacity of CLSU and CBSUA partners was built through (i) online training sessions delivered by the UQ research team and including exercises for the team to conduct between training sessions; (ii) practice sessions conducted in both locations (including feedback from UQ researchers; and (iii) mentoring and support from the UQ team while implementing focus group discussions, key informant interviews and value chain mapping exercises. In addition to technical aspects, capacity of CLSU and CBSU researchers in research ethics was also strengthened through training and practical exercises. The teams were enthusiastic about learning and applying these new skills and have expressed a desire to continue to utilise them in their future work.

In **Timor-Leste**, six staff of the Ministry of Agriculture and Fisheries (MAF) were the main on the ground partners for undertaking piloting of SGMB and Systems Dynamics (SD) activities. Capacity of MAF partners was built through six online training sessions which covered: (i) an introduction to systems thinking and SGMB; (ii) planning an SGMB process; and (iii) using key SGMB tools. Online training sessions used tools such as Padlet, Jamboard and Vecta and covered SD and SGMB theory and the use of participatory modelling tools in order to build the skills and confidence of MAF staff to facilitate critical elements of SGMB sessions.

8.3 Community impacts – now and in 5 years

Whilst there are currently no significant community impacts of the SRA, the main community impact pathway for the future will be that use of the SELIA framework to conduct impact analyses of animal disease across the region will lead to governments having more accurate information about qualitative and quantitative impacts of disease and are therefore able to implement more effective policies to better control ASF while also mitigating unintended negative consequences, especially on smallholders. This is shown in the impact pathway in Figure 5.

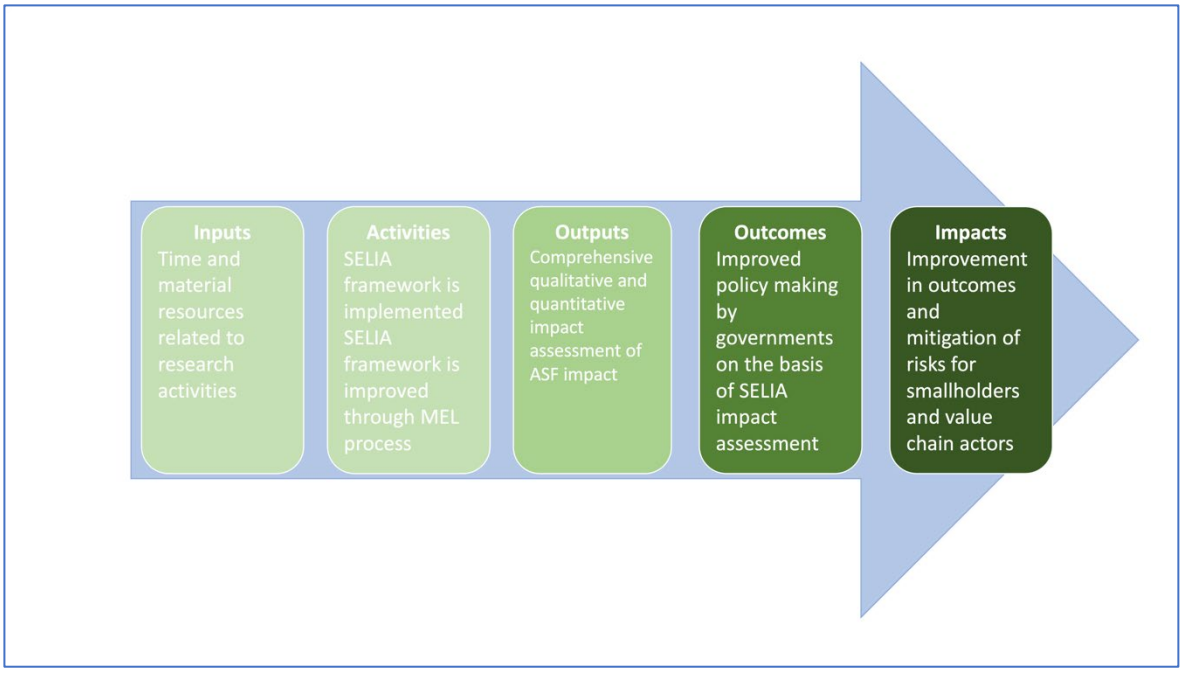

Figure 5: Impact Pathway for SELIA

8.3.1 Economic impacts

Currently there are no significant positive or negative economic impacts of the SRA. The main pathway to delivery of economic impacts of the SRA within 5 years is that the developed SELIA framework is utilised to undertake comprehensive assessments in

countries within the region, delivering more comprehensive and timely information on impacts, leading to better decision making by governments which in turn will mitigate some of the negative impacts of disease on livelihoods.

Without information on potential future uses of the SELIA framework, it is difficult to accurately estimate potential economic impacts. However, some idea of the potential scale of benefits can be gained from looking at the case of Timor-Leste. D Smith et al. (2019) estimate that ASF could cause a potential economic loss of more than USD160 million for smallholders in Timor-Leste. If improved information for MAF as a result of undertaking a SELIA for ASF resulted in even a modest amelioration of only 5 percent of total losses, then this would mean avoiding USD8 million of losses.

8.3.2 Social impacts

Currently there are no significant positive or negative social impacts of the SRA. The main pathway to delivery of social impacts of the SRA within 5 years is that the developed SELIA framework is utilised to undertake comprehensive assessments in countries within the region. More accurate information on both qualitative and quantitative impacts on actors across the value chain will enable governments to more accurately identify "winners and losers" amongst the different actors and potentially also geographically. This in turn would allow the development of more accurately targeted policies taking into account these diverse impacts on different groups within society.

A stark example of "hidden" impacts that could be more accurately conveyed to policymakers was the frequently repeated sharing of the mental trauma and anguish caused by depopulation:

> *A participant shared her experiences when the City veterinary office depopulated their hogs. She cried and begged, "Ako na lang sana ang idamay nyo wag na ang aking mga alaga" (Please don't hurt my animals, hurt me instead). When depopulating she did not even look at her pigs. Instead, she went to other places to breathe. In addition, their investment [in the pigs should have helped] them to pay for their debt and additional income too. The owner was in turmoil physically and mentally especially when they remembered their everyday routine in working at their piggery, feeding, bathing, giving vitamins to their hogs. They considered them as their pets – Female full-time pig farmer (NE019, NEFGD3)*

The social pressure on animal health workers is also another "hidden" impact that SELIA can help with revealing:

> *Convincing some of the farmers for depopulation was difficult, though. Sometimes she would even feel that her personal security was threatened, so being accompanied by uniformed personnel (security) was nice. The height of the security risk was during the time of depopulation: She was invited inside the farmer's home to sit and talk. She then noticed an itak (bolo knife) below the farmer's chair and recognized it as a threat. This happened three times (one time, the farmer was even holding the itak!). – CS-001*

8.3.3 Environmental impacts

Currently there are no significant positive or negative environmental impacts of the SRA. However, using the sustainable livelihoods approach, SELIA provides a framework to capture data pertaining to environmental impacts (as was seen for example, in reports of farmers disposing of carcasses from infected pigs in rivers, to avoid detection by authorities), which can be utilised in subsequent decision-making.

8.4 Communication and dissemination activities

In addition to ongoing consultation and discussion between implementing partners, the following key communication and dissemination activities around the SELIA framework were undertaken.

ASF Forum: SRA team convened an international forum on March 12th, 2020 at ACIAR to bring together stakeholders from Australian and international organizations, including the University of Queensland, University of Sydney, DFAT, DAWE, ACIAR, CSIRO, APL, ILRI, FAO, OIE, University of Liverpool, PCAARRD, BAI and MAF. Participants shared experience on the current status of ASF across the region and discussed current efforts to measure impact of ASF. A forum report (included as Appendix 1 to this report) was produced and disseminated, and the forum activities were also showcased in the ACIAR Partners magazine.

ASF-SELIA Workshop: Following the forum, the UQ SRA team convened a one day workshop, with 13 key actors from Philippines, Timor-Leste, ACIAR, ILRI, DAWE, DFAT, CSIRO and FAO to share ideas and best practice around impact assessment methodologies for animal disease in order to inform the ongoing development of the SELIA framework. A first draft of the SELIA methodology was produced for the workshop and disseminated to all participants. After the workshop a report was produced and shared with ACIAR and workshop participants (included as Appendix 2 to this report).

Community of Practice (COP) meeting 1: The Frist COP meeting was held on the 24th April 2020. 15 COP members and observers from UQ, ILRI, CSIRO, ACIAR, USYD, DFAT and MAF attended. The COP discussion concentrated on ongoing revsions to the SELIA methodology and changes to the Scope of the SRA that would need to be made in light of COVID19.

Key planning and discussion meeting 1 (Philippines): First discussion meeting on May 12th was held with the participation of UQ, BAI, PCAARRD and ACIAR. The meeting concentrated on introducing the current status of the SRA and discussing potential modalities for fieldwork in Philippines.

Key planning and discussion meeting 2 (Philippines): Second discussion meeting on June 4th with the participation of UQ, BAI, PCAARRD and ACIAR. Meeting concentrated on planning for fieldwork locations.

Key planning and discussion meeting 3(Philippines): Third discussion meeting June 22nd with participation of UQ, BAI, PCAARRD, CLSU, CBSUA and ACIAR. Meeting covered details of planning for fieldwork in Region III and Region V.

COP Meeting 2: Meeting on June 5th with the participation of UQ, ILRI, DAWE, CSIRO and Lincoln Univesity to give an update on progress on revising the methodology and for ILRI and CSIRO to introduce their proposed activities.

COP Meeting 3: Meeting on July 10th with the participation of UQ, ILRI, DAWE, BAI, PCAARRD, MAF and CSIRO to give an update on field activities in Philippines and timor-Leste and the revisions to the SELIA Framework.

Dissemination of Second Draft of SELIA: The research team delivered the second draft of the SELIA framework to ACIAR for comments and suggestions on July 6th.

Delivery of Final Draft of SELIA Framework: The research team delivered the Final draft of the SELIA framework to ACIAR for comments and suggestions on September 30th.

COP Meeting 4: Meeting on November 20th with the participation of ACIAR, UQ, ILRI, DAWE, BAI, and CSIRO to give an update on the SELIA Framework and discuss next steps.

9 Conclusions and recommendations

9.1 Conclusions

The current SRA has developed a framework for Socio-Economic and Livelihood Impact Assessment of Livestock Disease and has piloted key elements of the framework in the context of African Swine Fever impact assessment in the Philippines and Timor-Leste.

The development of the base framework and the piloting of key elements has been successful as a first step towards an ongoing program of systematic socio-economic and livelihood impact assessment of animal disease across the region. In order to reach this longer term goal, further development of the framework through practical implementation of analyses should be undertaken.

9.2 Recommendations

Key recommendations for follow up activities include: (i) developing a regional SELIA fund supported by donors interested in supporting further work in socio-economic and livelihood impact assessment of animal disease across the region; (ii) continuing the ASF-SELIA activities in Philippines and Timor-Leste, both in terms of adding depth to the initial pilot activities and through expanding the pilot activities through utilising new tools and expanding geographic scope; (iii) Further developing and refining elements of the SELIA framework; and (iv) Piloting and roll-out of SELIA in other countries in the region.

9.2.1 Develop a Regional SELIA Fund

The obvious next step for SELIA is to continue developing the framework, through deepening and expanding the existing studies in Timor-Leste and Philippines as well as expanding SELIA implementation to other countries, contexts and animal diseases. This continuation of SELIA development will require longer term funding.

Currently there are a number of multi-lateral and bilateral development agencies as well as international organizations looking to support countries in the Asia Pacific region to improve their capacity to respond to ASF and to implement programs to effectively control it. Governments across the region are also dedicating resources to developing effective policies in this area.

Initial discussions in the ASF-SELIA Workshop and Forum indicated that a multi-donor Regional SELIA Fund would have potential as a funding modality. A multi-donor fund would be an effective way of coordinating donor resources, exploiting synergies in efforts and avoiding potential overlaps. Given the disparate funding sources (often of limited size) with the same objectives supporting partners throughout the region it would be prudent to coordinate resource allocation and share information related to common aims and objectives.

The FAO-OIE led Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs) – and in particular the Standing Group of Experts on African Swine Fever for Asia - provides a good potential platform for sharing results of the ASF-SELIA pilot and canvassing support for a multi-donor fund. FAO is currently coordinating the set-up of a standing group of experts on ASF at a global level, including a sub-group on socio-economics and private sector engagement. This could also prove to be a useful platform for socialisation of SELIA and the development of a multi-donor fund.

A multi-donor fund could work under a number of different potential modalities, depending on the preferences of donors and partners. Under this model, donor agencies are collectively responsible for overall Fund operations, but individual agencies are not able to pinpoint specific activities/countries that they are “responsible for”.

If donors were not amenable to pooling resources into a common fund, then an alternative would be to have different donors contributing to funding different activities in different locations, but utilising a common SELIA framework and having a common coordination/steering mechanism. Under this modality, individual donor organizations would have responsibility for supporting specific activities/ countries.

9.2.2 Continue ASF-SELIA activities in Philippines and Timor-Leste

Partners in both the Philippines and Timor-Leste enthusiastically supported pilot activities in country. The ongoing COVID19 situation presented a number of challenges to implementation, but through adopting an adaptive learning approach to implementation and though building and maintaining a genuine collaborative relationship throughout the process, a significant amount of valuable piloting experience was gained in both countries.

It will be valuable to capitalise on the ongoing interest of government partners in the SELIA approach and build on the pilot work already undertaken in Philippines and Timor-Leste through adding further depth the analysis already undertaken and expanding beyond the existing pilot studies in terms of both the instruments utilised and the geographic scope of the analysis.

A key priority for follow up work in both Philippines and Timor-Leste is that the government partners have enough time available to absorb and reflect on the findings of the pilot activities, both in terms of the efficacy and appropriateness of the SELIA tools and on the accuracy and usefulness of the qualitative and quantitative information generated by the pilots.

In the Philippines, it would be extremely valuable to undertake the spatial group model building exercises in Region III and Region V and generate a preliminary SD model. This would complement the existing rich qualitative and quantitative primary date collected in the two regions during the pilot activities. In Timor-Leste the spatial group model building exercises could be complemented with community level focus group discussions, network modelling exercises and key informant interviews. Adding these activities would add significantly to the stock of qualitative information available to assess impacts and would also serve to supplement the stock of quantitative information generated by the SGMB activities.

As well as deepening the existing pilot studies, there is scope for expanding the studies in both the Philippines and Timor-Leste, through expanding the range of tools utilised and also through expanding the geographic scope of analysis.

In the Philippines, this could include implementing surveys of households involved in different scales of pig raising in order to supplement the community level information on ASF impacts that was gathered through Focus Group Discussions. Further research based on the SGMB activities in Timor-Leste could aim to collect data beyond descriptive analysis to develop tools to conduct what-if-scenarios.

A logical expansion of geographic focus in the Philippines would be to undertake assessments in provinces on the southern island of Mindanao where ASF is present and has been spreading relatively rapidly. Provinces that could be selected include Davao del Sur and North Cotabato. An option for expansion of analysis in Timor-Leste is to select rural areas with relatively high densities of pigs and which have been significantly affected by ASF. This would give a good contrast with the peri-urban areas targeted in the pilot activities.

9.2.3 Further develop and refine the SELIA framework

The SELIA framework as presented in this document is intended as a starting point for an analytical framework that would be continuously updated and improved through a process of refinement based on lessons learned through field implementation and absorption of

methodological innovations. Some of the initial refining exercises could be around the prioritisation module, output module and feedback module.

The prioritisation module currently presents a theoretic base for undertaking a participatory prioritisation exercise with key stakeholders. The tools in the module and the associated software should be tested and refined during subsequent implementations of SELIA. Different techniques for participatory prioritisation of assessment requirements should be tested with stakeholders as part of this process.

The output module currently presents an outline of reporting of outputs of the qualitative and quantitative impact information gained though the SELIA process and also describes the use of software dashboard to present results in an easy to interpret format, including linkages between ASF impacts and achievement of the SDGs. The form of output reports and the key outputs presented in the associated software should be tested and refined during subsequent implementations of SELIA. This should be undertaken in a participatory process with key stakeholders.

The feedback module is not well defined in the current version of the SELIA framework, beyond the general principle of ongoing monitoring of activities in each module and applying principles of adaptive management. This was put into practice in both the Philippines and Timor-Leste pilot activities, with adaptations of approach taking place during training and implementation of field activities in order to improve the effectiveness of the framework. This feedback module should be refined during future implementations of the SELIA framework and potentially include elements of more formalised monitoring and evaluation methodologies.

9.2.4 Further pilot and roll-out in other countries

In addition to the pilot countries, there is great potential for SELIA to be rolled-out to other countries in the region and beyond. The SELIA methodology is designed to be applicable to varying socio-economic and value chain contexts as well as to different disease types and hence could be deployed in a wide variety of countries, depending on the needs and interest of partner countries and the priorities of the donors in the SELIA Fund.

Potential expansion locations include countries within the region where ASF is already present, including PNG, Myanmar, Cambodia and Laos. SELIA could also be applied in countries in the region where ASF is not yet present in order to evaluate the costs and benefits of potential future prevention of control activities. SELIA would be very suitable to apply to countries in the Pacific, where pigs have a strong cultural and social importance in addition to monetary value.

Pilot activities have concentrated on analysing the impact of ASF on farmers and value chain actors but have not included any cost benefit analysis of prevention of control measures. This would be a key inclusion for future SELIA exercises and would be very beneficial in guiding government policy towards future interventions and also for evaluating the effectiveness of existing interventions.

The pilot of the SELIA framework concentrated on impact assessment of ASF, but future applications of SELIA could well concentrate on the impacts of other diseases. SELIA is designed as a framework that can be adapted to the analysis of a wide range of animal disease.

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10.2 List of publications produced by project

ASF Forum Report

ASF-SELIA Workshop Report

COP Meeting 1 Minutes

COP Meeting 2 Minutes

COP Meeting 3 Minutes

SELIA Framework Brief

SELIA Framework Document

SELIA Philippines Activities Report

SELIA Timor-Leste Activities Report

SELIA Practitioners Toolbook

SELIA Prioritization Software (VBA/Excel based software)

SELIA Output Dashboards – Qualitative, Quantitative and SDG related (VBA/Excel based software)

Forthcoming Journal Articles:

“Beyond numbers: Determining the socioeconomic and livelihood impacts of African Swine Fever and its control in the Philippines”

“Investigating the socio-economic and livelihoods impacts of African Swine Fever in Timor-Leste: an application of Spatial Group Model Building”

11 Appendixes

11.1 Appendix 1: ASF-SELIA Forum Report

See attached document

11.2 Appendix 2: ASF-SELIA Workshop Report

See attached document

11.3 Appendix 3: Philippines Fieldwork Report

See attached document

11.4 Appendix 4: Timor-Leste Fieldwork Report

See attached document

11.5 Appendix 5: SELIA Practitioners Handbook

See attached document