BIG PROJECT

Strengthening Biosecurity Measures in the Pig Industry in 4 ASEAN Countries to Control the Spread of African Swine Fever

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CIRAD
Acknowledgements

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Outline

1. Introduction of BIG project
2. Background of ASF situation in Vietnam
3. Stakeholder mapping and analysis
1. Introduction

Biosecurity In piG (BIG) Project

- Conducted in 4 countries: Vietnam, Lao PDR, The Philippines and Cambodia
- Funding by the French Ministry for Europe and Foreign Affairs, as part of the France-ASEAN Development Partnership
- Objective: Identify and collaborate on socioeconomic and policymaking operations aimed at ensuring the acceptability of stricter monitoring and biosecurity measures at the national level in order to more effectively control ASF in the four countries concerned.
- Duration: 2022 – 2024 (for CIRAD).
Scoping review:
1. What was the organization of swine production at regional & national level (diseases status, value chain,..) before 2018?
2. What was the timeline of events at regional level from the first outbreak to now?
3. How did swine production organization change?
4. What were the ASF socio-economical impact at different level (micro ie farm (smallholder or commercial), meso ie industry, macro ie national)?
5. What were ASF disease control measures with a specific focus on biosecurity and vaccination at national & regional level?
The French agricultural research and international cooperation organization working for the sustainable development of tropical and Mediterranean regions

Stakeholder mapping analysis

(1) Identify the existing national regulation of ASF surveillance and control strategies and identification of actors;

(2) Position of the identified stakeholders toward the national legislative strategy to prevent and control ASF

(3) Factors influencing the implementation of the regulations
The French agricultural research and international cooperation organization working for the sustainable development of tropical and Mediterranean regions

**RESEARCH • TRAINING • INNOVATION • PUBLIC POLICY SUPPORT**

01 Scoping review

02 Stakeholder mapping analysis

03 Co-construction workshop

04 Training IMPRESS

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**Co-construction workshops**

To propose strategies adapted to the sociological context based on mutually accepted solutions and levers to promote changes in practices based on participatory workshops
The French agricultural research and international cooperation organization working for the sustainable development of tropical and Mediterranean regions

**Training IMPRESS (Webinar + on site)**

Describe the methodology for assessing the impact of the project, and for identifying the drivers of change (behavioral, socio-economic, technical, institutional) and the partnerships needed to ensure the success of the initiative.
## PROJECT TIMELINE

<table>
<thead>
<tr>
<th>Activity</th>
<th>2023</th>
<th>2024</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>JUL</td>
<td>AUG</td>
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<tr>
<td>Scoping review</td>
<td></td>
<td></td>
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<tr>
<td>Stakeholder Mapping</td>
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<tr>
<td>Analysis</td>
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<tr>
<td>Co-construction workshop</td>
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<tr>
<td>IMPRESS training</td>
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</tbody>
</table>

Figure 1.1. Project timeline
2. Background
Baseline situation of the pig production in Vietnam

Figure 2.4. Changes in the number of pig heads

Figure 2.5. Changes in the number of pig farms
Source: GSO

Figure 2.6. Changes in pork price
*1 dollar = 23,674 VND
Source: anovafeed.vn
2. Background

Chronological event of ASF outbreak in Vietnam

- The first ASF case was detected in Hung Yen Province in February 2019, after 6 months 63/63 provinces were affected.
- During Oct - Dec 2019, some wild boar mortalities were detected and then were confirmed positive for ASFV.
- Vietnamese government issued some legislations such as Circular No. 24/2022TT-BNNPTNT, Decision No.972/QĐ-TTg.
Impacts of ASF to the pig production

Production impact

- Impacts on the number of pig head
  - 12/2019: 6 million culled pigs
  - 2020: 86,000 culled pigs
  - 2021: 299,878 culled pigs
  - 2022: 60,442 culled pigs
  - 3/2023: 2,984 culled pigs

- Impacts on the pig value chain
  - 90% of outbreaks occurred in small- and medium-scale farms
  - Feed industry: 30-50% decline in sales
  - Decrease in volume of pigs sold due to consumer concerns over the possibility of human disease transmission from sick pigs
  - Trading pattern was shifted with much greater trade occurring with large farms.
Impacts of ASF to the pig production
Socio-economic impact

Pork price

Households
- Income reduction
  - Difficult to restock
  - Shift to other production
  - Abandonment
  - Bankrupt

Small-scale farms

Medium-scale farms

Large-scale farms
- Increasing biosecurity costs

Direct impact

National level
- National income reduction
  - Inflation increased

Reducing production in feed industry

Increasing poultry and beef production

Retail channels increased

Slaughterer became more selective in buying pigs

The number of cooperatives reduced

Consumers changed consumption demand

Indirect impact

Other production sector

Figure 2.8. Socio-economic impacts
3. Stakeholder mapping & analysis
3.1. Methodology
Stakeholder mapping and analysis

Stakeholder definition
Actors (persons or organizations) who have a vested interest in the policy that is being promoted are considered stakeholders in the process.

What is stakeholder analysis?
Stakeholder analysis is a process of systematically gathering and analyzing qualitative information to determine whose interests should be taken into account when developing and/or implementing a policy or program (Schmeer, K. 2000).

The analysis includes Stakeholder characteristics:

- Knowledge of policy
- Interests related to the policy
- Position for or against the policy
- Potential alliances with other stakeholders
- Ability to affect the policy process (through power and/or leadership)
3.1. Methodology

Stakeholder mapping and analysis

**Rationale**
- Literature review
- Focal point meeting

**Methods**
- Snowball sampling
- 30 Semi-structured interviews
- 2 Focus group discussions

**Duration:** March to May 2023

**Location:** Hanoi, Ho Chi Minh city, and Dong Nai

**Step 1:** Mapping of the supply chain and stakeholder interaction

**Step 2:** Stakeholder positions

**Step 3:** Stakeholder experience on ASF

**Step 4:** Identifying the interests and constraints of stakeholders

Decision No.972 and Circular 24
1. Enhancing biosecurity in pig production
- To register, update and notify of breeding activities, with local authorities, and ensure a safe distances between farms.
- To strictly apply biosecurity measures, good animal husbandry practices

2. Precautions when restocking

Restocking principles: Only repopulate pig herds in pig farms that have not been infected with ASF or infected but have passed 21 days with no reoccurrences; ensuring that biosecurity and disease-free measures have been put in place.
Circular 24/2022/TT-BNNPTNT

*Regulations on animal disease-free zones and establishments*

Dated in December 30\(^{th}\), 2022

**Target group**

- Vietnamese and foreign organizations and individuals who wish building, registration for certification of animal disease free zones and establishments in Vietnam; and relevant government agencies
### Table 3.1. Socio-demographic characteristics of 36 participants from semi-structured interviews (n=30) in Vietnam

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>(n=36)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stakeholder category</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Government authority</strong></td>
<td></td>
</tr>
<tr>
<td>Department of Animal Health</td>
<td>1</td>
</tr>
<tr>
<td>Department of Livestock Production</td>
<td>1</td>
</tr>
<tr>
<td>National Agricultural Extension Center</td>
<td>1</td>
</tr>
<tr>
<td>Sub-DAHLP</td>
<td>5</td>
</tr>
<tr>
<td>Provincial DARD</td>
<td>1</td>
</tr>
<tr>
<td>Provincial Agricultural Service Center</td>
<td>1</td>
</tr>
<tr>
<td>Veterinary district station</td>
<td>1</td>
</tr>
<tr>
<td>Communal animal health worker</td>
<td>1</td>
</tr>
<tr>
<td><strong>Academia</strong></td>
<td></td>
</tr>
<tr>
<td>National research center</td>
<td>3</td>
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<tr>
<td>International research center</td>
<td>2</td>
</tr>
<tr>
<td>University</td>
<td>4</td>
</tr>
<tr>
<td><strong>International partner</strong></td>
<td></td>
</tr>
<tr>
<td>International organization</td>
<td>4</td>
</tr>
<tr>
<td><strong>Association</strong></td>
<td></td>
</tr>
<tr>
<td>Pig Association</td>
<td>1</td>
</tr>
<tr>
<td><strong>Private sector</strong></td>
<td></td>
</tr>
<tr>
<td>Drug company</td>
<td>1</td>
</tr>
<tr>
<td>Integrated farms</td>
<td>2</td>
</tr>
<tr>
<td>Family commercial farms</td>
<td>7</td>
</tr>
<tr>
<td>Trader</td>
<td>1</td>
</tr>
</tbody>
</table>

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### Figure 3.1. Characteristics of 36 participants of the SSI interviews (n=30) in Vietnam in 2023.

- Public sector: 21
- International partner: 4
- Private sector: 10
- Supra-national: 4
- National: 8
- Provincial: 14
- District/communal: 1
Mapping of the pig supply chain in Dong Nai province (May, 2023)

Household farm: <10 livestock units
Small-scale farm: 10- <30 livestock units
Medium-scale farm: 30 - <300 livestock units
Large-scale farm: ≥300 livestock units
Mapping the interaction of stakeholders regarding ASF control strategy (May, 2023)

Abbreviation:
Ministry of Agriculture of Rural Development (MARD)
National Institute of Veterinary Research (NIVR)
National Institute of Animal Science (NIAS)
Department of Animal Health (DAH)
Regional Animal Health Office (RAHO)
Department of Livestock (DLP)
World Organization of Animal Health (WOAH)
Wildlife Conservation Society (WCS)
Center for International Cooperation in Agronomic Research for Development (CIRAD)
International Livestock Research Institute (ILRI)
Food and Agriculture Organization of the United Nations (FAO)
Motivations

From the interviews and FGD

1. Applying biosecurity measures provides advantages: risk mitigation, disease prevention, farm sustainability and long-term cost savings

2. VietGAHP certification: A branding strategy that promotes the quality of the company or farm

3. Disease-free establishments registration:
   - Effective disease prevention and control measures
   - Facilitating pig transportation by granting farmers the permission to sell pigs even during regional outbreaks
   - Broaden their market channels
   - Toward to build up disease-free zone and exportation (long-term goal)
### Challenges related to Circular No. 24/2022/TT-BNNPTNT: Regulations on animal disease-free zones and establishments

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Type of challenge</th>
<th>Description of the challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers</td>
<td>Lack of knowledge</td>
<td>Inadequate knowledgeable about benefit outcome</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of information about particular agencies for registration and sampling</td>
</tr>
<tr>
<td></td>
<td>Lack of finance</td>
<td>Fairly high cost due to:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The increase of the quantity and frequency of inspections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>{sampling}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Hire an expert to build up the biosecurity, animal disease surveillance and responding plans</td>
</tr>
<tr>
<td></td>
<td>Lack of trust</td>
<td>Biosecurity issue: Farmers don’t want the authorities to conduct sampling as they fear visitors will contaminate their farm</td>
</tr>
<tr>
<td></td>
<td>Lack of direct benefit</td>
<td>Farmers don’t see the benefit of getting a disease-free certification: pig’s price remains the same regardless of the certification</td>
</tr>
<tr>
<td>Authorities</td>
<td>Lack of trust</td>
<td>Concern about the sampling validity (accuracy) if done by the farmers themselves.</td>
</tr>
</tbody>
</table>
### Challenges related to Decision No. 972/QĐ-TTg National Plan for Prevention and Control of African Swine Fever, for the period 2020-2025

<table>
<thead>
<tr>
<th>Chapter of the regulation</th>
<th>Stakeholder</th>
<th>Type of challenge</th>
<th>Description of the challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biosecurity</strong></td>
<td>Farmers</td>
<td>Lack of knowledge</td>
<td>Farmers do not fully understand what biosecurity means</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of finances</td>
<td>Cost requirement: investing new techniques and equipment, changing production methods (non-viable for household and small-scale farms)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of human resources</td>
<td>Highly skilled personnel's are required to set up and manage biosecurity measures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of will</td>
<td>Biosecurity measures can be too restrictive to farmers (affect freedom, thorough protocol)</td>
</tr>
<tr>
<td><strong>Declaration of livestock activities</strong></td>
<td>Farmers</td>
<td>Lack of time</td>
<td>Complicated and take time administrative procedure (declare every quarter and some criteria farmers find difficult to follow).</td>
</tr>
<tr>
<td></td>
<td>Authorities</td>
<td>Lack of human resource</td>
<td>Updating animal population requires dedicated personnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of finances</td>
<td>Allowance to commune vets to do the work</td>
</tr>
</tbody>
</table>
## Challenges related to Decision No. 972/QĐ-TTg National Plan for Prevention and Control of African Swine Fever, for the period 2020-2025

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</tr>
</thead>
<tbody>
<tr>
<td>Distance safety</td>
<td>Farmers</td>
<td>Lack of finances</td>
<td>Relocation forces farmers to build new farms and land availability are insufficient</td>
</tr>
<tr>
<td>between farms and</td>
<td></td>
<td>Lack of will</td>
<td>Farmers need to find new traders and market to do business with</td>
</tr>
<tr>
<td>residential areas</td>
<td></td>
<td>(impacts livelihood)</td>
<td></td>
</tr>
<tr>
<td>VietGAHP certification</td>
<td>Farmers</td>
<td>Lack of time</td>
<td>Complex registration process and keep track of a lot of information → Additional work</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of resource</td>
<td>Environmental standards (waste management, pollution control and sustainability) require further investments and effort.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of direct benefit</td>
<td>Farmers don’t see the benefit of VietGAHP certification: pig’s price remains the same regardless of the certification</td>
</tr>
<tr>
<td>Inspection</td>
<td>Government</td>
<td>Institutional</td>
<td>No inspection certificate is required for intra-provincial trades → Increasing the risk of pigs being sold outside the province by traders due to traffic difficulties and the weak veterinary force</td>
</tr>
</tbody>
</table>
Recommendation

- Enhancing the farmer's awareness on biosecurity via various communication channels (radio, news, TV etc.), training sessions and model farm.
- Communicating with farmers about the benefits of practicing biosecurity and registering for the disease-free establishment certification.
- Facilitating farmers in accessing bank credit policies of banks.
- Promoting large-scale farms while maintaining the organic livestock production of small-scale farms.
- Industrial livestock production: methodological investment, application of digital technology, branding, forming deep connections (with supply chains) to provide more added values.
- Encouraging the collaboration between livestock production establishments and enterprises, so the establishments can receive technical support and a guaranteed output; eventually promoting product consumption.
Moving forward

From identified barriers, organize series of co-construction workshops:
- List main challenges and actors involved
- Change in practices, behavior, interactions...
- Identify the obstacles and levers to these changes
- Propose strategies/actions to overcome these obstacles
THANK YOU FOR YOUR ATTENTION!