



Food and Agriculture  
Organization of the  
United Nations

# African swine fever (ASF)

Community engagement to support smallholders in Asia  
via Community ASF biosecurity intervention (CABI) programme



Yooni Oh, DVM, MVPH, PhD

*Animal Production and Health Officer (ASF project coordinator), FAO RAP*



Food and Agriculture  
Organization of the  
United Nations



# Regional efforts to fight ASF

## Current ASF situation in Asia-Pacific

- As of July 2023, a total of **18** countries in Asia-Pacific officially reported ASF:
  - China (Aug 2018)
  - Mongolia (Jan 2019)
  - Vietnam (Feb 2019)
  - Cambodia (Apr 2019)
  - DPRK (May 2019)
  - Lao PDR (Jun 2019)
  - Myanmar (Aug 2019)
  - Philippines (Sep 2019)
  - ROK (Sep 2019)
  - Timor-Leste (Sep 2019)
  - Indonesia (Dec 2019)
  - Papua New Guinea (Mar 2020)
  - India (May 2020)
  - Malaysia (Feb 2021)
  - Bhutan (May 2021)
  - Thailand (Jan 2022)
  - Nepal (Mar 2022)
  - Singapore (Feb 2023)





## Multidimensional approach to combat ASF





# [PREPAREDNESS] Coordination efforts under GF-TADs umbrella (through SGE)

**2018.9.5-7** Bangkok, TH  
The Emergency Regional Consultation on ASF-risk reduction and preparedness

**2018.11.12-16** Chiang Mai, TH  
The 15<sup>th</sup> International Symposium of Veterinary Epidemiology and Economics (ISVEE15)

**2019.4.9** Beijing, CN  
International Symposium on the Prevention and Control of African Swine Fever (ASF)

**2019.4.23-25** Vientiane, LA  
ASF Planning and Preparedness workshop

**2018.10.10-11** Beijing, CN  
The Technical Consultation Meeting on Application of Technology to Strengthen ASF Control through Rapid Detection and Response

**2019.4.8-11** Phnom Penh, KH  
Technical support to the 1<sup>st</sup> National Consultative Workshop on the Development of ASF Preparedness and Response Plan and the training workshop on Operationalizing the ASF preparedness and response plan for Cambodia

**2019.4.10** Beijing, CN  
The 1<sup>st</sup> Meeting of the Standing Group of Experts (SGE) on ASF for Asia

**2019.7.30-31** Tokyo, JP  
The 2<sup>nd</sup> SGE-ASF for Asia  
**2019.11.26-28** HCMC, VN  
The 3<sup>rd</sup> SGE-ASF for Asia

**2020.4.21** Online  
The 4<sup>th</sup> SGE-ASF for Asia  
**2021.2.5** Online  
The 5<sup>th</sup> SGE-ASF for Asia

**2021.9.27** Online  
The 6<sup>th</sup> SGE-ASF for Asia  
**2021.12.15** Online  
The 7<sup>th</sup> SGE-ASF for Asia

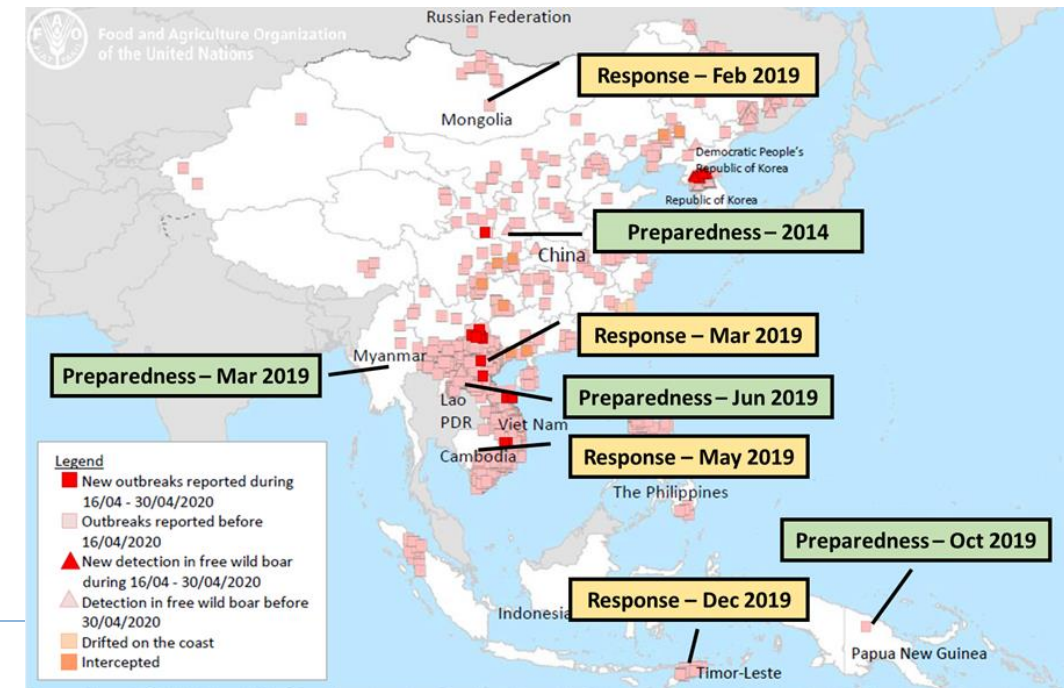
**2022.11.2** Geelong, AU  
Side session SGE-ASF for Asia

## • Risk profiling (self-assessment questionnaire)

	Live pigs (Off.)	Live pigs (Unoff.)	Pork/pig products (Off.)	Pork/pig products (Unoff.)	Contaminated fomites	Wild boars	Ticks ( <i>Ornithodoros</i> spp.)
China	Yellow	Yellow	Yellow	Red	Yellow	Red	Yellow
Mongolia	Yellow	Green	Red	Red	Yellow	Red	Yellow
Lao PDR	Red	Red	Red	Red	Yellow	Red	Red
Myanmar	Yellow	Green	Red	Red	Yellow	Red	Yellow
Viet Nam	Yellow	Red	Red	Green	Yellow	Red	Yellow
Cambodia	Red	Red	Red	Yellow	Yellow	Red	Red
Thailand	Green	Yellow	Red	Red	Yellow	Red	Yellow
Philippines	Green	Green	Red	Red	Yellow	Yellow	Green
ROK	Green	Green	Green	Green	Yellow	Green	Green
Japan	Green	Green	Green	Green	Yellow	Red	Red

Red = High    Yellow = Moderate    Green = Low

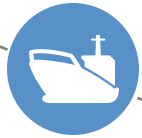
[Click to edit meeting title, place and date](#)



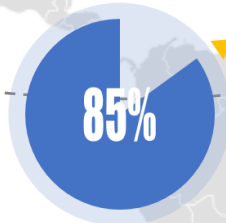
# Building capacity for the region through **cascade approach**

**323** from **33** countries

Open-access online course



Relevance



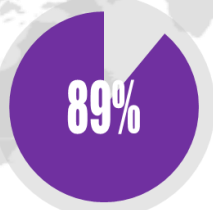
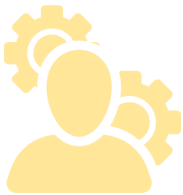
**Regional Train of Trainers**

**90** from **9** countries

- 1<sup>st</sup>: KH/MM/VN
- 2<sup>nd</sup>: PG/TL/ID
- 3<sup>rd</sup>: LA/TH/PH

Relevant to needs

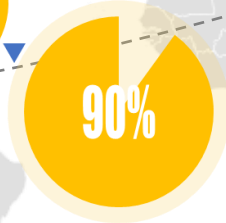
90%



Good design



Practical



Next step:  
Target community & CAHW  
for early detection & response



In-Country trainings

**950+** local vets/officers

- Cambodia:  
2 national + 5 provincial  
50 Community forum (2,116 farmers)
  - Myanmar:  
1 [online] subnational
  - Lao PDR  
3 national + 9 provincial
  - Philippines: 4 subnational and 1 BBO
  - PNG: 5 provincial/2 community trainings
- and more countries**



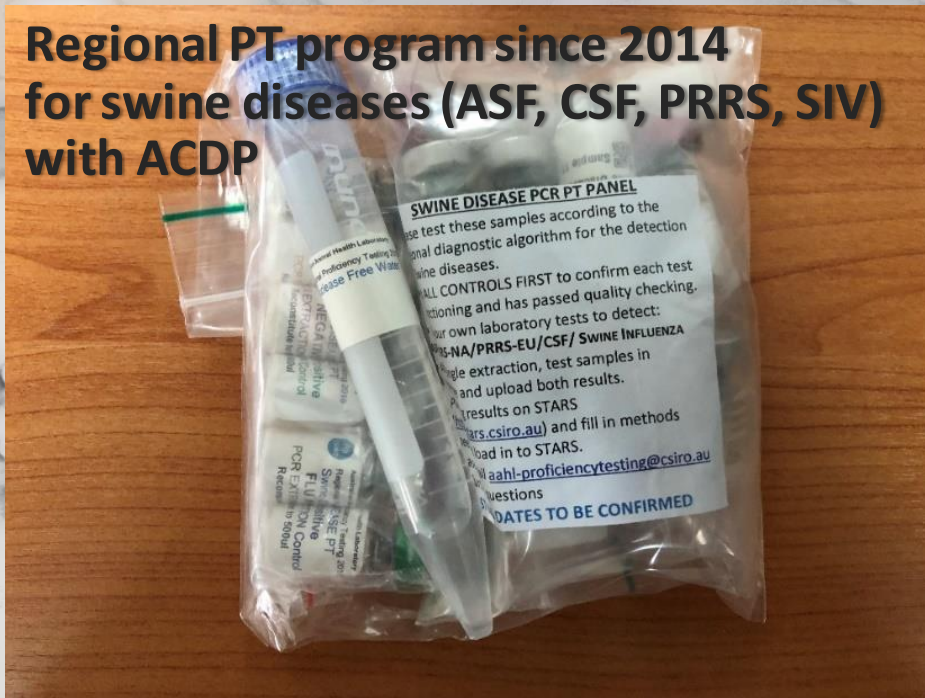
# [DETECTION & EARLY RESPONSE] Animal health authorities system strengthening

Procure diagnostic reagents and consumables for ASF since Sep 2018

Harmonize diagnostic protocols and algorithms

- Card page: <http://www.fao.org/documents/card/en/c/cb1430en> and support laboratory networking

Regional PT program since 2014 for swine diseases (ASF, CSF, PRRS, SIV) with ACDP



Hands-on trainings for lab staff for ASF in Cambodia, Myanmar, DPRK, TL



## Lab assessment (LMT)

Compilation - all LMT results\* for Lab x

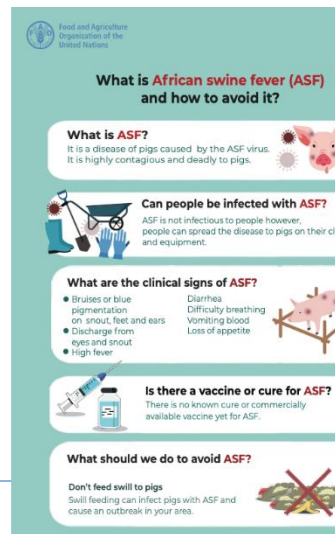
LMT Category	dd/mm/yyyy Assessment A	dd/mm/yyyy Assessment B	05/06/201 Current assessment
Geographic location	0.0	55.6	44.4
Laboratory Budget	33.3	22.2	55.6
Basic supply	22.2	22.2	22.2
Organization	33.3	33.3	33.3
Infrastructure	37.0	40.7	63.0
Equipment	20.8	50.0	50.0
Reagent supply	18.5	44.4	59.3
Staff skills + availability	14.3	23.8	47.6
Sample accession	16.7	29.2	87.5
Available technology	16.7	22.2	77.8
Training	47.6	42.9	71.4
Quality Assurance	27.3	66.7	87.9
Biosafety/Biosecurity	41.7	66.7	50.0
Staff Security/Health	0.0	66.7	100.0
Communication means	8.3	25.0	75.0
National lab networking	11.1	33.3	66.7
Laboratory collaboration	0.0	59.3	77.8
<b>Overall level of Lab x functionality (%)</b>	<b>20.5</b>	<b>41.4</b>	<b>62.9</b>



# [AWARENESS and ENGAGEMENT] Release various IEC materials

- **Farm biosecurity video** - basic biosecurity for smallholder farmers available in [English](#), [Lao](#), [Khmer](#), [Vietnamese](#), [Bahasa](#), [Bali](#), [Batak](#), [Kupang](#), [Nepali](#), [Burmese](#), [Malay](#), [Iban Sarawak](#), [Tagalog](#), [Cebuano](#), [Ilocano](#), [Chinese](#), [Portuguese](#).
- **Farm biosecurity poster** using messages from the video ([English1](#), [English2](#), [Khmer](#), [Lao](#), [Burmese](#), [Chinese 1](#), [Chinese 2](#), [Nepali 1](#), [Nepali 2](#), [Vietnamese 1](#), [Vietnamese 2](#), [Thai 1](#), [Thai 2](#), [Portuguese 1](#), [Portuguese 2](#), [French 1](#), [French 2](#), [Indonesian 1](#), [Indonesian 2](#), [Korean 1](#), [Korean 2](#), [Arabic 1](#), [Arabic 2](#), [Tagalog 2](#), [Cebuano 2](#), [Ilocano 2](#), [Hindi 1](#) and [Hindi 2](#))
- **ASF Kills** ([full version](#), [short version](#)) with WOAH

## Be a Champion Farmer! – Biosecurity is key to stop African Swine Fever



Click to edit meeting title, place and date



All ASF IEC materials from RAP are available!

FAO RAP launched ASF resource hub under the VLC (bit.ly/FAOASFvHUB)

FAO RAP posts all ASF related resources developed for the region on ECTAD webpage (<https://www.fao.org/in-action/ectad/our-focus/african-swine-fever/en>)



FAO ECTAD at RAP ASF page  
<https://www.fao.org/in-action/ectad>

A screenshot of the FAO VLC mobile application interface is shown on the right. The app header includes the FAO logo and the text 'Food and Agriculture Organization of the United Nations'. Below this, it says 'NOW AVAILABLE: AFRICAN SWINE FEVER (ASF) VIRTUAL LEARNING HUB FOR ASIA AND THE PACIFIC'. The main content area features a video player with a pig's face, a title 'African Swine Fever Virtual Learning Hub for Asia and the Pacific', and a detailed introductory text. At the bottom, there are two buttons: 'Disease situation and updates' and 'Online courses'. A 'SCAN ME' button with a QR code is located in the bottom right corner of the app interface.



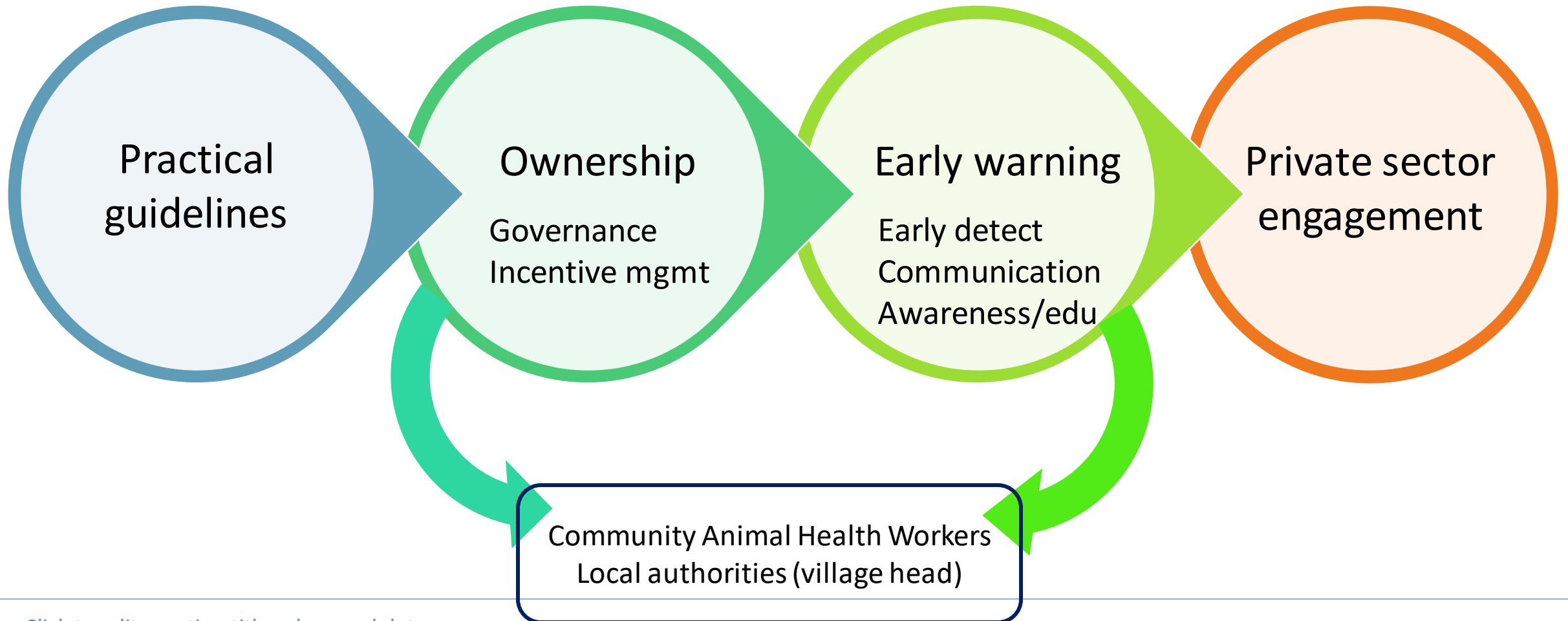
Food and Agriculture  
Organization of the  
United Nations



# Support smallholders

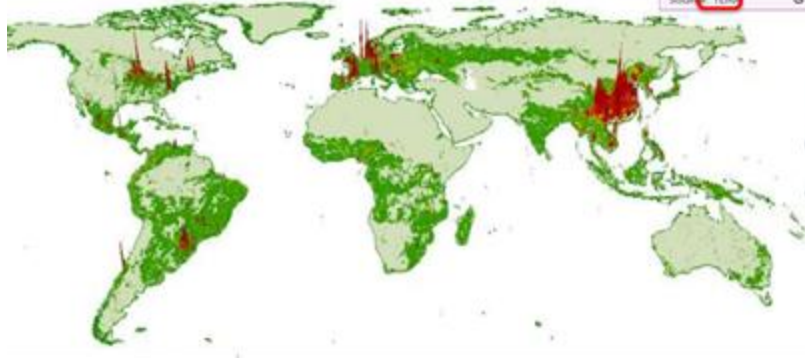
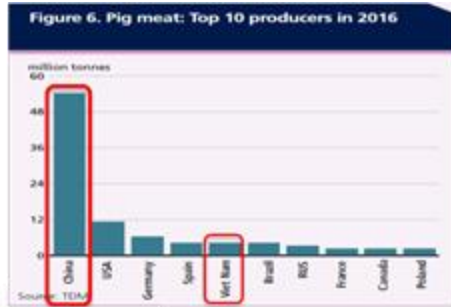
# Conceptual Framework for the pig smallholders

PRINCIPLE: Practical (risk base, socio-economic acceptable), working through Champions with ownership, with close M&E



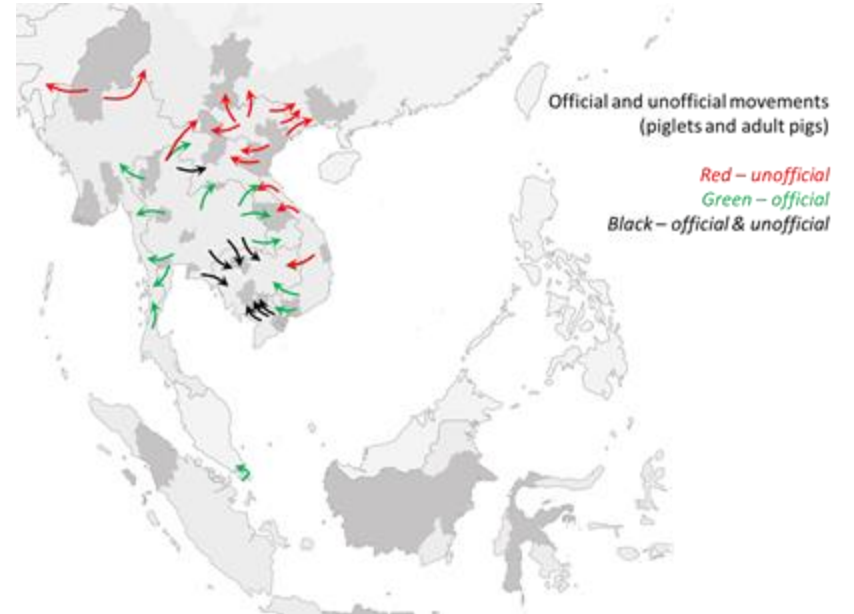


At least 60% of the world's domestic pig population is concentrated in east and southeast Asia.  
40% in low biosecurity system (by population)



High impacts on economic losses and food security

## Pig movement in GMS (value-chain study)



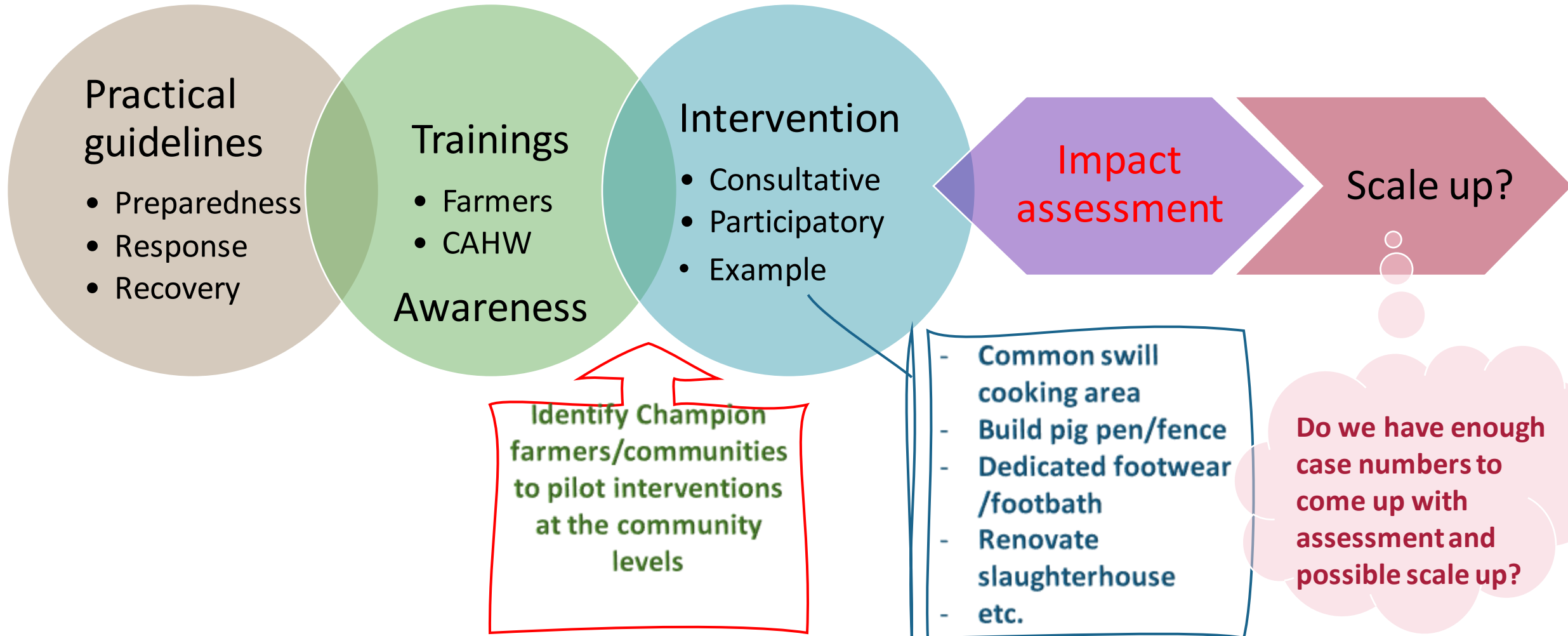
## Swill feeding is very common, but pose risks!

	pig production system			
	smallholder	semi-commercial	commercial	
KH	90% (upto 50)	9% (50-200)	1% (>200)	
LA	70% (<20)	18% (>20 or 10-15 sows)	12% (>15 sows)	
MM	80%		20%	
PH	71%		29%	
TH	92%		8%	
VN	70% (<20, 1-2 sows)	15% (<100, 20-50 sows)	2% (100-200, 20-50 sows)	13% (>1,000, 600-1,200 sows)

• Source: Swine industry profile of selected South East Asian countries - KH, LA, MM, PH, TH, VN published by FAO-RAP, Oct 2011



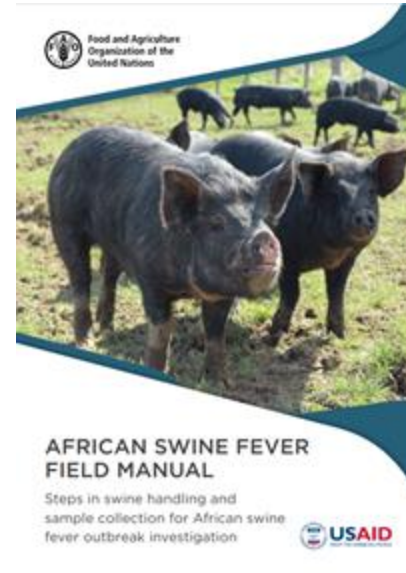
## Concept of approaching community engagement



## [RECOVERY] Support smallholders

### Developed guidelines to support smallholders

→ Further developing training materials to utilise @ community levels



### Practical Guidelines for smallholders

- 1) [monitoring and surveillance of ASF](#)
- 2) [culling and disposal of pigs in an ASF outbreak](#)
- 3) [farm biosecurity, slaughtering and restocking](#)
- 4) [clean chain approach for ASF in smallholder settings](#)

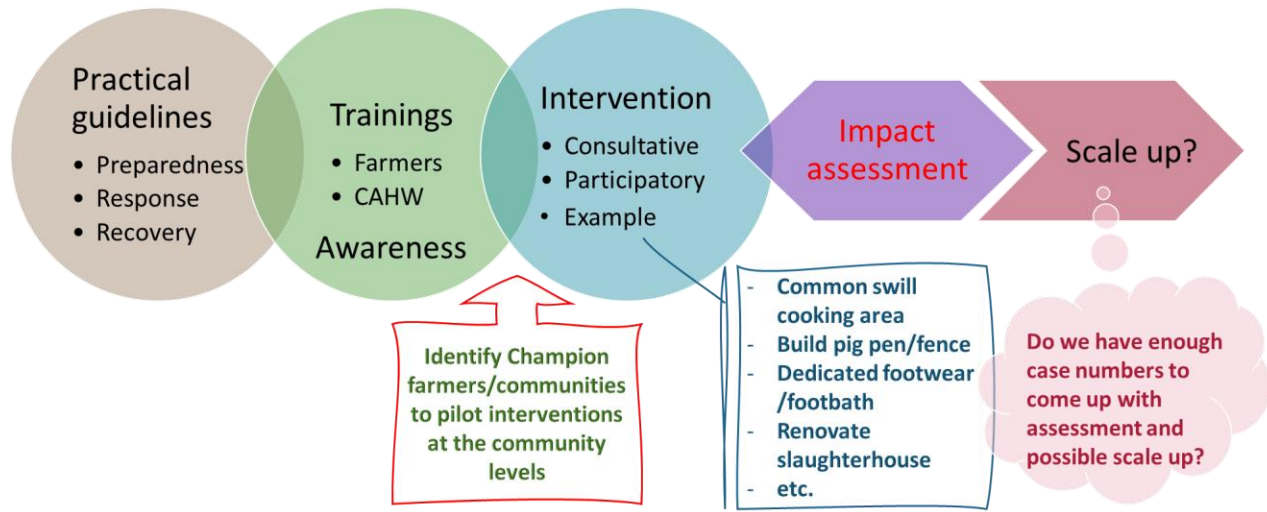
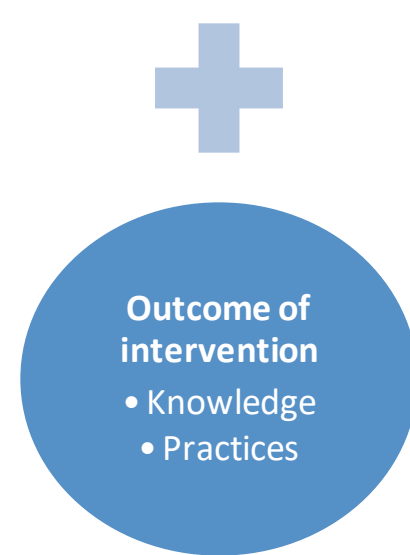
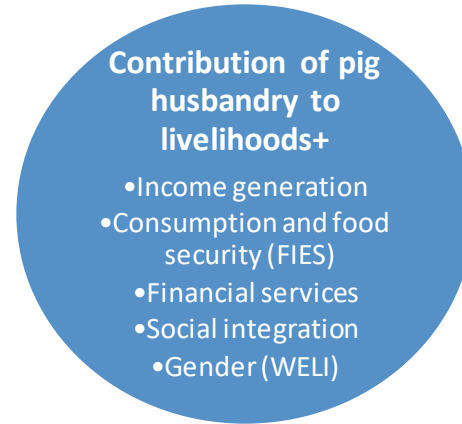
### [ASF Field Manual: Steps in swine handling and sample collection for ASF outbreak investigation](#)



<https://t.co/gJMy8m7gqr>

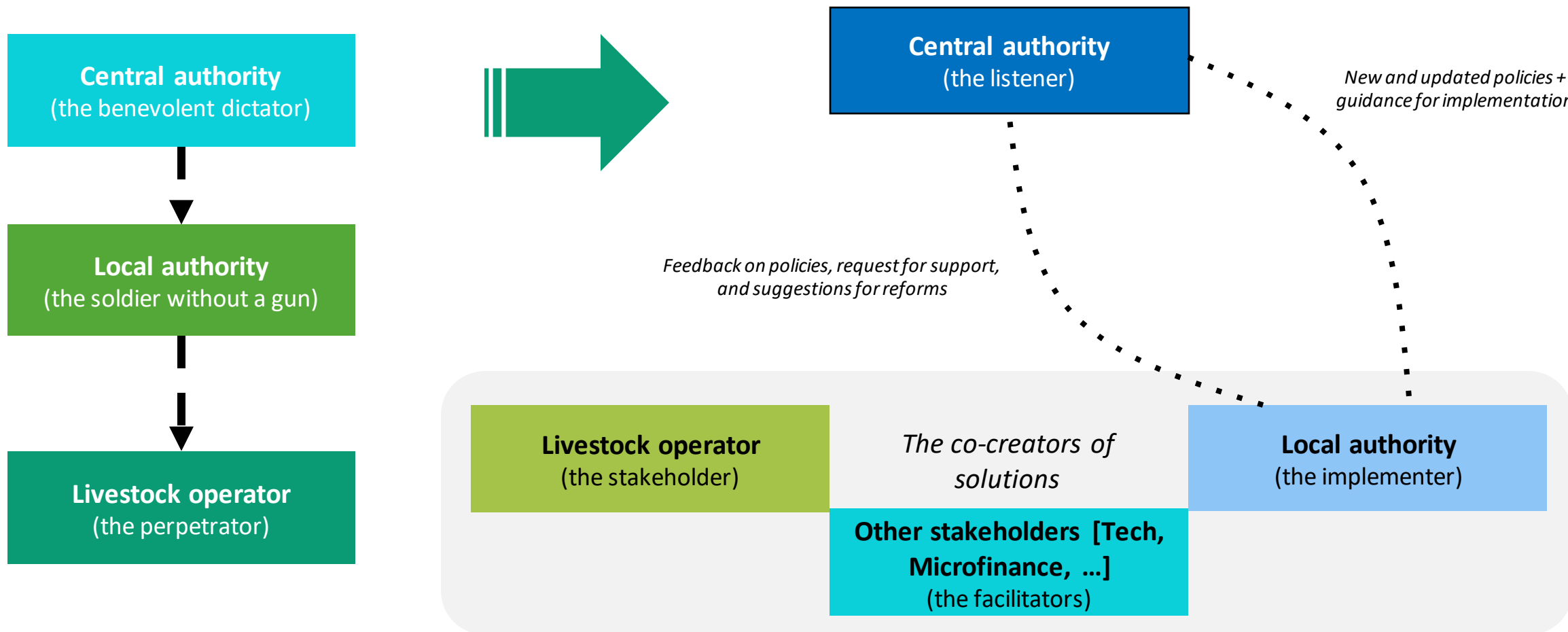


# Supporting smallholders? – HOW?



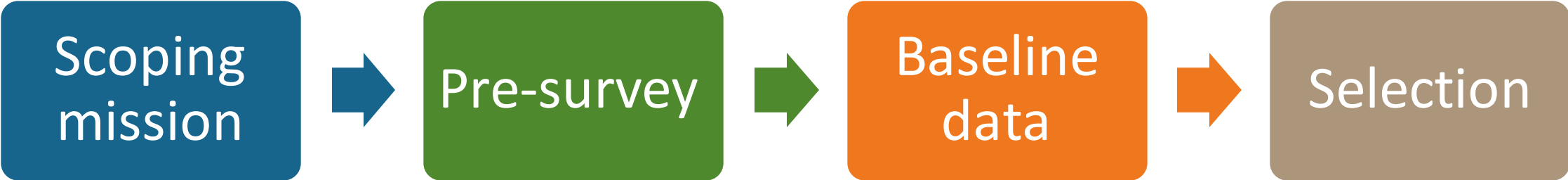


## Optimize policies according to the local context and/or address constraints for implementation



[Research Protocol] Impact of community-led interventions to mitigate the risk of ASF and provide support for recovery

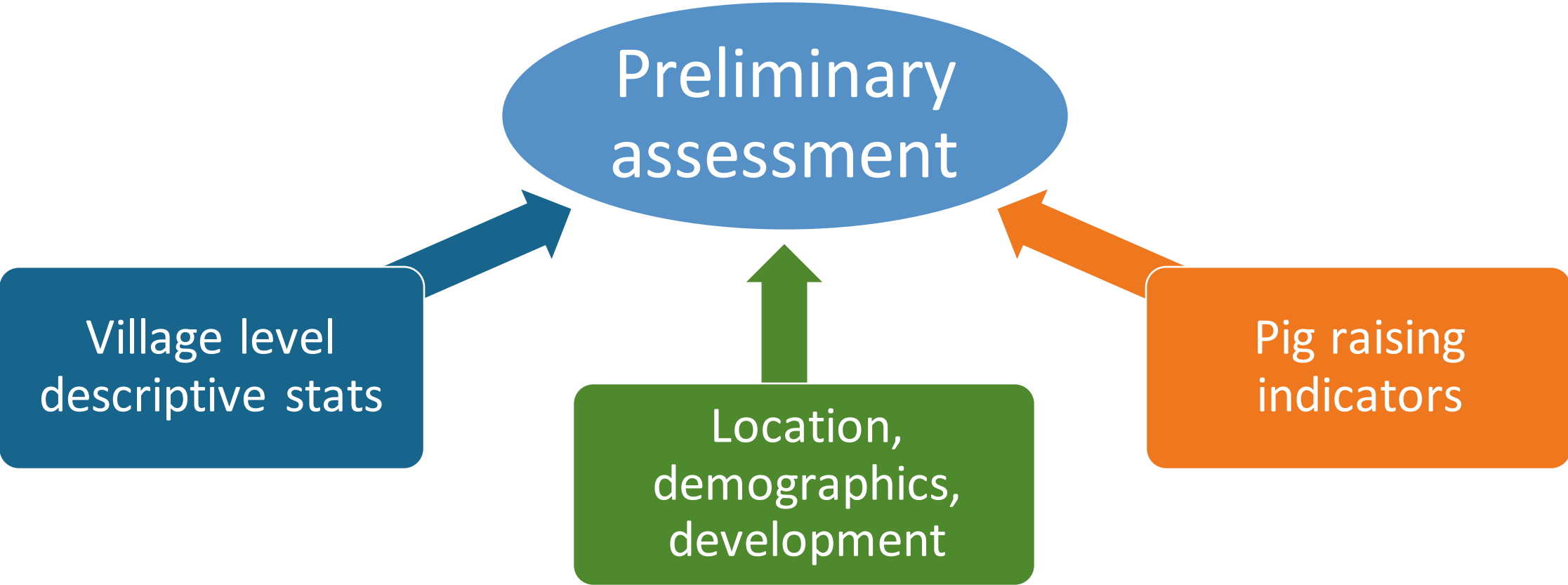
Selection of target community



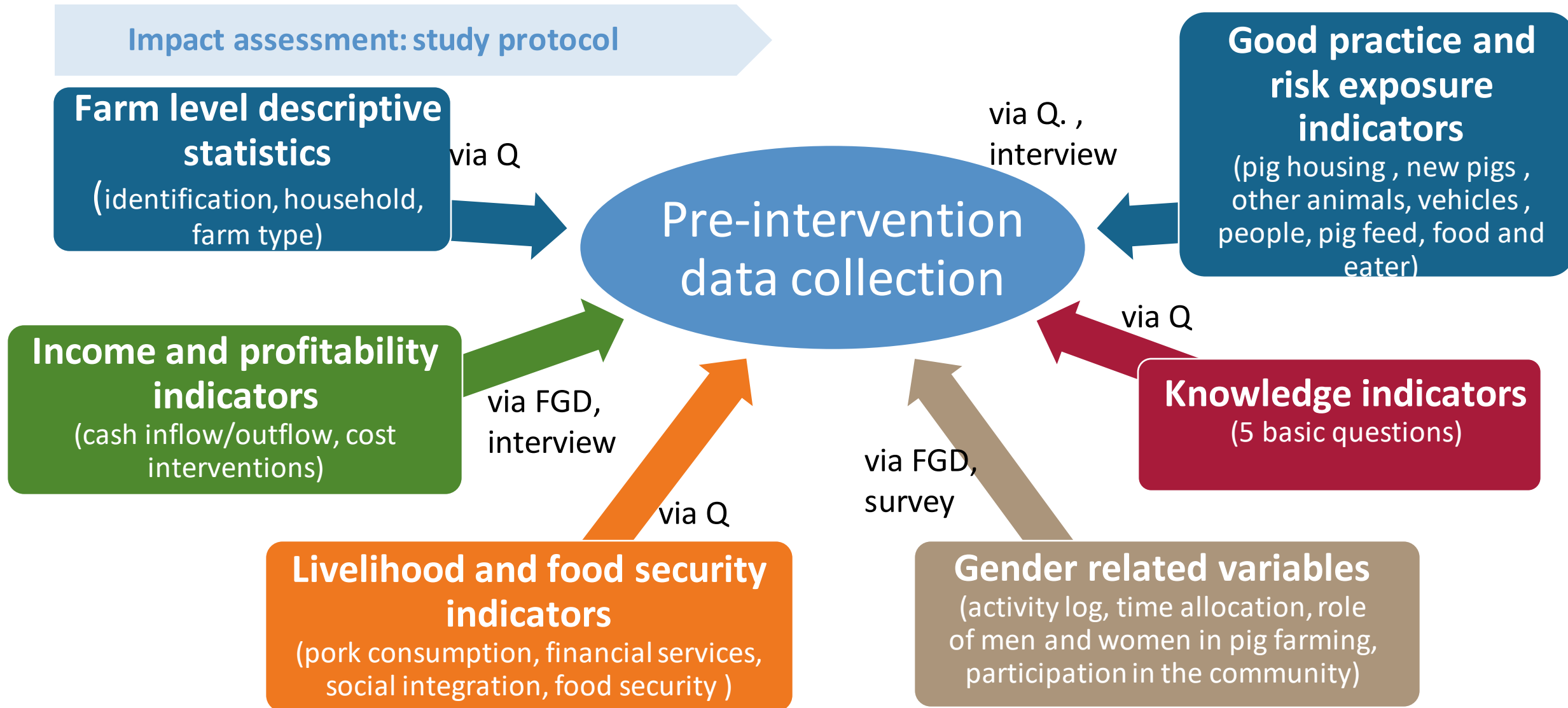


[Research Protocol] Impact of community-led interventions to mitigate the risk of ASF and provide support for recovery

Impact assessment: study protocol

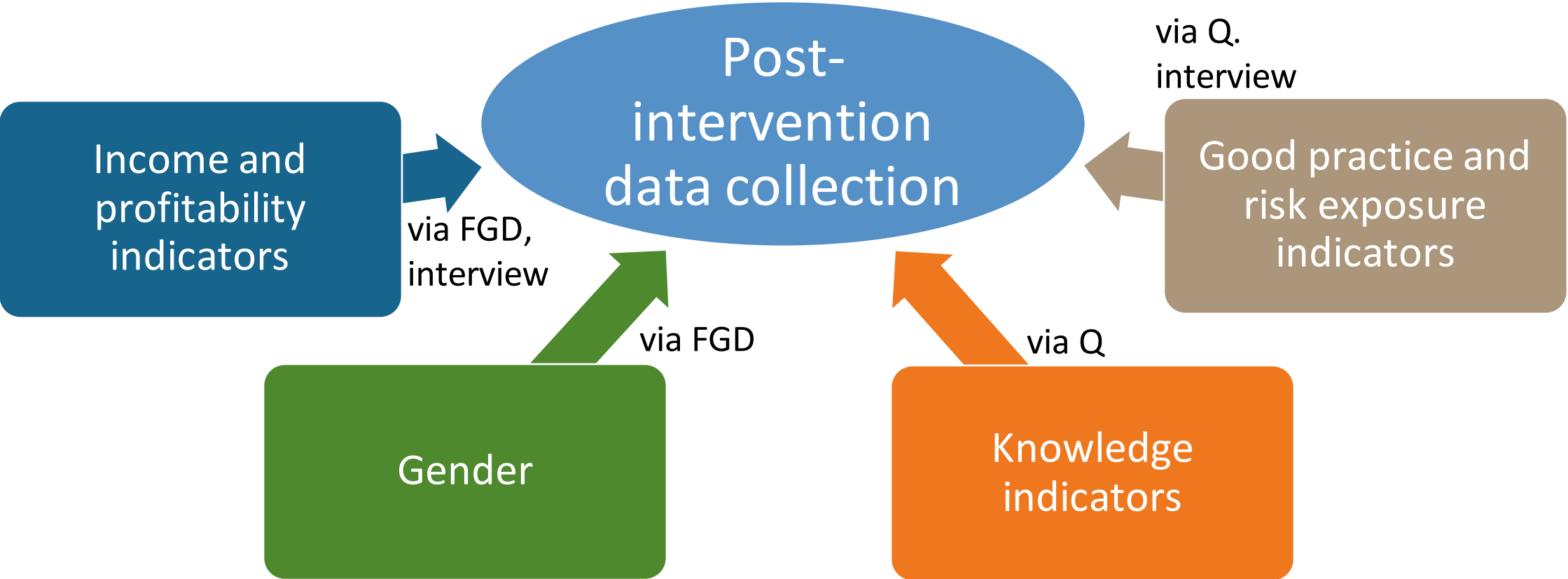


[Research Protocol] Impact of community-led interventions to mitigate the risk of ASF and provide support for recovery



[Research Protocol] Impact of community-led interventions to mitigate the risk of ASF and provide support for recovery

Impact assessment: study protocol





[Research Protocol] Impact of community-led interventions to mitigate the risk of ASF and provide support for recovery

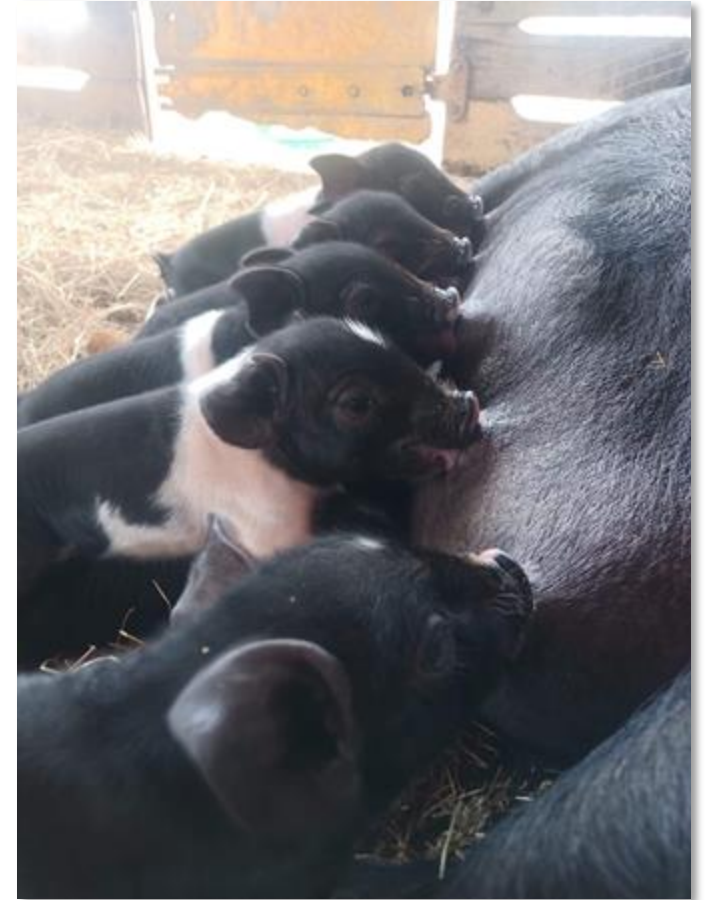
Impact assessment: study protocol

Data analysis  
and  
dissemination



## Selection of pilot community

- The pilot village was selected based on:
  1. Pig raising as major contributor to people's livelihood
  2. Willingness for members to collaborate
  3. Households are raising pigs at a maximum of 20 fattener and/or 10 breeder pigs
  4. Village is ASF free





## The targeted community

Pilot village: Sagcungan (7.1230° N, 125.0526° E) in the municipality of President Roxas, North Cotabato (7.1609° N, 125.0608° E), Philippines

- Population of 1,556, 389 households
- 3 Study phases: pre-implementation (Feb 2022), implementation (Mar 2022), post-implementation (Apr-Jun 2022)
- 20 farms were selected out of 42 farms in the target community.





## Community Intervention Programme

### Pre-implementation:

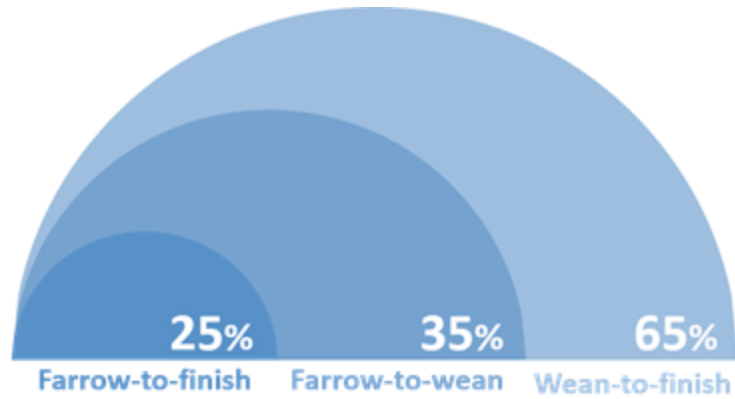
- National and regional team visited the village
- Swine farmers were oriented on ASF and minimum levels of biosecurity for smallholder farmers
- Gathered information and data on biosecurity practices
- Farms were considered for minimum standard of infrastructure in swine facility, the pig population, and management practices.
- 20 farms were selected out of 42 farms in the target community





## Farm type & number and type of pigs

### Type of Farm



### Average Pig Raising Cycles

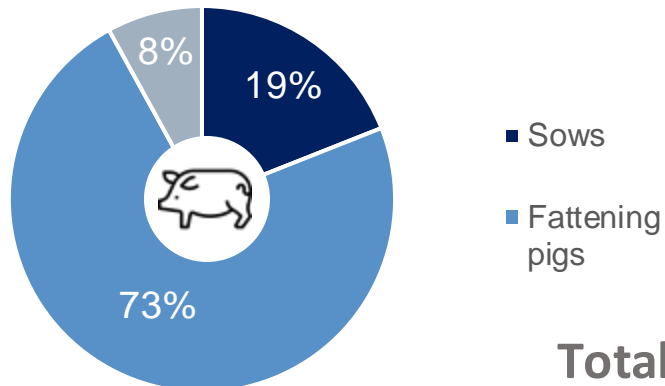
**197**

days of farrow-to-farrow interval

**135**

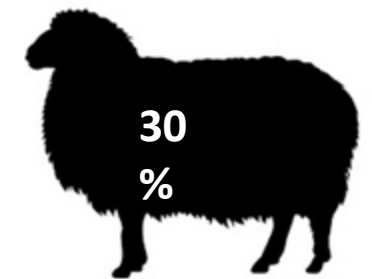
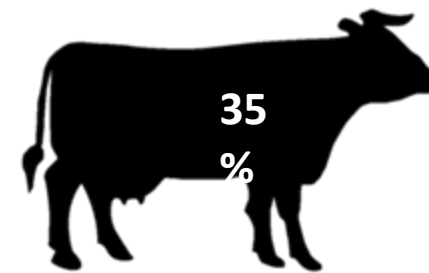
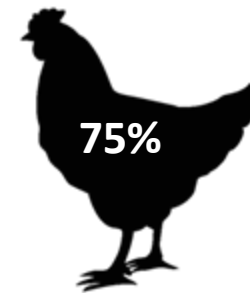
days of fattening cycle

### Type of Pigs



Total of 130 pigs

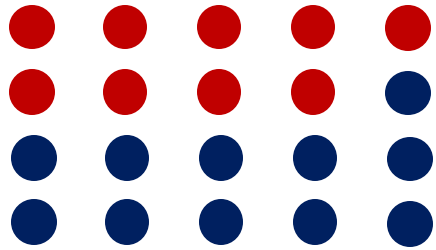
### Other Livestock Raised on Farm



\*Percentage of farms with respective livestock

## Household Members

### Gender Distribution

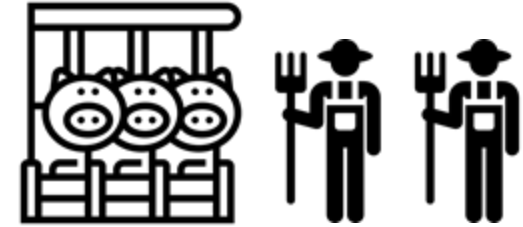


Female: 9 Male: 11

### Average Household Distribution



5 members per farm



2 workers per farm

### Training on good pig-raising practices



**50%**

of farmers had received  
training on good pig-raising  
practices over the past year

### Average Number of Years Raising Pigs

**9.1**

Years of raising  
pigs



## Community intervention programme – Pre-implementation activities

Interventions and training programme were decided:

- by the national and regional project implementation team
- after discussions with the farmers on basic biosecurity measures
- based on site inspections (facility infrastructure and management practices)



## Community intervention programme – Pre-implementation activities

The farmers were asked about their specific needs and the community agreed on:

- briefings by field staff on biosecurity, reporting and swine raising
- perimeter fencing
- footbaths at entry to farms
- wash stations
- water storage containers
- cleaning and disinfection equipment

Materials were ordered through local suppliers so they could be made available at the launching ceremony.







## Community intervention programme – Implementation activities

Training materials for the community intervention were based on:

- FAO Guidelines for African swine fever (ASF) prevention and control in smallholder pig farming in Asia
- Technical Standards and Guidelines on Biosecurity Classification of Swine Farms (released by the DA-BAI in cooperation with the Philippine College of Swine Practitioners)



## Community intervention programme – Training Session 1

**February 2022** (during initial visit to assess the community and introduce the project)

Farmers received basic training on ASF, pig raising, & biosecurity practices, including:



- debunking some of the misconceptions on ASF
- implementation of biosecurity and how it is critical for preventing ASF and other infectious diseases
- swine management practices (e.g., relevance of C&D, good feeding practices - avoiding swill feeding etc.)

## Community intervention programme – Training session 2

**March 2022** (at project launch event)

- A dedicated biosecurity booklet was developed with representatives from the National ASF Prevention and Control Program
- The second training session worked through this booklet with focus on:
  - farm biosecurity
  - swine nutrition/ safe feeding practices
  - assessment of ASF through the clinical signs matrix
  - cleaning and disinfection procedures
  - mixing and concentration of disinfectants
  - keeping a visitor's log
  - recording farm expenses
  - recommendations for pig farm set up



- A video demonstrating on farm C&D and other relevant materials were also shown





## Community intervention programme – Infrastructure and practices



Project launch event: March 2022

- The farmers were provided with biosecurity packages including information booklets and equipment/materials to improve infrastructure and biosecurity practices
- A bag of pig feed was given to each farmer every month as an incentive for joining the project





## Community intervention programme – Infrastructure and practices

### Materials:

- Fencing materials: cyclone wire, U-nails, tie wire
- Footbath materials: cement, sand, wood, disinfectant preparation
- (Farmers also used indigenous materials such as madre de cacao and bamboo sticks)
- Sink materials: sink bowl, sink stand, water container
- Water storage bin
- Cleaning and disinfection equipment: cleaning brush, scrub suit, boots, surface disinfectant
- ASF biosecurity booklet

Cost per farm: **PHP 6505 or \$325USD**





## Community intervention programme – Infrastructure and practices

- The implementation team monitored the instillation of infrastructure and the implementation of practices over a period of three months
- The team was available for support and consultation during this time







## Community intervention programme – Post-implementation

April to June 2022 –

- The implementation team was divided to three groups to supervise and monitor activities at each farm
- Monthly monitoring sessions: the team asked farmers of their concerns, discussed their observations, and guided farmers on how to improve biosecurity practices.
- Notable observations/concerns: keeping the footbath wet by regularly placing disinfectants, disinfecting the pig pens regularly, designating a place to load and unload newly purchased pigs or pigs to be sold to traders





## Lessons learned

- Cleaning vs disinfection
- Reporting unusual sick pigs or mortalities to authorities
- Recognised importance of separating sick pigs from others
- Continue practicing proper measures to prevent disease spread: changing cloths, footwear, disinfecting boots in the pen entrance, prohibit unauthorized people to enter, disinfecting vehicles entering farms, designating off load site, etc.
- More cautious while selling/buying pigs
- Farmers received trainings and relevant information: with CABI programme, farmers appreciated regular monitoring activities and technical discussion to get more knowledge to improve their biosecurity practices





Documentary video:

<https://youtu.be/1dc2eLhOPOc>

CABI pilot is planned (until August 2024)  
→ Cambodia, Indonesia, Lao PDR,  
Philippines, Thailand



# Thank You



*Protecting people, animals, and the environment every day*

Yooni.Oh@fao.org