



# African swine fever: situation and response

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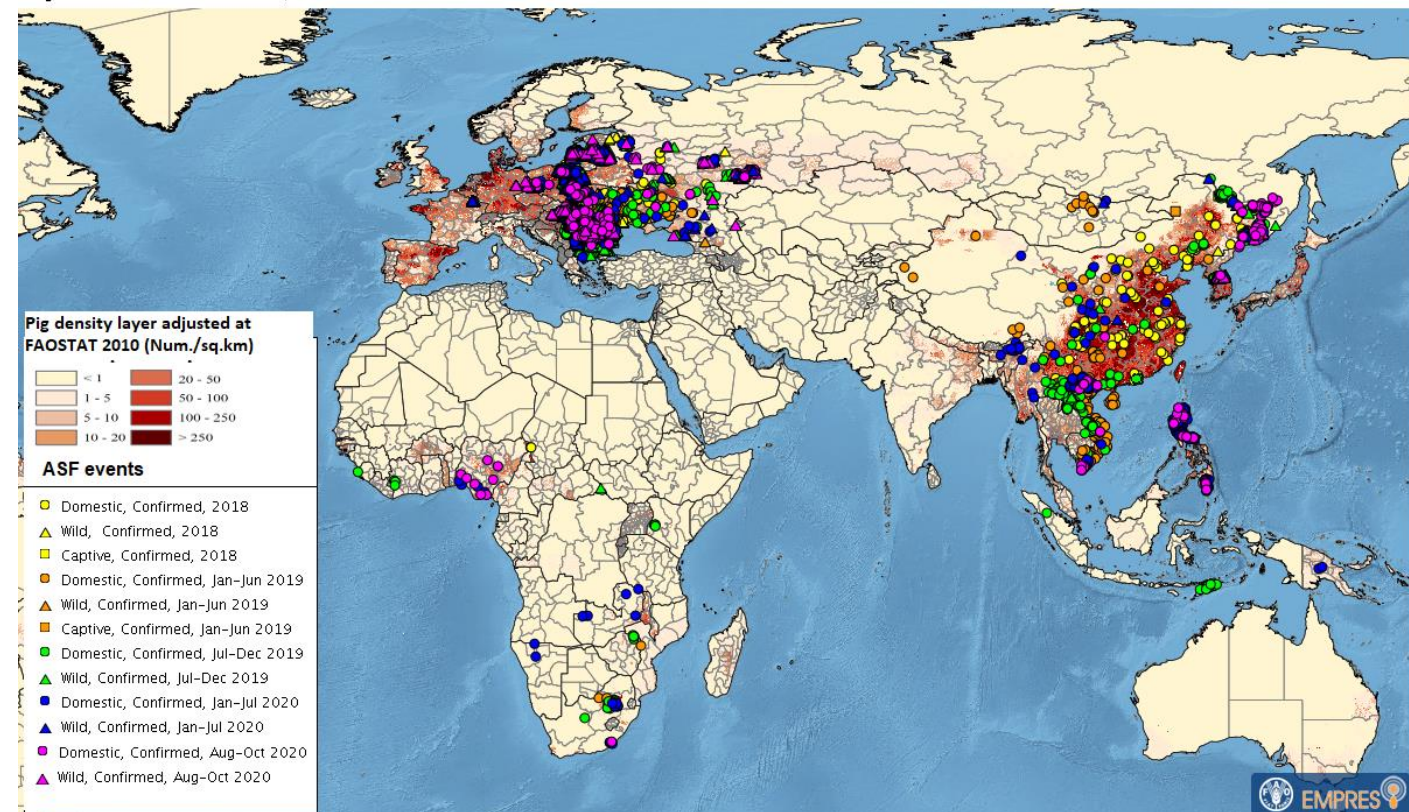
## Content

- Current situation: overview
- Global and regional coordination
- Emergency preparedness and response
- Capacity development
- Pig production systems and value chain
- Economic impact and market disruption
- Awareness and engagement

## African swine fever: global situation

- Endemic in sub-Saharan Africa
- 2007 -introduction to Caucasus and spread in Europe
- 2018 - introduction to China and spread across Asia and Pacific
- 2020 - 5 new countries and territories
- Disease is present in countries with largest production, consumption and trade of pigs and pork products
- Unprecedented global spread and risk for introduction to new countries and continents

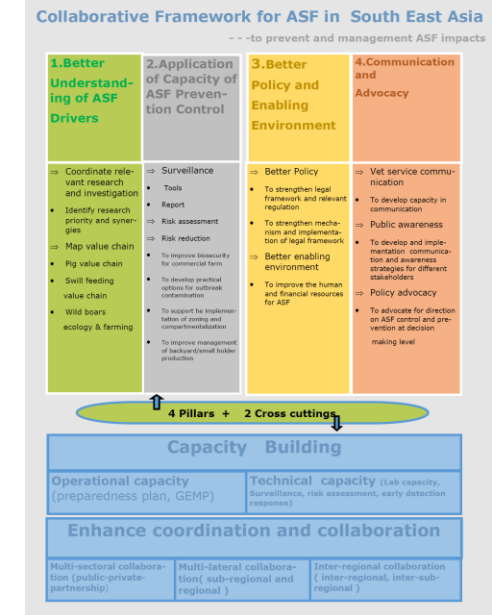
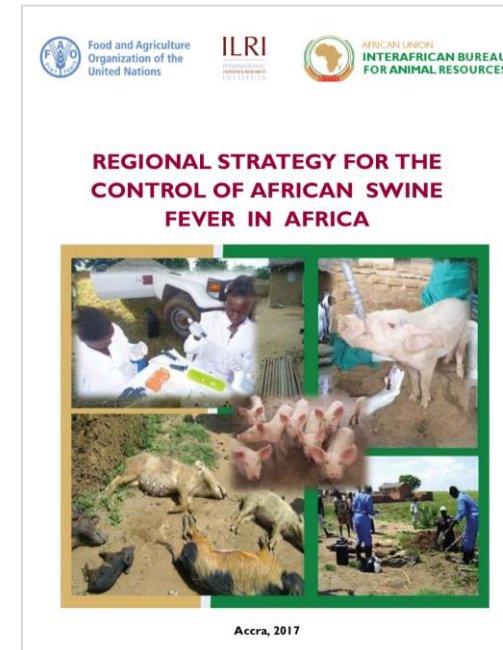
Globally ASF confirmed events in wild and domestic pigs, from 01 Aug. 2018 to 15 Oct. 2020 (by onset year and with pig density layer adjusted at FAOSTAT 2010)



## AFRICAN SWINE FEVER: SITUATION AND RESPONSE

### Global and regional coordination

- Regional strategy and collaborative framework
- Standing Groups of Experts on ASF: Europe, Asia and Americas
- Global control of ASF: a GF-TADs Initiative July 2020
- GF-TADs Working Group on ASF since July 2020



## Emergency preparedness and response

**Emergency Management Center (EMC-AH)** is a joint platform in FAO Animal Production and Health division (NSAH), and the Office of Emergencies and Resilience (OER).

The Centre assists countries to manage animal health emergencies, protect livelihoods and save lives.

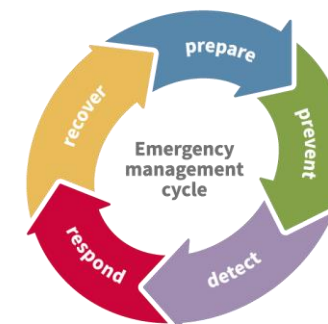
**ASF Incident Coordination Group (ICG):** FAO HQ, regional and country offices, and partners: OIE, IAEA, INTERPOL and Agronomes et Vétérinaires sans frontières

- Maintain situational awareness and updates on the situation
- Identify needs and provide guidance and tools for emergency response
- Assess communication needs and coordinate related activities
- Monitor the implementation (actions and the response)

EMC-AH African swine fever missions 2019	
Timor-Leste	December 2019
Papua New Guinea	October 2019
Cambodia	May 2019
Lao People's Democratic Republic	April 2019
Viet Nam	March 2019
Myanmar	February 2019
Mongolia	February 2019



**EMC-AH missions deployed only by governments' requests**



## Capacity development

- ✓ Training on epidemiology, surveillance, simulation exercises  
lab diagnostics, outbreak management, risk communication
- ✓ Provision of lab equipment and reagents



Laboratory protocols and algorithms

<http://www.fao.org/3/cb1430en/cb1430en.pdf>

## AFRICAN SWINE FEVER: SITUATION AND RESPONSE

- Regional workshops on detection and response at the regional, national, subnational levels - South East Asia
- Regional ccoordination meeting and workshop on ASF surveillance and control in West and Central Africa
- Regional ASF wild boar management workshop and national pig biosecurity trainings -Balkan countries
- Regional risk communication and outbreak management - South and Eastern Europe
- Lab training at FAO ASF Reference Centre (CISA-INIA), Spain
- Hands-on trainings for laboratory/field diagnosis South East Asia
- Value chain analysis workshop South East Asia
- Training-of-Trainers Balkan and South East Asia

## Capacity development

### Training and field support

- From 2018, 4 group trainings organized for VETLAB partners in Africa and Asia on clinical and laboratory diagnosis, disease surveillance and control, molecular characterization of ASFV.
- Expert visits to Malaysia, Indonesia and Vietnam, to assist laboratories in preparedness and emergency plans (2019) and to transfer molecular assays.
- Technical assistance for the detection and molecular characterization of ASFV in Mongolia and Indonesia (2019/2020).

### Emergency support (VETLAB in collaboration with TC)

- Affected (Cambodia, Indonesia, Laos, Myanmar, Mongolia and Vietnam) and high-risk Asian countries (Malaysia, Thailand) – received support for laboratory preparedness to enable the early and rapid detection of virus (ELISA and PCR kits, small equipment).
- Africa: emergency support to Nigeria (2020).



## Capacity development

### Research and development support to characterize local isolates:

- APHL collaborated in Asia with Mongolia (2019), Lao PDR (2019), Vietnam (2019), Indonesia (2019, 2020) for diagnostic confirmation and molecular characterization
- In Africa, APHL supported Burkina F., Namibia, Tanzania, Cote d'Ivoire, Cameroon, Mozambique for ASFV genetic characterization and molecular epidemiology (isolates from 2017-2020).

### Assay development

- Tetraplex real time PCR (ASFV, CSFV, Erysipelas and Salmonella) for rapid screening and differential diagnosis

Received: 19 March 2019 | Revised: 12 July 2019 | Accepted: 12 July 2019  
DOI: 10.1111/rbed.13298

#### ORIGINAL ARTICLE

WILEY

### Symptomatic and asymptomatic cases of African swine fever in Tanzania

Jelly S. Chang<sup>a1</sup> | Charles Mayenga<sup>1</sup> | Tirumala Bharani K. Settypalli<sup>2</sup> | Jenna E. Achenbach<sup>3</sup> | Julius J. Mwanandota<sup>1</sup> | Bishop Magidanga<sup>1</sup> | Giovanni Cattoli<sup>2</sup> | Mashaka Jeremiah<sup>1</sup> | Aloyce Kamigwe<sup>1</sup> | Shukuru Guo<sup>1</sup> | Denis Kalabi<sup>1</sup> | Furaha Mramba<sup>1</sup> | Charles E. Lamien<sup>2</sup>

Journal of Microbiology (2019) Vol. 97, No. 4, pp. 316–324  
DOI: 10.1007/s12275-019-8457-4

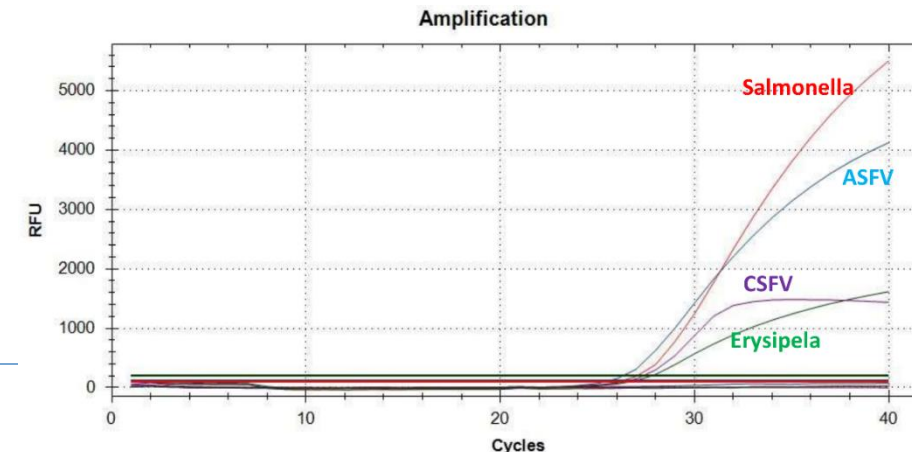
eISSN 1976-3784  
pISSN 1225-8873

### Genetic characterization of African swine fever virus in Cameroon, 2010–2018

Abel Wade<sup>1,2\*</sup>, Jenna Elizabeth Achenbach<sup>3</sup>, Carmina Gallardo<sup>1</sup>, Tirumala Bharani K. Settypalli<sup>1</sup>, Abdoukadiiri Souley<sup>3</sup>, Gaston Djonwe<sup>6</sup>, Angelika Loitsch<sup>3</sup>, Gwenaelle Dauphin<sup>3</sup>, Jean Justin Essia Ngang<sup>3</sup>, Onana Boyomo<sup>3</sup>, Giovanni Cattoli<sup>1</sup>, Adama Diallo<sup>1,10</sup>, and Charles Euloge Lamien<sup>1</sup>

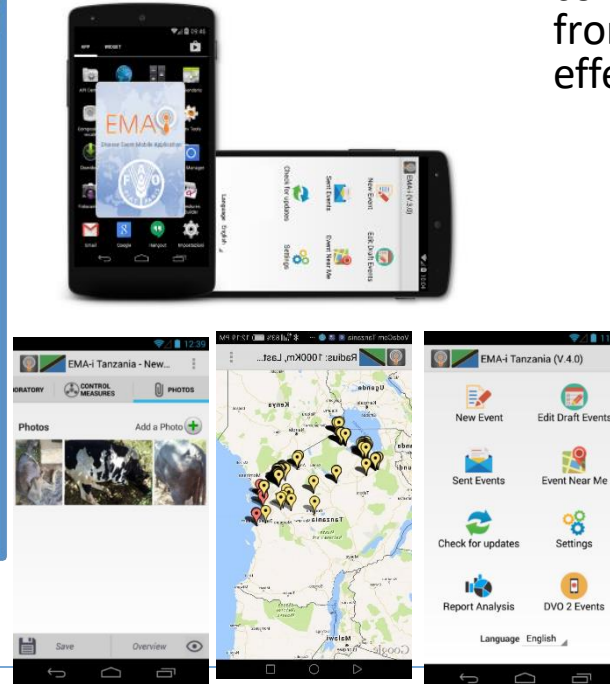
1981–1982. This study demonstrated that the three variants of ASFV isolates involved in these outbreaks were similar to those of neighbouring countries, suggesting a movement of ASFV strains across borders. Designing common control measures in affected regions and providing a compensation programme for farmers will help reduce the incidence and spread of this disease.

**Keywords:** African swine fever, P72, CVR, P54, Cameroon



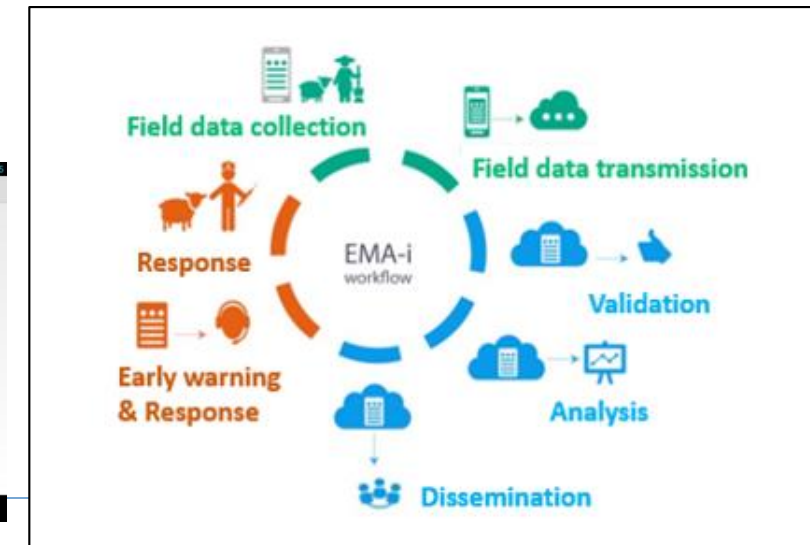
## Capacity development using FAO tools

### ■ Global Animal Disease Information System - EMPRES-i



### ■ National electronic reporting app - EMA-i

- ✓ Mobile App for Veterinary Authorities facilitates quality & real time data collection and reporting of animal diseases from the field to support early warning and effective early response to disease threats



## Capacity development using FAO tools

### ■ Surveillance Evaluation Tool (SET)

[http://www.fao.org/ag/againfo/programmes/en/empres/tools\\_SET.html](http://www.fao.org/ag/againfo/programmes/en/empres/tools_SET.html)

- ✓ Comprehensive, standardized assessment of animal disease surveillance
- ✓ Develop country-specifications plans for improvement

Phases of SET: **Preparation** **Interviews** **Scoring** **SWOT\* Analysis** **Recommendations** **Report**

### ■ Lab Mapping Tool

[http://www.fao.org/ag/againfo/programmes/en/empres/news\\_130514.html](http://www.fao.org/ag/againfo/programmes/en/empres/news_130514.html)

- Standardized metric to assess laboratory capacity and infrastructure
- Identifies gaps - opportunities for funding

Areas evaluated	90 indicators
Institutional organization	
Laboratory	
Surveillance activities	
Epidemiology workforce	
Data management	
Communications	
Evaluation	

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
Overall level of Lab x functionality (%)	20.5	41.4	62.9

## Capacity development

### Online ASF Preparedness course

- 4-week tutored course
- Webinars, discussion forum, final test
- Certification process

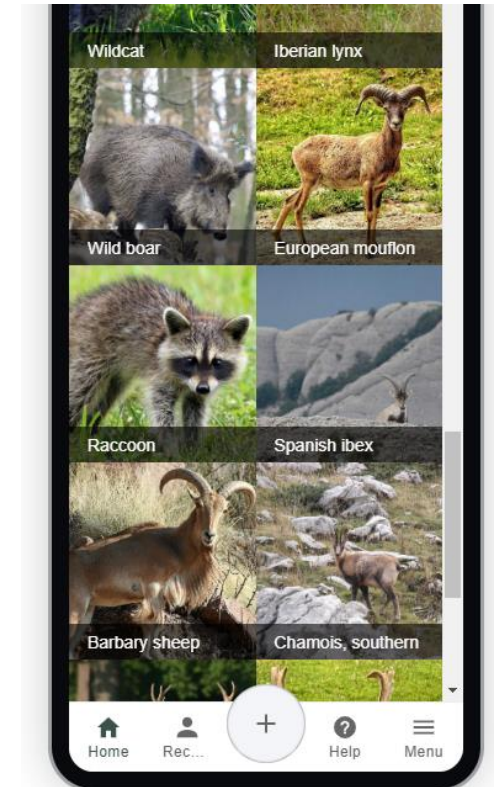
In 2020 participant from

- ✓ Europe 36 countries;
- ✓ Europe, Balkan 8 countries
- ✓ Asia and the Pacific 27 countries
- ✓ Latin America 38 countries.

- 986 participants completed full course
- Course in Russian language in 2021

### MODULES

1. Introduction to ASF
2. Clinical diagnosis
3. Sampling and Laboratory Diagnosis
4. Outbreak Investigation
5. Response and Control Measures
6. Prevention and Biosecurity
7. ASF in wild boar



Mobile App for the reporting of wild boar carcasses ([iMammalia](#))

# Pig production systems and value chains

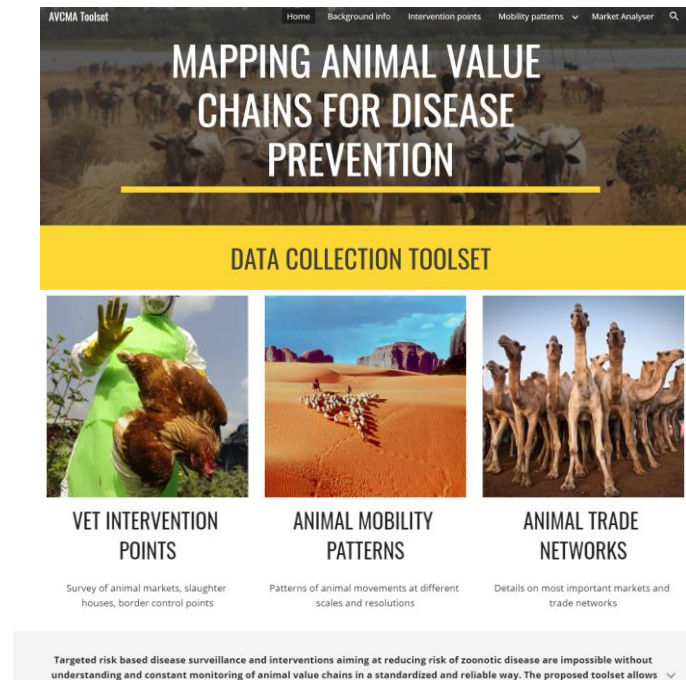
## ■ Pig production systems and value chain mapping

### Market Profiling Application (MPA)

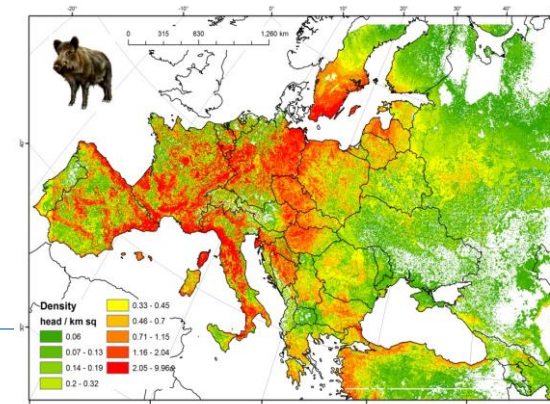
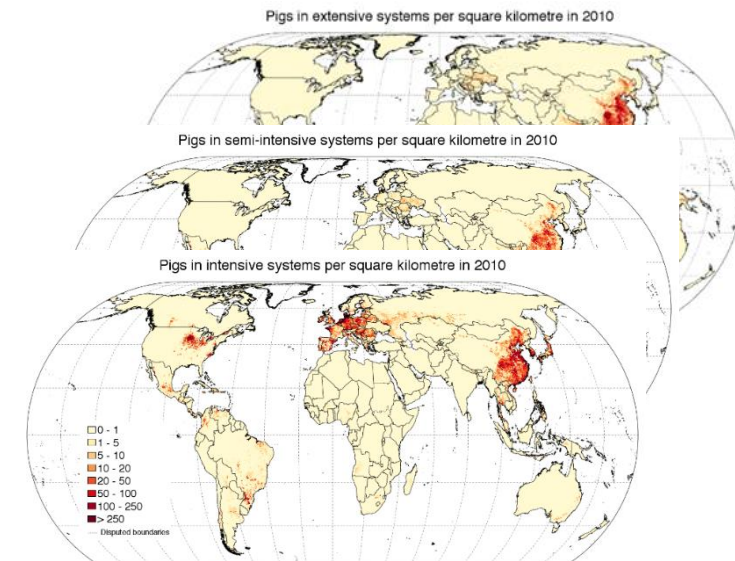
important progression from real-time-reporting to decision making

<https://sites.google.com/view/avcma-toolset/mobility-patterns/border-control#h.7qkh7iifelyy>

- ✓ Systematic collection of reliable geographic data from the field (e.g. disease events, markets, farms, slaughterhouses)
- ✓ Dissemination of geographic data to support practical collaborative decision making (e.g. risk maps, early warning, early response)



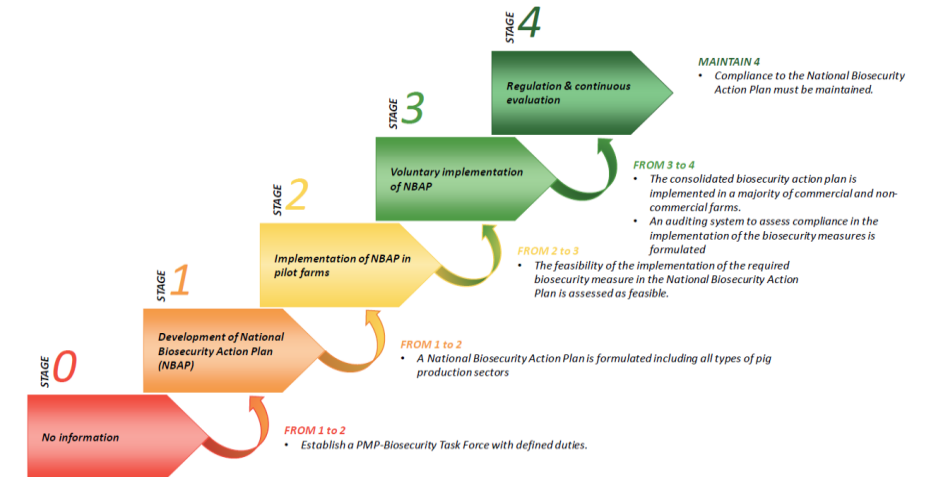
## Pig production systems



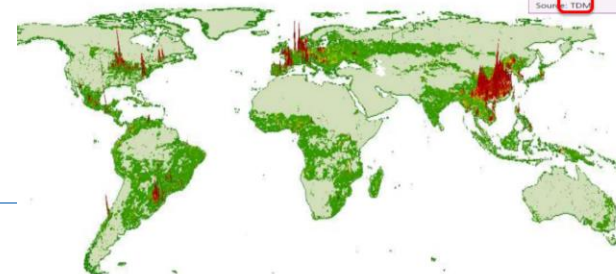
## Pig production systems and value chains

### Progressive Management Pathway (PMP) for biosecurity improvement in pig production - in the development

- engage public and private stakeholders in pig production in the governance and implementation of a National Biosecurity Action Plan.
- improve awareness and engagement of farmers and other pig/pork value chains stakeholders on role of biosecurity in sustainable animal health management
- promote the implementation of biosecurity measures in different pig production systems.
- develop capacity for monitoring the level of implementation and impact of biosecurity measures in different pig production systems.

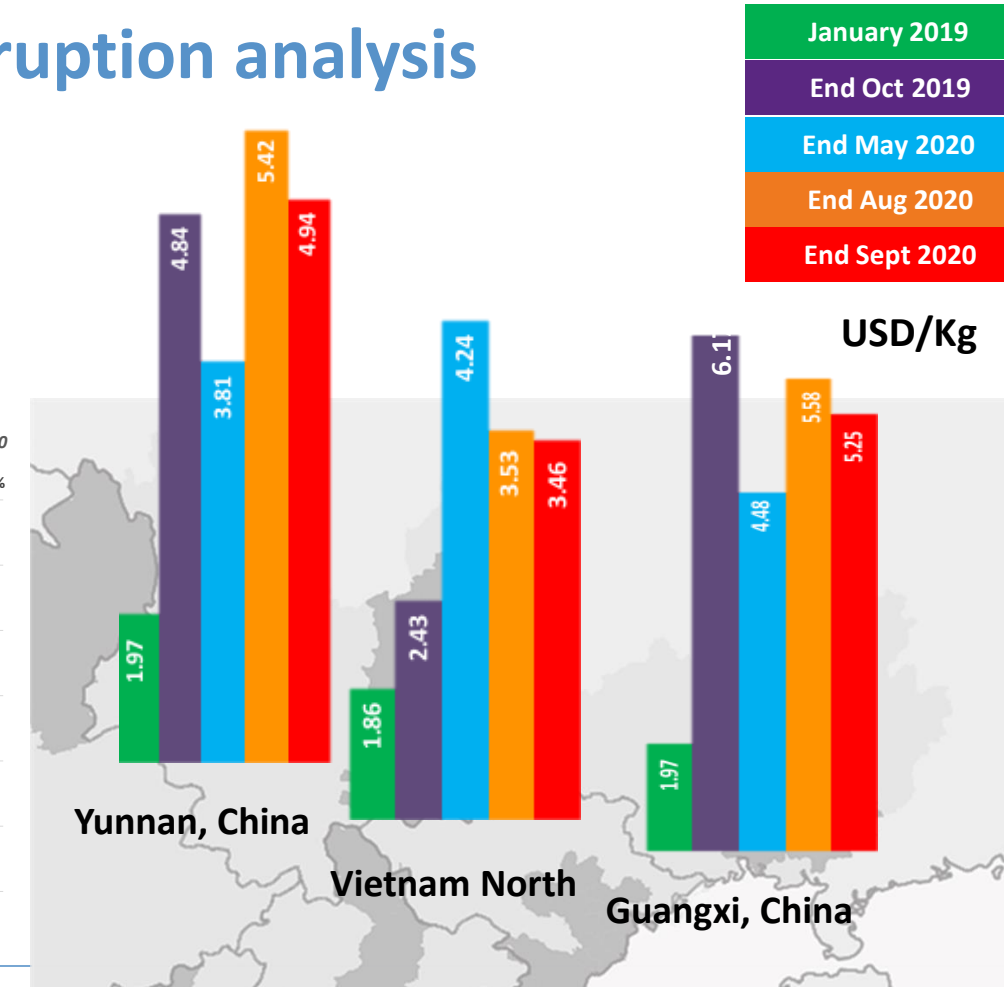
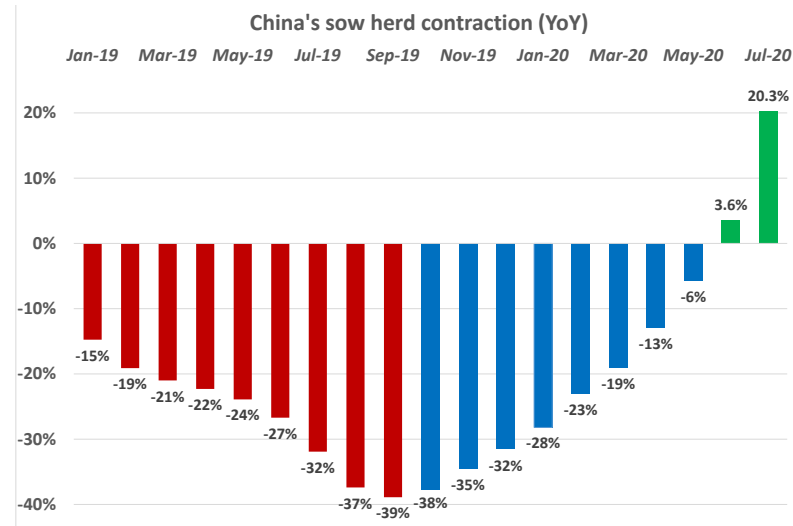
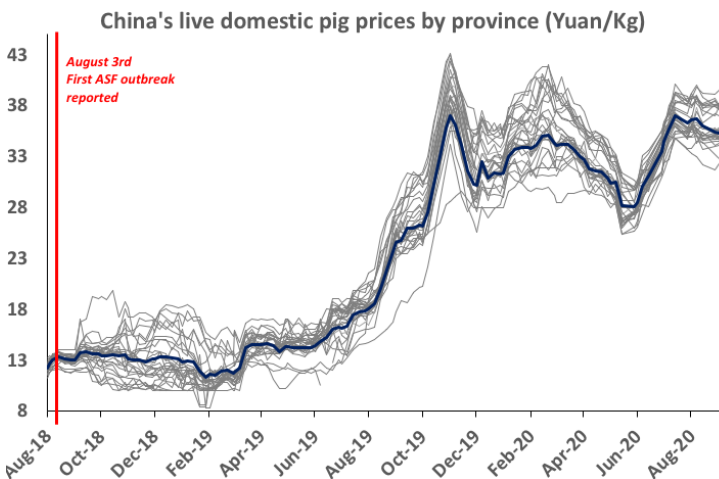
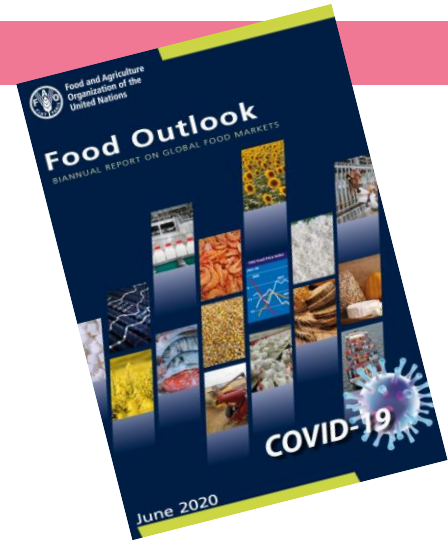


At least 60% of the world's domestic pig population is concentrated in east and southeast Asia.  
40% in low biosecurity system (by population)



High impacts on economic losses and food security

## Economic impact and market disruption analysis



# Cooperation and coordination between FAO and OIE on ASF communication on regular basis

## AFRICAN SWINE FEVER: SITUATION AND RESPONSE

## Awareness and engagement

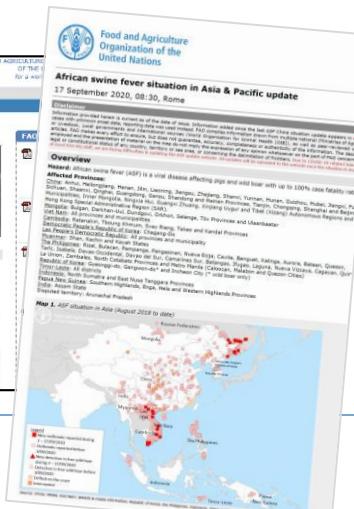
- Awareness and knowledge products:
  - ✓ awareness raising
  - ✓ better understanding of risks and drivers
  - ✓ providing guidelines
  - ✓ sharing best practices

### Risk Assessments



- Risk communication publication  
<http://www.fao.org/3/ca7561en/CA7561EN.pdf>
- Risk communication training course in modules will be developed for virtual training for South East Asian countries

### Updates on diseases situation



### Focus on specific topics



# Awareness and engagement

*Manuals and technical papers*  
in different languages



## Awareness and engagement

- **Farm biosecurity video** - basic biosecurity for smallholder farmers available in English, Lao, Khmer version and ongoing work for Vietnamese, Burmese, Tagalog (3 dialect for the PHP) and Bahasa.
- **Farm biosecurity poster** using messages from the video
- Fully editable **leaflets** in multiple languages ([online repository](#))
- Set of 7 **short videos** for standard operations of field vets and hunters (sampling, clinical examination, biosecurity, etc) will be available soon

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



<https://www.youtube.com/watch?v=XdKRY1Hf9hA&feature=youtu.be>

## Acknowledgement

- **Madhur Dhingra**, Head of EMPRES, FAO HQ
- **Daniel BeltranAlcrudo**, Animal Health Officer, FAO Regional Office for Europe and Central Asia
- **Yooni Oh**, Regional ASF Project Coordinator, FAO Regional Office for Asia and Pacific
- **Damian TagoPacheco**, Technical Specialist, Regional Animal Health Economist and Value Chain Coordinator, FAO Regional Office for Asia and Pacific
- **Astrid Tripodi**, GF-TADs Global Project Coordinator, FAO HQ
- **Ludovic Plee**, Animal Health Officer, Emergency Management Center, FAO HQ
- **Akiko Kamata**, Animal Health Officer, FAO HQ, EMPRES
- **The Joint FAO/IAEA Centre**, Vienna and Seibersdorf, Austria



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# Thank you

