



BIOSECURITY ALONG THE PIG VALUE CHAIN IN NIGERIA

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Outline

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Introduction ^{1/2}

- ▶ Pigs play a major role in the socio-economic life of the people of Nigeria
 - ▶ Source of income especially for most vulnerable
 - ▶ Play role in culture and food security
 - ▶ Pigs are a potentially viable and valuable investment option for rural poor
- ▶ Over 7.5 million pigs in Nigeria
- ▶ The pig industry is threatened by African Swine Fever (ASF)





Introduction ^{2/2}

- ▶ African swine fever (ASF) is the greatest obstacle to pig industry in sub-Saharan Africa (Foster, 2018)
 - severe negative consequences on food security, livelihoods and the economy
 - indirect public health damages – **consequentially**
 - ▶ ASF has no cure and vaccine against it
 - ▶ Risky behaviors of actors, contribute to persistence of ASF (Muta and Dione 2021)



Environmental risk factors for ASF

- ▶ In appropriate farm location
- ▶ Contaminated water source
- ▶ Improperly disposed death pig /carcasses
- ▶ Slaughtering and processing of bush pig close to the farm
- ▶ Presence of wild pigs in natural habitats
- ▶ Presence of vector *Ornithodoros* species of ticks





Managerial risk factors ^{1/4}

- ▶ Bad farm pen/housing construction
- ▶ Lack of enforcement of basic biosecurity measures
- ▶ Openness/porousness of the farm to visitors, other species of animals
- ▶ Rodents infestation
- ▶ Free range pigs





Managerial risk factors ^{2/4}

- ▶ Untrained farm workers
- ▶ Sharing of farm workers
- ▶ Sharing of equipment
- ▶ Recycling of used bags
- ▶ *Returning pigs from the markets back to the farm*
- ▶ Uncontrolled scavengers





Managerial risk factors ^{3/4}

- ▶ Introduction of pigs from pig farms- of unknown ASF status
- ▶ Sharing of breeding stocks – boars
- ▶ Use of fake or adulterated disinfectant
- ▶ Improper dilution of disinfectants





Managerial risk factors 4/4

- ▶ Siting of abattoir/slaughter slabs for pigs close to pig farms





Regulatory risk factors

- ▶ Poor regulation of clustering of pig farms
- ▶ Ineffective supervision by public animal health service providers
- ▶ Poor enforcement relevant legislations at all levels
- ▶ Absence of compensation scheme to encourage disease reporting
- ▶ Ineffective movement control during outbreak of ASF





Attitudinal risk factors ^{1/2}

- ▶ Poor compliance with biosecurity measures by service providers
- ▶ Clustering of pig farms without biosecurity considerations
- ▶ Sales of sick, infected or death pigs
- ▶ Refusal to report outbreak early
- ▶ Nonchalant or careless attitude of pig farmers





Attitudinal risk factors ^{2/2}

- ▶ Patronage of quacks for cheap animal health services
- ▶ Feeding of swills and raw blood to pigs
- ▶ Poor awareness on ASF – Prevention and control measures
- ▶ Weak cooperation and collaboration amongst pig value chain operators
- ▶ Weak compliance with **quarantine period** before introduction of new arrivals



Biosecurity along the pig value chain ^{1/3}

- ▶ Biosecurity” refers to practices that control the introduction and spread of disease both into, within and between farm(s)
 - a) Cleaning
 - b) Disinfection
 - c) Decontamination
 - d) Segregation
 - e) Traffic Control
 - f) Disease reporting
 - g) **Mitigating risk factors along the pig value chain**

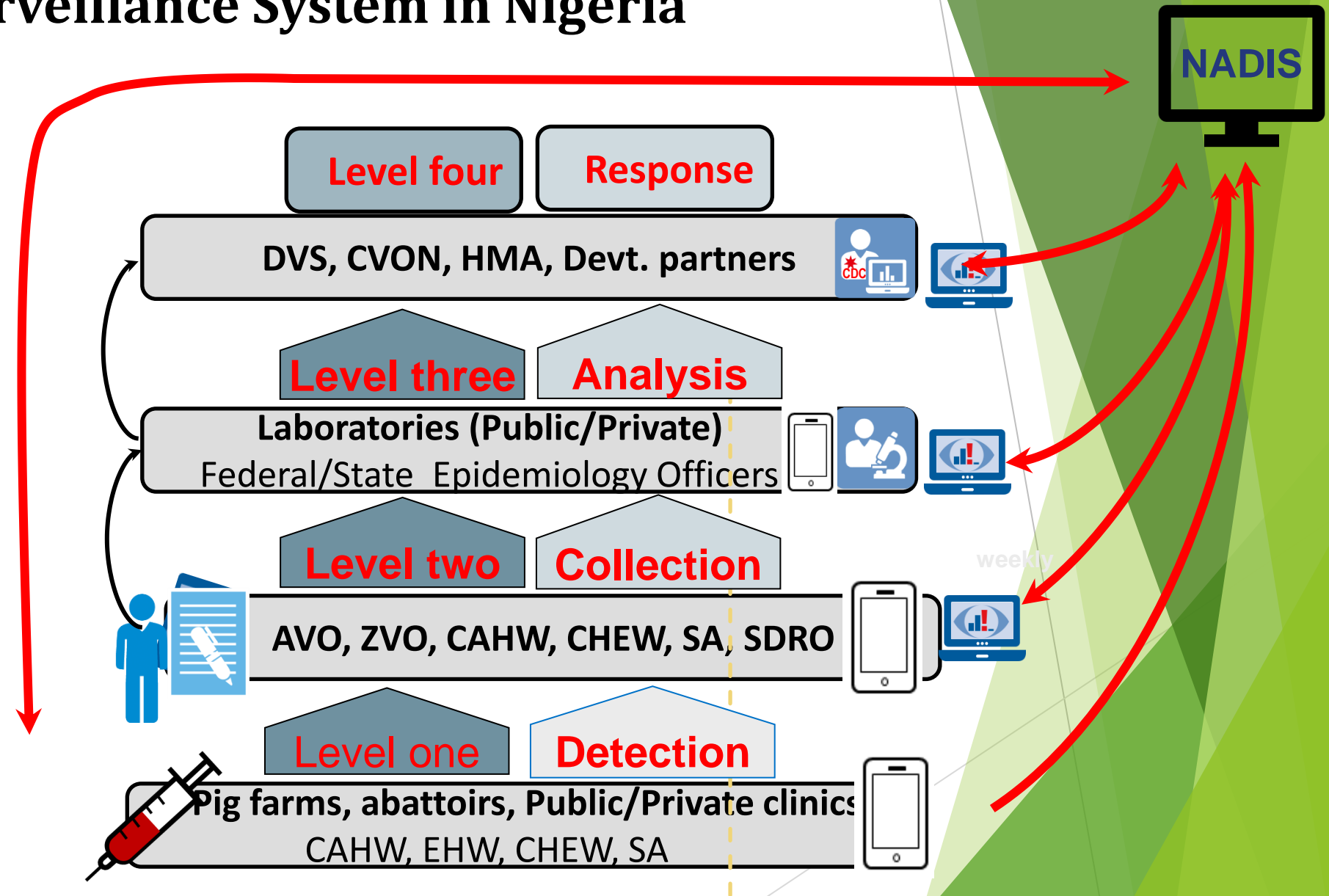


ASF Control Measures

- ▶ Rapid disease outbreak investigation
- ▶ Awareness creation
- ▶ Quarantine
- ▶ Implementation of enhanced biosecurity

- ▶ A ban on illegal import of pork and pork products
- ▶ Proper movement control of pig and pig products
- ▶ Risk communication messages to relevant stakeholders
- ▶ enhanced disease surveillance system

ASF Surveillance System in Nigeria





Challenges of ASF surveillance

- Inadequate funding of disease surveillance
- Weak private sector involvement and collaboration
- Poor Cross border collaboration
- Inadequate human resources - staff attrition, retirements, deaths etc
- Disease reports mainly from clinical and post mortem signs rather than lab confirmation
- Under-reporting
- Inadequate laboratory inputs for diagnosis



Diagnostic Capabilities-ASF Nigeria

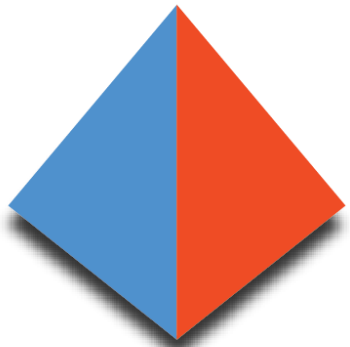
- ▶ Diagnosis of ASF done centrally
 - ▶ at the National Veterinary Research Institute (NVRI) – also, a regional laboratory with BSL-3
- ▶ Diagnostic Tests performed:
 - ▶ Real Time Polymerase Chain Reaction –PCR
 - ▶ Sequencing



Conclusion

- ▶ To prevent and control ASF outbreaks, all risk factors associated with the introduction, establishment and spread of ASF virus should be mitigated against holistically.
- ▶ Pig value chain operators should take responsibility for, and ownership of biosecurity measures
- ▶ Proper regulation of the entire pig value chain remains desirable

Acknowledgements



GF-TADs

GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES

Africa



Food and Agriculture
Organization of the
United Nations



World Organisation
for Animal Health
Founded as OIE

African
Union 



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