



PIG VALUE CHAIN ANALYSIS IN UGANDA

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Presentation Outline

- ▶ Background
- ▶ Pig valve chain assessment
- ▶ Risk factors associated with spread of ASF
- ▶ Interventions to minimise spread of ASF
- ▶ Wild life interaction in the Valve Chain



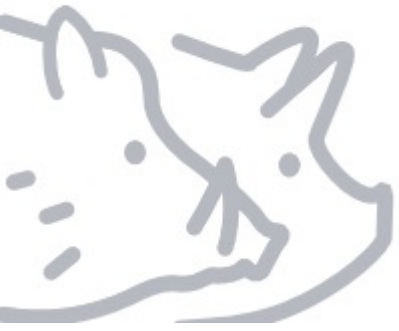
Background & introduction...

- The livestock subsector is one of Uganda's crucial sectors with prospects of improving livelihoods of the rural poor.
- Pig farming is one of the key enterprises for the Small holder farmers who are the majority in the Agricultural sector in Uganda.
- The Piggery enterprise presents tremendous opportunity for rural households to generate income and to move out of poverty because it requires low capital investment and gives relatively quick and attractive returns.
- In Uganda, the pig sector is largely dominated by smallholders, who collectively constitute more than 90% of the agricultural system.
- Pig farming is one of the fastest growing livestock enterprises in Uganda, with 17.8% of households rearing pigs (UBOS, 2011).



Background & introduction

- ▶ The overall proportion of livestock farm households that own pigs increased from 10% in 1990, to 20.9% in 2000/01, and to 30.9% in 2009/10 (UBOS 2009/10 UNPS).
- ▶ By 2016, there were 14.4 million head of cattle, 15.7 million goats, 4.3 million sheep, 4.0 million pigs and 46.2 million poultry of which 40.5 million are exotic birds FAO(2016).
- ▶ There was an increase of 5.2%, 10.8%, 10.9%, 11.2% and 3.4% from 2014 to 2016 in the number of cattle, sheep, goats, pigs and poultry, respectively, FAO (2016). The pig population recorded the highest growth and is promising in its significance towards contributing to agricultural GDP.



Pig Value Chain Assessment...

- The traders usually purchase pigs from the small holder farmers, put them at a collection point and they are transported to large Urban areas for slaughter.
- The meat is distributed to the different outlets of the pork butchers
- The products from pigs include; live pigs, Pork (Large pieces of meat), fried or roasted Pork chops, Sausages
- Other slaughters occur under a designated tree, slaughter slab, Slaughter house or abattoir.
- The Sale of Pork occur mainly at road sides under a tree, a daily market, Super market, a Pork butcher or a roadside pork joint.
- The largest consumption of Pig products is mainly in the Capital city, Kampala due to the high human population. The demand for pig meat is influenced by Festivals such as Public & Religious holidays(Christmas, Easter, Martyrs day).



Pig Value Chain Assessment...KAP

Preventive measure
Ensure your pigs are housed
Do not share boars
Control visitors into pig house
Control feed and water sources
Placing footbaths
Isolation and culling sick pigs
I Don't know

ANALYSIS ONGOING – Courtesy FAO Uganda



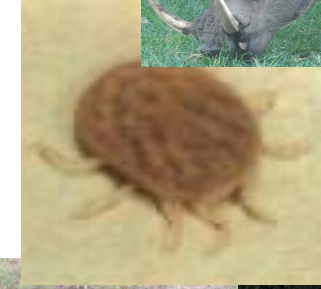
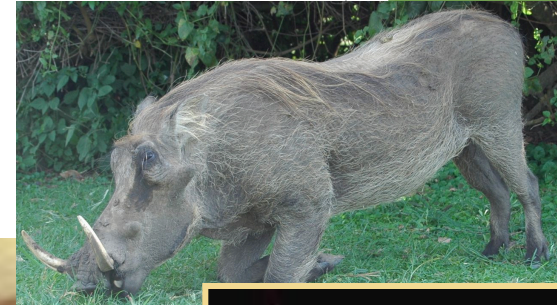
Pig Value Chain Assessment...

- However, Small traders that buy 1 or 2 pigs from the small holder farmers are widely distributed throughout the Country and sell Pork either in pork butchers, under a tree, ready to eat outlets, .
- Pork is consumed frequently in the Uganda, with consumption highest during periods of low food availability, hence increasing its potential to contribute to food and nutritional security (Tatwangire 2014).
- For two decades, consumption growth rates for beef and pork averaged at 2.4% and 3.4%, respectively, according to Baker et al 2013. Pork registered the highest growth rate amongst the different livestock meats.
- According to FAOSTAT 2016, major consumption of pig meat is in the major Urban districts of Uganda with Kampala City leading the List

ASF Epidemiology



- ▶ Reservoir in soft ticks
 - ▶ Survival > three years recorded
- ▶ Asymptomatic infection in warthogs and bushpigs
- ▶ Two main mechanisms of transmission
 - ▶ Sylvatic: Ticks feed on warthogs to domestic pigs?
 - ▶ Current quantitative importance unclear
 - ▶ The role of the bushpig?
 - ▶ Domestic pig to pig cycle
 - ▶ particularly in urban & peri-urban areas???
 - ▶ perhaps the most important mode of transmission
 - ▶ Where is the reservoir? (soft tick?)





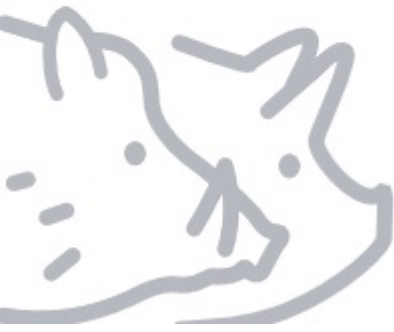
Wildlife interaction in value chain

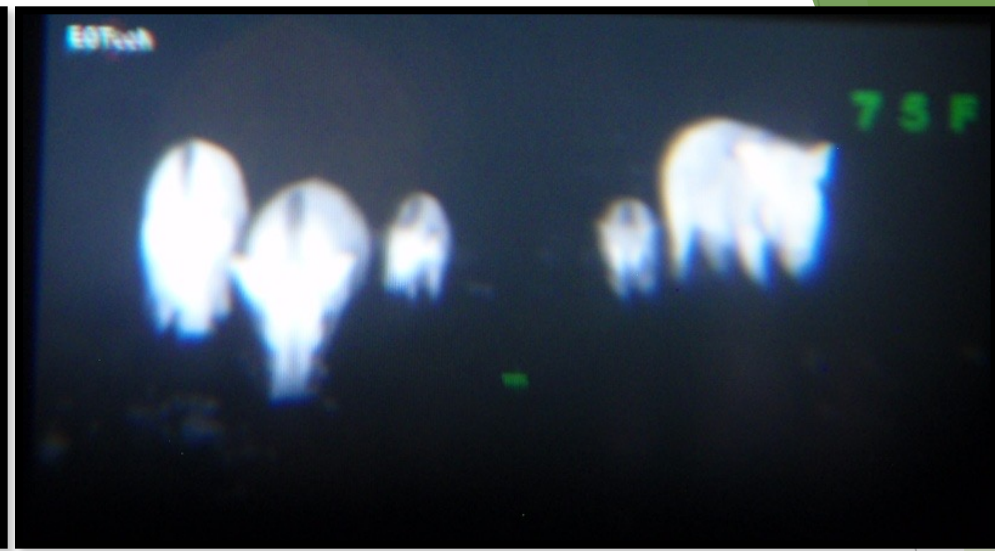
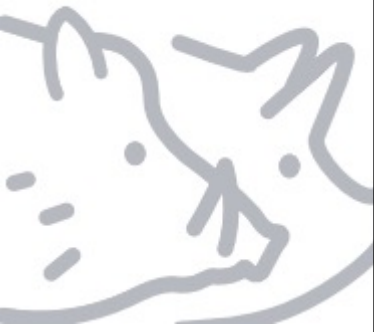
- ▶ Uganda has a number of National parks and game reserves which are home to bush pigs and Warthogs.
- ▶ The Ugandan population is one of the fastest growing human population at an annual rate of more than 3%. Therefore there is increased settlement of communities around the National parks and game reserves.
- ▶ A number of ASF outbreaks have been registered in areas around the National parks and game reserves.
- ▶ The ASF outbreaks around the Wild conservation areas is two fold ; the Wild swine to the domestic pig or from the Vector that is prevalent in such areas to the domestic pig.
- ▶ Further studies are needed to demonstrate the significance of the interaction in relation to ASF outbreaks in the domestic pigs in such areas.



Wildlife interaction in value chain W/L







Thermal vision camera-night operations

Camera Trap





Ltl Acorn



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Wildlife interaction in value chain W/L

 **frontiers**
in Veterinary Science

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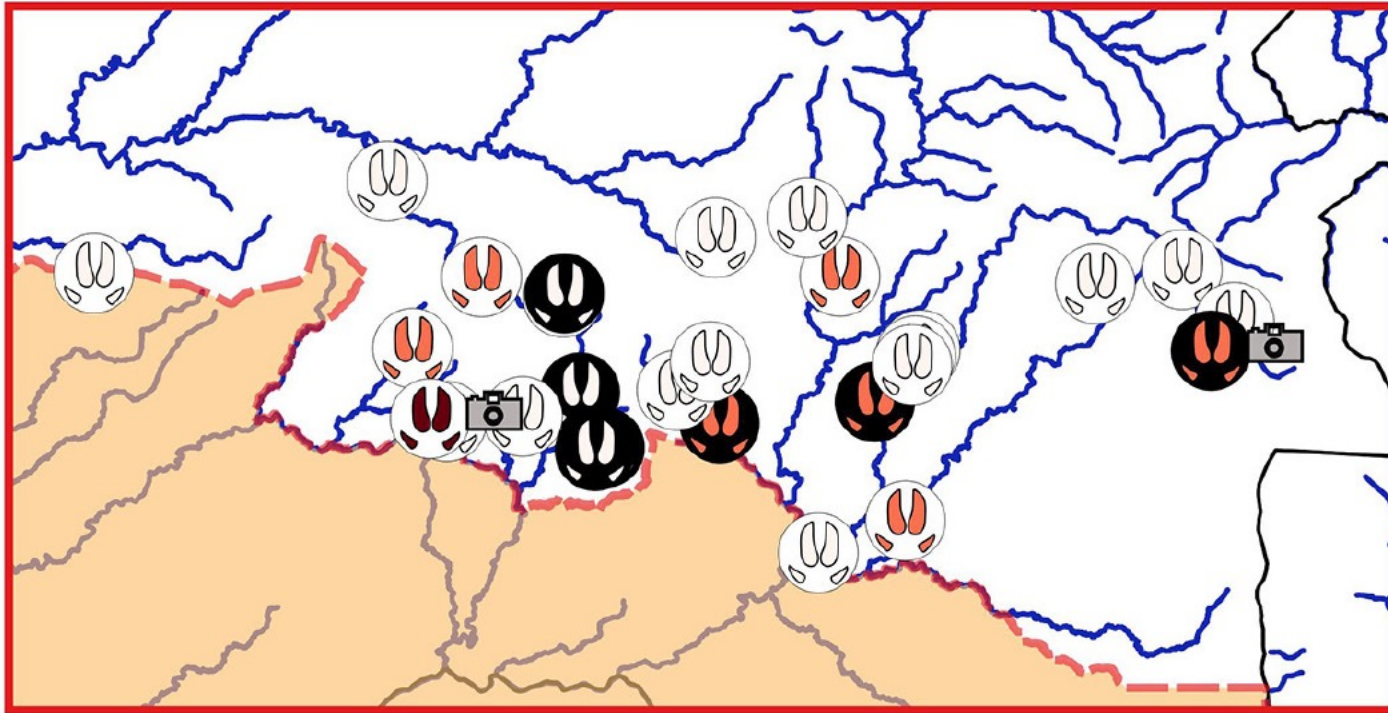
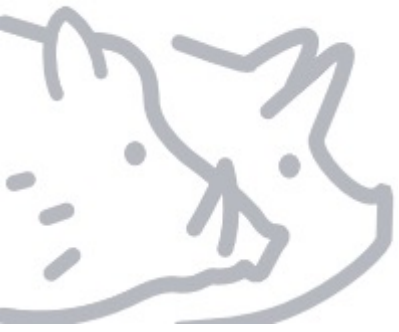
Comparison of Three Methods to Assess the Potential for Bushpig-Domestic Pig Interactions at the Wildlife—Livestock Interface in Uganda

Ariane Payne^{1}, Peter Ogweng¹, Alfred Ojok¹, Eric Etter², Emmanuelle Gilot-Fromont³, Charles Masembe¹, Karl Ståhl⁴ and Ferran Jori⁵*

Protocol 2: Camera-Trap Survey

Protocol 1: Questionnaires

Protocol 3: Track Observations



0 7.5 15 km



 Murchinson Fall National Park

 Rivers

Frequency of bushpig visits drawn from the questionnaires and the track survey



no visit



at least once a week



at least once a day



Absence of observed bushpig tracks



Presence of observed bushpig tracks



Wildlife interaction in value chain W/L

– Insights Into Bushpig-Domestic Pigs Interaction

Our results showed that bushpigs visit crop fields and that some of these areas may be more at risk of intrusion depending on their location and type of crops grown. Eventhough pig farming is common among the rural community of this area, the domestic pig population is not evenly distributed and is directly related to the distribution of the pigs owners. Mapping the farms keeping domestic pigs would be of particular interest to see how they



Risk Factors Associated with spread of ASF & Interventions to minimize.

- ▶ Historically outbreaks of ASF have been reported in Uganda, where farmers have registered serious production and economic losses.
- ▶ The farmers report these suspected ASF outbreaks to Sub-county Animal health workers who are either Veterinarians or Animal production Officers. The Sub-county Animal health workers report to the District Veterinary officers (DVOs).
- ▶ The DVOs will use the clinical presentation to verify whether it fits the case definition of a suspected case of ASF in Uganda.
- ▶ The team at the Center has responded to most of the suspected ASF cases especially during project mode where blood samples have been collected from exposed animals in addition to tissues (liver, spleen, mesenteric lymph nodes) obtained from dead animals.
- ▶ The same tissues have been collected at pig slaughter places during inspection and submitted to the National laboratory for confirmation.



ASF & Interventions to minimize

DRAFT ASF CONTROL STRATEGY (MAAIF, FAO UGANDA)

A Uganda where ASF no longer constrains sustainable pig production

Mission

To contribute to food and nutrition security and poverty reduction through sustainable pig production.

Objectives

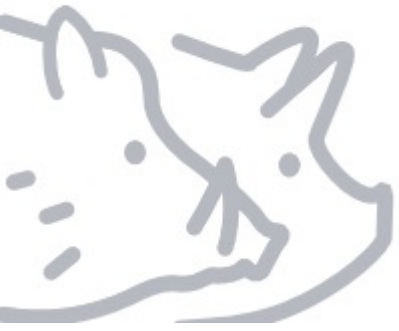
ASF Contingency plan development _ongoing (FAO UG

- 1. Improve in-country capacity to detect, prevent and respond to ASF.**
- 2. Establish an effective coordination and cooperation framework for ASF control.**
- 3. Increase the competitiveness of pork and pig products in domestic and international markets**
- 4. Improve communication and data management for ASF**



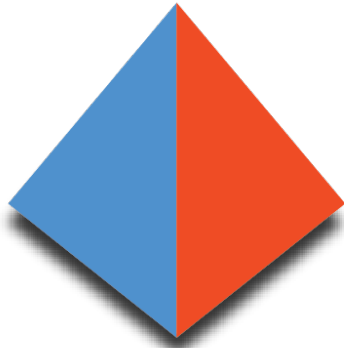
Risk Factors Associated with spread of ASF & Interventions to minimize

- Poor **husbandry practices** and poor on farm biosecurity measures (purchase of replacement stock without testing or initial isolation, sharing of breeding boars, free-range husbandry system and allowing access of visitors onto farms without disinfection)
 - Increased **movements of pigs** during suspected ASF outbreaks to mitigate losses by the farmers due to the disease.
- ▶ Increased prevalence of the Vector
 - ▶ Feeding of Swill without taking the necessary precautions
 - ▶ Increased Wildlife-livestock interface due to the decreasing land availability hence encroachment to the protected areas



Risk Factors Associated with spread of ASF & Interventions to minimize

1. Instituting **Movement restrictions** where ASF outbreaks have been confirmed by PCR.
 2. **Destruction of the infected flock** has been recommended but difficult to implement since there is no direct way of compensating the farmers.
 3. At times mass **onfarm Slaughter** and cooking the meat to above 80 degrees has been encouraged and recommended meat to be supplied to specific institutions with guidelines on disposal of the leftovers
- ▶ **Training of farmers** on biosecurity measures especially in the hot spot areas by the Ministry, District Veterinarians, Community based organizations, NGOs, Pig farmer platforms, Press releases, Electronic Media.
 - ▶ **Development of the ASF control strategy with support from FAO is underway.**
 - ▶ **Sourcing stock from disease free districts and farms (Screening).**



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 