African swine fever prevention and control research in Uganda

Michel Dione, Emily Ouma, Peter Lule, Ben Lukuyu, Lawrence Mayega and Barbara Wieland

SVA-NADDEC African swine fever OIE Twinning
Final workshop
Meteropole Hotel, Kampala the 26th-27th November 2018.
Background of Smallholder Pig Value Chains Program (SPVCD)

- Smallholder pig value chain activities – commenced in 2011
- Funding support
  - EC-IFAD funded project: Catalysing emerging smallholder pig value chains (2011-2014)
  - Irish Aid funded project: More Pork by and for the poor: Catalysing emerging pig value chains for food security and poverty reduction (Apr 2014 – Mar 2017)
- Complementary projects
  - GIZ funded: mPig Mobile SMS learning for pigs – An innovative information sharing platform for smallholder pig value chain actors (A4NH CRP) (2015-2017)
  - CRP PIM and Livestock funded Interactive Voice Messaging and biosecurity (2018-ongoing)
- Livestock CRP – Animal health flagship (2017-2022)
Value chain assessment results: pig production systems

- The main objective of pig production is for income generation to meet financial obligations.

- Production systems – mainly smallholders (5 districts)
  - Farrow-wean: 1–3 sows (50–82%)
  - Weaner-finish (growers): 1–4 grown pigs for slaughter (60–80%)

- Confinement mainly in urban/peri-urban; tethering and free-range mainly rural.

- Women’s activity domain included pig feeding, watering and cleaning of pens, while marketing was mainly in men’s domain.
Value chain assessment results: pig health

- ASF is the primary cause of pig mortality with epidemics occurring mainly during dry season

- Parasites infections (more than 70% of pigs are constantly highly infected with worms)

- Lack of knowledge of farmers on best practices in biosecurity and pig husbandry

- Poor drug quality and limited access to extension services
Value chain assessment results: ASF

Risk factors to ASF

✓ Prompt disposal of dead pigs
✓ Presence of wild animal in the vicinity of the farms
✓ Panic sales during outbreaks
✓ Presence of roaming dogs
Value chain assessment results: ASF

- The key driver of ASF disease spread is social networks
  - actors of the trading node contribute the highest (traders, transporters and butchers)
Occurrence of ASF in Uganda (Data source: MAAIF)

- High socio-economic cost to smallholder farmers
- Poor biosecurity at farm level and along the pig value chains
- Poor management and handling practices of live animals and their products
- Underreporting and limited animal movement control during outbreaks
Farmers not reporting disease outbreak (n=960, Masaka/lira)

% of respondents listing reasons

- Lack of knowledge about onset of outbreak
- Fear of stigmatization
- Fear of losing customers/buyers
- Carelessness
- Fear of losing animals following culling
- Lack of time to report
- No action taken by authorities
- High treatment cost
- Don't know where to report
- Lack of money
- Limited access to vet. authorities
- Disease has no cure
- High financial cost of communication
- Fear of quarantine/movt control
- Other reasons

0 5 10 15 20
Traders not reporting disease outbreak (n=81, Masaka/Lira)

% of respondents listing reason

- Fear of losing market
- Lack of knowledge about outbreak
- Not responsibility to report
- Carelessness
- Laziness/Too busy
- Fear of stigmatization
- Don't know where to report
- No action taken by authorities after...
- Fear of blame
- Fear business closure
Vets not reporting disease outbreak (n= 71, Masaka/Lira)

% of respondents listing reason

- Lack of knowledge about the disease
- Carelessness
- Reporting is expensive
- No action taken by authorities
- Poor transport mean
- Fear to lose business/customers
- Farmers don't report
- Busy
- Poor working relations with farmers
- Make money during outbreak
- Difficult to work with area vet
- Lack of allowance
- Other reasons
Gender, pig diseases and husbandry

- Women play a key role in pig husbandry and application of biosecurity
- Successful training in biosecurity should consider both wife and husband in the HH
Biosecurity training interventions

- A RCT to assess the impact of biosecurity trainings of pig farmers on knowledge, attitudes and practices

- Lira and Masaka districts – 836 pig keeping households
  - Treatment group (participatory training): 420 households
  - Control group: 416 households

- Baseline and endline surveys implemented in 2015 and 2017, respectively
RCT training intervention: results, 1 year later

- Significant improvement in knowledge
- Limited adoption of biosecurity practices and behavioural change – need for incentives to boost adoption
Interactive Voice Response (IVR): a cost-effective disease reporting method (field testing in Masaka)

- Pilot testing of IVR - Mobile voice service in Masaka
  - allows pig farmers to listen to advisory information and report disease outbreak on their mobile phones
Interactive Voice Response (IVR): a cost-effective disease reporting method (field testing in Masaka)

- Add-on to the RCT training intervention.
- **Objective:** assess impact of IVR on KAP in comparison to the participatory training methods
- **4 groups**
  - Group 1: No participatory training & no IVR messaging (control)
  - Group 2: Get participatory training and no IVR messaging
  - Group 3: No participatory training BUT get IVR messaging
  - Group 4: Get participatory training & get IVR messaging
Capacity building of butchers on appropriate pork slaughter and pork handling improved business

- Participatory training for butchers (47) in collaboration with **Veterinarians Without Borders** has enhanced hygiene, carcass handling and biosecurity practices in Mukono Municipality.

- Improved knowledge on good hygiene and sanitation, personal hygiene, and management of sick pigs and “abnormal pork”

- However, meat inspection and hygiene regulations are instrumental to sustain outcomes
Ex-ante assessment of pig biosecurity interventions

• Application of System Dynamics model to assess the impact of biosecurity interventions on margins to value chain actors

• Average annual % change of value chain actors' cumulative profit relative to baseline

<table>
<thead>
<tr>
<th>Pig value chain actors</th>
<th>Producers</th>
<th>Butchers</th>
<th>Traders</th>
<th>Collectors</th>
<th>Wholesalers</th>
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</thead>
<tbody>
<tr>
<td>ASF biosecurity Vs baseline</td>
<td>-6.2</td>
<td>8.1</td>
<td>10.3</td>
<td>8.6</td>
<td>8.0</td>
</tr>
<tr>
<td>Pig business hub Vs baseline</td>
<td>11.3</td>
<td>5.3</td>
<td>8.8</td>
<td>7.3</td>
<td>4.0</td>
</tr>
<tr>
<td>Combined ASF biosecurity and pig business hub</td>
<td>6.5</td>
<td>13.1</td>
<td>21.2</td>
<td>17.4</td>
<td>10.4</td>
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Ex-ante assessment of pig biosecurity interventions

- Financial incentive (pricing) is a key driver to adoption of biosecurity practices by farmers
  
  ➢ Market pricing mechanisms
Policy recommendations – enhancing biosecurity

- Strengthen biosecurity protocols along the value chain
  - ✓ investing in improved biosecurity
  - ✓ subsidize or otherwise incentivizing improving biosecurity

- Improve farmer’s business performance

- Improve farm management and disposal of pig waste (ex. centralized pig slaughter)

- Invest in improving affordable feed availability and quality to reduce free range
Thank you

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