



Impact of participatory training on biosecurity protocols on the knowledge, attitudes and practices of smallholder pig farmers in Uganda

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Key lessons and recommendations

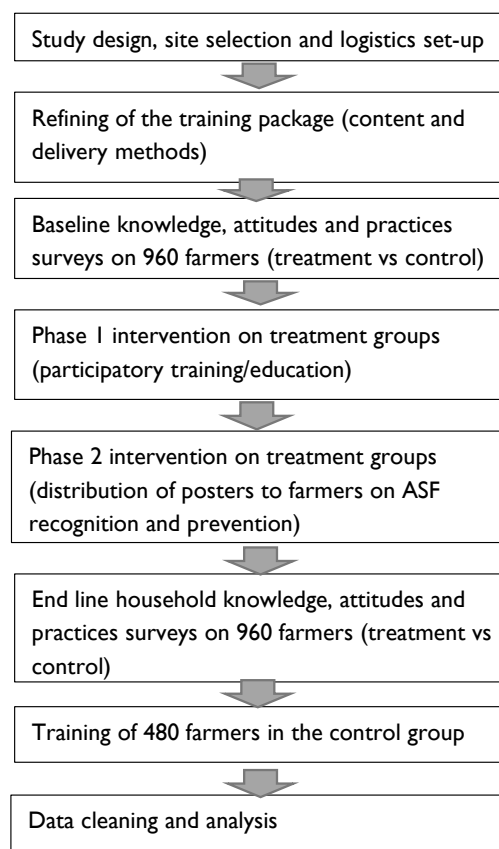
To avoid the spread of African Swine fever, all pig farmers in an area need to be trained: Identify model pig farmers (whose farms will function as demonstration sites) and support them in their respective localities to train others in nearby villages. These model farmers will also be responsible for making other farmers aware of where they can access reliable veterinary services.

By-laws to control African Swine fever are not being followed: Build the capacity of pig farmer unions in undertaking lobbying and advocacy, enabling them to engage with their respective local governments on the implementation of existing laws on controlling the spread of African Swine fever.

Farmers lack good quality breeds and it is expensive to maintain a boar on the farm: Support the provision of artificial insemination services through collaboration with specialized agencies.

Farmers cannot afford disinfectants and the construction of pigsties and fences: Explore cheaper alternatives to overcome the current cost barriers, e.g. proven local/homemade disinfectants and low cost housing.

Figure 1 - Sequence of study activities



Background

African Swine fever (ASF) is recognized as one of the biggest hurdles to the development of the pig sector in Uganda. As it has no known cure, disease outbreaks have had a big impact on the socio-economic status of pig farmers, with revenue losses and increased vulnerability to poverty. The adoption and implementation of biosecurity measures along the pig value chain is the only method of controlling ASF. The transmission cycle in domestic pigs has been identified as a key driver of ASF circulation in a number of areas with high pig population densities, a significant proportion of free-range management systems, and low levels of farm biosecurity. During ASF outbreaks, the disease spreads along illegal and legal trade routes of live pigs and pork affecting the whole value chain with human behaviour being a dominant factor in the transmission cycle in Uganda. A lack of sufficient knowledge on the control measures—coupled with high risk practices and an absence of effective prevention and management strategies—results in continuous ASF outbreaks. To address knowledge gaps, ILRI and partners developed a training package—comprising a training manual and poster on biosecurity measures at farm level—tailored specifically for smallholder pig keepers in Uganda. These manuals were used to train pig farmers in Masaka and Lira districts. This brief outlines the key outputs of that training.

The intervention

Masaka and Lira districts were purposively selected to host a randomized control trial (RCT) study on the effectiveness of training farmers on biosecurity protocols. Semi-structured questionnaires on knowledge, attitudes and practices (KAP) regarding ASF and biosecurity were administered to 480 pig farmers in the treatment group and 480 farmers in the control group prior to the interventions in April 2015. Follow-up surveys were undertaken in May and April 2016 with the same target groups using similar questionnaires. In addition to the quantitative data, focus group discussions (FGDs) were undertaken with participants of the treatment group during separate reflection workshops in the target areas to assess whether the training had been helpful, and also to enable comparison (where applicable) across data sources. The study identified and documented important learning experiences from the capacity development interventions as evidence for wider applicability in the pig value chains. The evaluation also enabled ILRI and other stakeholders to assess whether the design and implementation of the capacity development interventions needed improvement i.e. identify lessons to take into account for future projects. The quantitative data analysis included the tabulation of data by RCT and value chain domains, prior and after the intervention. The FGD data was analysed using content qualitative analysis.

Change in farmer knowledge of the clinical signs and transmission routes of ASF

Following the training, all areas reported a reduction in ASF outbreaks as more people were made aware of clinical signs of the disease, modes and channels of transmission

and ways of reducing its spread. As expected, the urban pig value chains registered higher gains in all areas. During the FGDs, participants demonstrated varied knowledge of ASF causes, symptoms, transmission and control measures, learned during the training workshops. The Masaka group demonstrated a comprehensive knowledge of the causes, symptoms, transmission routes and control measures. All farmers in the various groups knew that there was no cure or treatment for ASF, but that it could be controlled through the application of recommended biosecurity measures.



Changes in farmer knowledge, attitudes and practices towards biosecurity measures

The training positively changed the knowledge levels of several respondents. The biosecurity measures about which most farmers were aware included: isolation of new pigs (10%—urban); farm cleanliness (9%—rural); heated swill feeding (15%—urban and 15%—rural); avoidance of un-disinfected farm tools (11%—urban and 15%—rural); and use of disinfectant (9%—urban and 17%—rural).

Before training, majority (71–77%—urban and 56–68%—rural) of the boar keepers were not taking any actions (particularly urban keepers) to protect their pigs from getting infected by the sows brought in from other farms. Following the training, more rural boar keepers (24%) started isolating incoming pigs, while the urban farmers started undertaking actions to protect their pigs, such as spraying and deworming their sows. Some progress was made in changing the attitudes of respondents in the treatment group. An additional 7% of trained rural respondents said they would keep traders off the farm; 7% of the trained urban respondents stated they would have control their neighbour's visit to their farms; and 6% of urban and 4% of rural trained respondents would house pigs if there is ASF outbreak, in addition to the numbers highlighted above. During the FGDs, all participants indicated that due to the training, they had changed their attitude towards ASF. They highlighted some practices which had produced good results, including: confining pigs, good hygiene, and use of disinfectants for visitors, suspending domestic pork consumption during ASF outbreaks, boiling swill before feeding pigs, burying dead pigs and, in some cases, purchasing needles and syringes

for veterinary use. The majority of farmers attributed implementation of these practices to the reduction of ASF outbreaks in their respective areas. Most importantly, farmers felt they would be no longer deceived by 'quack veterinarians' claiming to treat ASF through vaccination; which has saved them money.

Increased capacities in implementing biosecurity measures

The intervention boosted farmer capacities in many ways. Before the training, farmers' main sources of health and production information were fellow farmers (i.e. 36–40%—urban and 34–38%—rural) and area veterinarians (48–49%—urban and 47–49%—rural). After the training, fellow farmers remained a key source of information in the value chain (particularly those in receipt of training), while group meetings were the key source of information for rural farmers. More farmers in the urban and rural areas find time to clean and disinfect their farms than before. Although the vast majority (89–97%—urban and 96–98%—rural) had initially indicated they did not have enough labour to take care of their pigs daily, there was a turnaround after training.

Varied levels of implementation of biosecurity practices among farmers

During the FGDs, it was noted that there were variations across farmers in the implementation of biosecurity practices. The groups in Lira district implemented the least number of practices. The only common practice reported

across all groups was confinement of pigs by either construction of pig structures/fences or tethering. Other common practices reported by the majority (except a couple of groups in Lira) were the: restriction of outsiders like traders from accessing the pig units; maintenance of good hygiene by regularly cleaning pig houses/confinement areas; isolation of sick pigs; avoidance of swill boiling before feeding pigs; and early reporting of suspected ASF to the authorities. The control measures involving significant financial investment, labour or land, such as burying dead pigs/piglets, the use of disinfectant and footbaths and the purchase of boars, were adopted by very few farmers, mostly in Masaka. The majority did not have enough money to buy farming tools or could not access financial credit; and many could not build better units.

Conclusions

The training of pig farmers on the control of ASF was effective in reducing outbreaks. Not only did farmers learn how to diagnose the disease, but also to prevent and control it. Although they differed considerably in their application of the recommended biosecurity measures, more farmers implemented the practices and got good results. More importantly, the training addressed crucial perceptions towards ASF control. The communities in general are aware of the absence of a cure and have considered taking up the biosecurity measures. If the issue of associated cost for some of these practices can be addressed and the training continue up to village level (as requested), the number and frequency of ASF outbreaks could be substantially reduced, ultimately improving the livelihoods of smallholder pig farmers.





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