Safer indigenous pork and healthier ethnic minorities in Vietnam through better management of parasitic pig-borne diseases

Issue
Pig production plays an important role in generating livelihoods for ethnic people in Vietnam. Both indigenous breeds and wild pigs are traditionally kept under extensive management systems. Indigenous pig production enables ethnic minorities to produce and consume more animal source foods which improves nutrition status. However, food safety risks pose potential human health problems that need to be addressed.

Pig parasites are a major challenge to human health and animal productivity. The Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) consider cysticercosis (T. solium) the most important foodborne parasite and trichinellosis (T. spiralis) the 7th ranking. While information is scarce, the parasites are likely endemic in parts of Vietnam, especially in the northern mountainous areas. Both are underrecognized causes of disease characterized by a range of clinical signs in humans including epilepsy for cysticercosis, and muscle pain with fever for trichinellosis. This can result in society condemning pork as the source of the problem and rejecting it from the food chain, leading to considerable economic and nutrition impacts.

Goal and objectives
The project’s goal is to assess and reduce both parasitic pig-borne diseases (PPBDs)—cysticercosis and trichinellosis—in ethnic minorities of selected areas in Vietnam.

Specific objectives include:

- Assessing the presence of both PPBDs in indigenous pigs and humans living in those communities based on serological testing.
- Understanding the perception and awareness of indigenous pig farmers and pork consumers on PPBDs.
- Addressing capacity gaps (e.g. meat inspection) and diagnostic test using improved diagnostic tools.
- Developing and testing promising interventions to reduce PPBDs and promote a brand for safer indigenous pork.
- Developing capacity and engaging with policymakers to support application of interventions.

Study site
Hoa Binh, a mountainous province on the northwest entrance of Vietnam, was identified as the study site. The ethnic minorities account for approximately 74% of the province’s population. Hoa Binh has high proportion of indigenous pigs among provinces north of Vietnam.

Hoa Binh is also the study site of the “market-based approaches to improving the safety of pork in Vietnam”—SafePORK project (2017–21)—funded by the Australian Centre for International Agricultural Research (ACIAR) and aims at food safety interventions.
This project will complement other food safety projects while SafePORK focuses on market-based interventions for safer pork by reducing microbiological contamination.

Achievements up to date
- Results from serological surveys indicate that both PPBDs appear sporadically in the study area.
- Assessments show that knowledge of ethnic people on PPBDs is poor and risky pig production practices and food consumption habits are rampant in the local community. This discovery will help design solutions.
- Vietnamese researchers and technicians have been trained on diagnostic technics for PPBDs with the support of BfR.
- Hands-on training on meat inspection was organized together with the Department of Livestock Production and Animal Health of Hoa Binh province with the support of FUB.
- Project communication materials have been developed and distributed to local partners.

Next steps
Based on results from our study, interventions will be developed in a participatory process with local authorities and stakeholders. These interventions will focus on:
- Increasing the awareness of the Hoa Binh community on PPBDs;
- Handling cases in affected humans;
- Exploring branding options for safer indigenous pork; and
- Providing further training on meat inspection with support of FUB.

The final project workshop is planned for February 2020.

Contact
Fred Unger
ILRI, Vietnam
f.unger@cgiar.org

Key partnership
The project is funded by the German Federal Ministry of Economic Cooperation and Development (BMZ) and implemented by the International Livestock Research Institute (ILRI) from 01 January 2018–30 June 2020. It is built on the existing One Health partnership between ILRI and two key Vietnamese research partners—the National Institute of Veterinary Research (NIVR) and the Hanoi University of Public Health (HUPH).

The Free University of Berlin (FUB) and the Federal Institute for Risk Assessment (BfR), leading German institutions in the field of food safety, will be responsible for capacity development on meat hygiene/inspection (FUB) and advanced diagnostic tests (BfR) for the targeted PPBDs.

Photo credit: ILRI/Chi Nguyen.