



## Food safety in the smallholder pig value chain in Vietnam: Understanding complexities and adjusting policies

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This brief seeks to help national and provincial policymakers in better managing food safety along the smallholder pig value chain in Vietnam. It proposes cost-effective, practical interventions based on the evidence of the research project 'Improving food safety in the smallholder pig value chain in Vietnam', known as PigRISK which ran from 2012 to 2017. It also includes outputs from a policy forum attended by policymakers from Hung Yen and Nghe An provinces in August 2017 and reflections from the last PigRISK project workshop in September 2017 in Hanoi.

### Vietnam: Food safety and pig value chain

Pork makes up 75% of the meat consumed in Vietnam. A significant proportion (80%) of pork products are produced by smallholders and sold in (traditional) wet markets. However, pigs are a host to many pathogens, an issue causing growing concern among public officials and policymakers, as they seek to improve food safety and reduce animal disease incidence along the pork

### Key policy messages

- Biological contamination is the main cause of health risks, while chemical-associated hazards are less important. Enhancing risk communications is critical to improving the ways that related agencies inform the public of health risks.
- Strengthening hygiene practices along the pig value chain through the provision of training and clear guidelines plays an equally important role to infrastructure investment. More attention should be paid to improving hygiene practices to ensure food safety. However, behavioural change requires the provision of incentives.
- Interventions also need to target consumers to manage the risk of cross-contamination at household level when handling pork.
- High disease burden (17%) due to the consumption of *Salmonella* contaminated pork requires better reporting mechanisms and surveillance systems for food-borne diseases at all levels.

value chain. Ensuring food safety is a top priority for Vietnam, especially in the context of changing food consumption patterns and ineffective risk communication.

Although pork supplied by smallholders, including that from wet markets is affordable and can meet local demand, the quality and hygiene standards are difficult to control effectively. Smallholder pig value chains are vulnerable to breakdowns in food safety. However, research by the International Livestock Research Institute (ILRI) and partners shows that these systems can be efficient and effectively deliver safe pork if appropriate risk management approaches and policies are developed and implemented.



In Vietnam, most pigs—76%—are processed in small slaughter facilities and sold in wet markets which often have inadequate conditions for pork processing and handling. Infrastructural improvements are needed, and more attentions should be paid to improving hygiene practices.

Although Vietnam has a modern food safety regulatory framework, with controls which are rigorously applied to exported food, existing legislation and policy does not adequately support domestic pork consumption. Moreover, Vietnam's regulatory system is not fully risk-based in nature, leading to ineffective risk communication.

### *Distinction between hazards and risks*

In the context of food safety, a **hazard** is defined as a substance (biological, chemical, physical) present in food that has the potential to cause an adverse health effect in consumers.

**Risk** is the likelihood that a person might be harmed if exposed to a given hazard. Risks in food safety usually refer to the likelihood and consequences of events.

## Key findings from research

PigRISK studies were conducted to provide evidence on health risks, impact and possible mitigation options. Some key findings, which have been validated through participatory consultations with key stakeholders, are listed below.

### *Biological and chemical contamination along the pork value chain*

PigRISK studies show that while biological hazards present the most important risk, consumers tend to be more concerned with chemical contamination of pork. Microbial risks through improper hygiene and cross-contamination are likely to cause most food safety concerns and health impacts.

Researchers found high levels of contamination on pork with *Salmonella* present in 44% of pork sold at markets in two studied areas: Hung Yen and Nghe An provinces.

Research showed that the health risks due to chemical hazards in pork in Hung Yen and Nghe An provinces seemed less serious than what was recently communicated to the public on the mass media; almost none of the samples exceeded the current maximum residue limits.



### *Health risks*

A risk assessment estimated the annual risk of salmonellosis due to consumption of cooked pork for consumers in studied provinces to be 17%; this means that every year 2 in 10 consumers are at risk of becoming ill yearly from pork-related salmonellosis. Much of the human health risk comes from cross-contamination when handling pork at household level, for example, using the same cutting board. However, consumers have the perception that household practices, such as the rinsing of pork with water and cooking well, can sufficiently reduce the impact of any possible microbial contamination.

## Economic impact of pork consumption

An economic assessment of the cost of human illness due to pork-related salmonellosis was conducted as part of PigRISK. Researchers found that the cost per treatment and per day of hospitalization due to food-borne diarrhoea were USD 106.9 and USD 33.6, respectively, amounting to USD 2.5–7.6 million annually in Vietnam for hospitalization alone.



## Policy recommendations to improve food safety practices in the pig value chain of Vietnam



The following are some of the policy recommendations based on research findings from the project and consultation with policymakers in the two provinces.

- Investment in livestock production including food safety should be more focused. The state budget currently finances too many development objectives with a wide range of beneficiaries, reducing the efficiency of the spending.
- The current policy on slaughterhouses should prioritize good practices and behavioural change of related actors, promoting the adoption of hygienic practices rather than only focusing on infrastructural improvements. Greater awareness of the benefits of behavioural changes and incentives for the adoption of good practices are needed.
- Improved risk communications requires the development of a food safety communication strategy and better collaboration among relevant state agencies and other actors to deliver practical and coherent food safety messages to the public. Future interventions



should target consumers to manage the risk of cross-contamination at household level when handling pork.

- Further support is needed to increase the adoption of good animal husbandry practices (GAHP) by smallholders and establish pig breeding groups to better link farmers to markets and improve food safety along the value chain.
- It is advised to strengthen national food safety monitoring and surveillance, including the improvement of traceability along the pig value chain.

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