

3s-FSPT - A New tool for rapid assessment of food safety performance and identification of interventions applied to pork value chains in Vietnam

Delia Grace^{1,2}, Dang Xuan Sinh¹, Hung Nguyen², Florence Mutua¹, Fred Unger¹

¹ Animal and Human Health, International Livestock Research Institute, Hanoi, Vietnam

² Natural Resources Institute, University of Greenwich, Kent ME4 4TB, United Kingdom

³ Animal and Human Health, International Livestock Research Institute, Nairobi, Kenya

Keywords: value chain; interventions; tool

Background: Food safety is an emerging public health problem in low- and middle-income countries, including Vietnam. Foodborne disease may result from biological, chemical or physical hazards and has a range of health consequences from minor to severe or even fatal. While evidence is improving on the burden of foodborne disease less information risk-targeting in value chains or the best options for managing risk. The International Livestock Research Institution and partners have been working for several years in pork value chains in Vietnam and during that time, emphasis has shifted from risk assessment to risk management and risk communication.

We developed a comparative tool for assessing food safety performance in different value chains and identifying opportunities for improving performance. The tool was risk-based and focused on pork, which is both widely consumed and often contaminated. Pork is mainly produced and slaughtered by the small-scale sector and sold through traditional/wet market outlets, though a growing number of modern retail outlets are emerging.

Materials and Methods: The 3S Food Safety Performance Tool (FSPT) has three pillars: Safety, scalability, and societal concerns. Pillar 1 Safety: Is the core of the tool and uses a risk-based approach to provide robust assessments of food safety outcomes for a food commodity (e.g., pork). However, a value chain may provide safe food but have little potential of reaching significant numbers of people. Hence pillar 2, which is a sustainability and scalability performance assessment of the targeted value chain. This includes business performance of the investigated value chain (e.g., market share, expected trends, potential for change) and supply chain governance (e.g., trust between different actors and identification of promising interventions by stakeholders). Pillars 1 and 2 are supplemented by societal concerns (pillar 3) which covers issues such as gender and equity, cultural norms etc. which may be adversely or beneficially impacted by the current value chain performance or potential interventions.

Results: We piloted the tool across identified pork value chains of importance using a probabilistic sampling design focusing on retail and food supplier only. This included modern retail (supermarket, convenience stores, and high-end food stores), traditional retail (traditional and wet markets) and food suppliers (canteens and street food vendors). To assess *Safety* (pillar 1) biological sampling for a food safety hazard (*Salmonella*), hygienic proxy (coliforms) and observations was performed; *Scalability* (pillar 2) was accessed through criteria such as market share/trends of business, trust of value chain actors and potential for predefined interventions. Societal norms (pillar 3) emphasized on gender and equity aspects across all pillars.

The tool was easy to apply, rapid and provided information considered accurate and actionable by evaluators. The cost was around 45 USD for sampling for one biological sample, 20 USD per key informant interview and 100 USD per focus group discussion, or around USD 6,000 to evaluate one value chain.

Conclusion: The 3S-FSPT tool is a promising, practicable and low-cost way of measuring and promoting food safety in value chains. It can be used to develop a baseline, benchmark across value chains, identify interventions and measure progress. However, additional refinement and piloting is needed and is under development in Malawi and eastern Africa.