Market-based approaches to food safety and animal health interventions: Lessons from smallholder pig value chains in Viet Nam

Karl M. Rich¹,², Huyen Nguyen-Thi-Thu ³, Ha Duong-Nam³, Hung Pham-Van³, Nga Nguyen-Thi-Duong³, Fred Unger⁴, Lucy Lapar⁴
¹ Lab 863 Ltd., UK, ² Lincoln University, New Zealand, ³ Vietnam National University of Agriculture, ⁴ International Livestock Research Institute (ILRI), Vietnam

Background

- **Food safety and animal health issues**: Increasingly important constraints to smallholder pig production in Viet Nam
- **Recent studies**: the significant prevalence of animal disease and food-borne pathogens inherent within the Vietnamese pig sector
- **Important negative livelihoods effects** on smallholder pig producers and other value chain actors, as well as important public health impacts

Results

- Constructed a SD model of the pig VC that combines a detailed model of herd production and marketing with modules on short- and long-term investment in pig capacity, and decisions by VC actors to adopt different innovations
- Model results highlight the feedbacks between different actors in the chain to identify both the potential entry points for upgrading food safety and animal health as well as potential areas of tension within the chain that may undermine uptake
- **Interventions at nodal levels** (e.g. only at farm or slaughterhouse level) are less cost-effective and sustainable than those that jointly enhance incentives for control across the value chain, as weak links downstream undermine the ability of producers to sustain good health practices.

Contact: Karl M. Rich, Ph.D., Associate Professor of Agribusiness and Markets, Lincoln University (Email: karl.rich@lincoln.ac.nz)

Acknowledgements: The CGIAR Research Programs on Livestock and Fish (L&F) and Agriculture for Nutrition and Health (A4NH), ILRI, and VNUA

Funding: The Australian Center for International Agricultural Research (ACIAR), L&F, and A4NH

Materials and methods

- Data collected in 2014 from a sample of 1000 farmers and other value chain (VC) actors in the pig value chains of two provinces in Vietnam (Hung Yen and Nghe An)
- Employed a system dynamics (SD) analysis framework (using iThink®) to explore ex-ante disease risks, impacts, and policy options

Objectives

- To identify appropriate ex-ante market-based policy responses that take into account the tradeoffs between improved animal health and food safety outcomes and their associated costs for different value chain actors as a means of developing chain-level solutions for their control