



Safe Food, Fair Food for Cambodia

Prepared by Hung Nguyen, Tum Sothyra, Chhay Ty, Melissa Young, Delia Grace and SFFF Cambodia team

Project final workshop, 21-22 June 2021, Phnom Penh, Cambodia

Photo credit: ILRI



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Safe Food, Fair Food for Cambodia

July 2017 – June 2021

Principal Investigator

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- Dr. Nguyen Hung, ILRI

Co-PI and Collaborators

- Dr. Tum Sothyra, National Animal Health and Production Research Institute
- Dr. Chhay Ty, Centre for Livestock and Agriculture Development (CelAgrid)
- Emory University
- Cambodia CDC, National Institute of Nutrition⁴

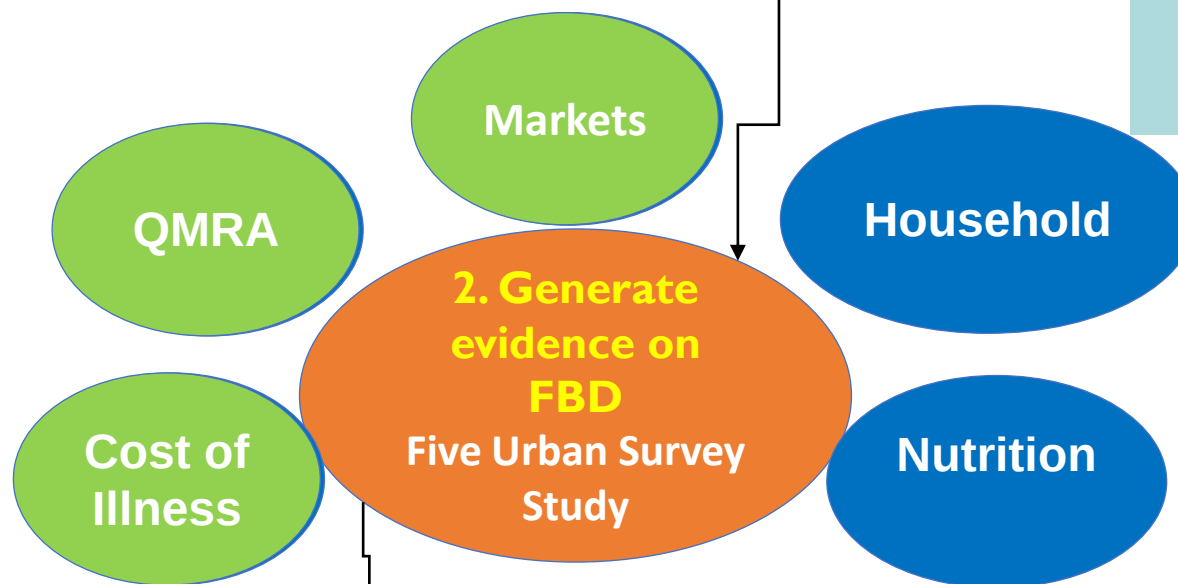
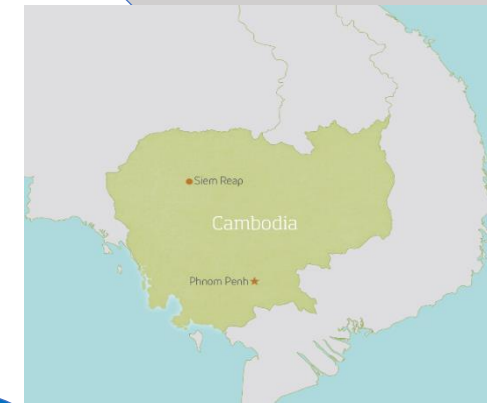


Objectives

- 1) Assess the multiple burdens of foodborne diseases associated with key animal-source food value chains.
- 2) Adapt and evaluate a market-based approach to improving food safety.
- 3) Reduce the burden of foodborne disease in informal, emerging formal, and niche markets.



- 1. Risk profiling**
 1. Scoping visits
 2. Systematic literature review
 3. Risk profiles
 4. Training in risk ranking
 5. Stakeholder prioritisation



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Taskforce

3. Develop & test solutions for wet markets RCT intervention

Safe Food, Fair Food for Cambodia (2018-2021)



A nationwide multi-hazard survey in markets in Cambodia found the prevalence in meat (pork and chicken) of Salmonella was 43% and of Staphylococcus was 31%.

The cost of illness of foodborne diarrhea was \$63 USD per case.

Sample type	N. Specimen	N. positive both <i>Salmonella</i> and <i>S. aureus</i>	<i>Salmonella</i> positive	<i>S. aureus</i> positive
Chicken	186	38 (20.4%)	84 (45.2%)	78 (41.9%)
Cuttingboard chicken	62	6 (9.7%)	26 (41.9%)	12 (19.4%)
Cuttingboard pork	62	1 (1.6%)	19 (30.6%)	7 (11.3%)
Pork	186	33 (17.7%)	85 (45.7%)	58 (31.2%)
Grand Total	496	78 (15.7%)	214 (43.1%)	155 (31.3%)

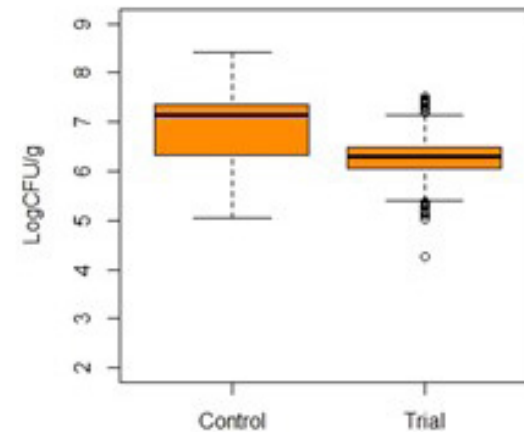
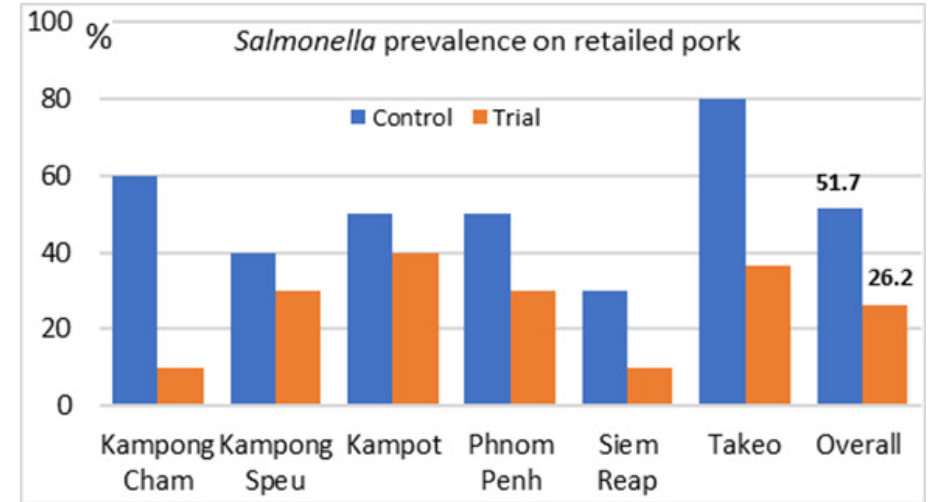
QMRA showed the risk of Salmonellosis by consumption of chicken and pork salad was 11% and 4% annually.

Cost	National Hospital (n=44)	Referral Hospital (n=60)	Regional Hosp. (n=100)	Community Clinic (n=62)	Overall (n=266)
Direct medical cost					
[usd]	125.77	9.42	27.85	4.19	34.38
Direct non-medical cost					
[usd]	40.64	8.36	26.33	0.30	18.58
Indirect cost					
[usd]	21.43	6.38	10.89	3.08	9.80
Total cost [usd]	185.88	24.16	65.07	7.57	62.76

From evidence generation to TCM interventions to improve food safety in wet markets

Key content:

- Easy to clean surface
- Frequent washing (and disinfection)
- Separation (fresh/cooked)
- Training
- Hygienic cutting board
- Branding



Contamination of Total bacteria count by group



Key content:

- Food safety technical working group
- From ministries, WHO, FAO
- Capacity building
- Exchange and influence

NEXT GENERATION OF FOOD SAFETY WORKERS

1. BSc, MSc, PhD students
2. Government staff



OUTPUTS



Pork and poultry safety in traditional markets in Cambodia: Understanding complexities and scaling up good interventions

Hung Nguyen-Viet, Delia Grace, Fred Unger, Johanna Lindahl, Sothyra Tum, Sinh Dang-Xuan, Rortana Chea, Chhay Ty, Teng Srey, Melissa Young, Candice Duong, Morgan Brown, Teng Heng, Silvia Alonso, Kristina Roesel, Steven Lam, Tezira Lore and Chi Nguyen

This policy brief provides information to help national and provincial policymakers better manage food safety along the smallholder pig and poultry value chains in Cambodia. It proposes cost-effective, practical interventions based on evidence from a multi-year research in Cambodian traditional markets.

Introduction

The Safe Food Fair Food for Cambodia project was implemented from 2017 to 2021 by the International Livestock Research Institute in partnership with the

Key policy messages

- Biological contamination (*Salmonella* and *Staphylococcus aureus*) of pork and chicken is important leading to high risk for consumers and financial loss.
- Enhancing risk communication is needed to inform the public of actual health risks as opposed to hazards.
- Strengthening hygiene practices in the traditional markets, especially in the context of the COVID-19 pandemic, is essential.



Article

Prevalence of *Salmonella* spp. and *Staphylococcus aureus* in Chicken Meat and Pork from Cambodian Markets

Chea Rortana ^{1,2,3,*}, Hung Nguyen-Viet ², Sothyra Tum ¹, Fred Unger ², Sofia Boqvist ³, Sinh Dang-Xuan ^{2,4}, Sok Koam ¹, Delia Grace ^{2,5}, Kristina Osbjør ^{6,7}, Theng Heng ¹, Seng Sarim ¹, Or Phirum ¹, Roern Sophia ¹ and Johanna F. Lindahl ^{2,7,8,*}



Article

Low Prevalence of Cysticercosis and *Trichinella* Infection in Pigs in Rural Cambodia

Rebecca Söderberg ¹, Johanna Frida Lindahl ^{1,2,3,*}, Ellinor Henriksson ¹, Kang Kroesna ⁴, Sokong Ly ³, Borin Sear ⁴, Fred Unger ⁴, Sothyra Tum ⁵, Hung Nguyen-Viet ² and Gunilla Ström Hallenberg ^{1,6}

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