



# Food systems, diet diversity, food safety and pandemic threats

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3<sup>rd</sup> MARD-CGIAR Coordination Meeting

**Hanoi, 10 December 2021**

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# Challenges

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## Food systems and dietary diversity

- Limited investment in post-harvest systems and infrastructure, particularly storage, transport, preservation and processing results in high rates of food loss and waste
- Most people are unaware of importance of a nutritious and balanced diet, particularly for micronutrients. Consumption of fruits and vegetables is below the WHO recommendation (400gr/day).
- Gaps in information and data about nutrition and food safety to consumers due to weak systems governing food quality, safety, traceability and integrity.

## Food safety

- Most pressing issues, important as education and health care
- Modern Food safety law but enforcement challenges
- Food safety key component under *Accelerate/towards sustainable food systems* as stated by VN president
- CGIAR provided sound evidence on animal sourced food risk but less on crops

## Pandemic threats

- COVID-19 pandemic demonstrates how intertwined and vulnerable the health, food and agriculture sectors are.
- COVID-19 pandemic (7 Dec, 2021, Vietnam): 1.337.523 cases, 26.700 deaths
- Loss: 24 Bil. US\$ (7%GDP), broken food supply chains

# Food systems:

## Design and support action to improve food system performance



### Important steps along the process

Late 2017-until now: *Enabling environment for inclusive, sustainable & healthier food environments and consumers*

**2018:** Benchmark site efforts for food systems approach: Stakeholder engagement along the rural-urban transect

**2019-2020:** Food systems characterization for preparation: **both primary and secondary data, sources** for Designing food systems profile as a knowledge tool

**2020-2021:** Policy engagement along the rural-urban transect and contribution to country target

# Partial Food Systems Assessment at the Vietnam benchmark sites & Food systems policy baseline: scientific products



## Food system policy baseline assessment

### Report from Vietnam



#### Article

### Diets, Food Choices and Environmental Impacts across the Urban-Rural Interface in Northern Vietnam

Huong Thi Trinh<sup>1,2,\*</sup>, Vincent Linderhof<sup>3,\*</sup>, Vy Thao Vuong<sup>4</sup>, Erin E. Esaryk<sup>5</sup>, Martin H. Youri Dijkshoorn<sup>3</sup>, Trang Mai Nguyen<sup>1,3</sup>, Tuyen Thi Thanh Huynh<sup>1</sup>, Ricardo Hernandez<sup>6</sup>, Thanh Thi Duong<sup>1</sup>, Van Thi Luu<sup>1</sup>, Andrew D. Jones<sup>7</sup>, Elise F. Talsma<sup>8</sup>, Mai Tuyet Truong<sup>1</sup>, Thom Achterbosch<sup>3</sup> and Stef de Haan<sup>10</sup>

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agriculture

#### Article

### Interactions between Food Environment and Food Consumption: Evidence along a Rural-Urban Gradient in Vietnam

Trang Nguyen<sup>1,\*</sup>, Huong Pham Thi Mai<sup>2</sup>, Marrit van den Berg<sup>3</sup>

Huong Thi Mai Pham, Tuyen Thi Thanh Huynh, Thanh Thi Duong, Nozomi Kawarazuka, Stef de Haan, Chien Duc Dang, and Christophe Béné



Photos by: Huong Pham, Le Pham/CIAT



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## Partial Food Systems Baseline Assessment at the Vietnam Benchmark Sites

Tuyen Thi Thanh Huynh, Huong Thi Mai Pham, Huong Thi Trinh, Thanh Thi Duong, Trang Mai Nguyen, Ricardo Hernandez, Mark Lundy, Kien Tri Nguyen, Lam Le Tung Nguyen, Vy Thao Vuong, Ha Thu Nguyen, Mai Tuyet Truong, Ha Phuong Thi Do, Jessica Raneri, Ky The Hoang and Stef de Haan



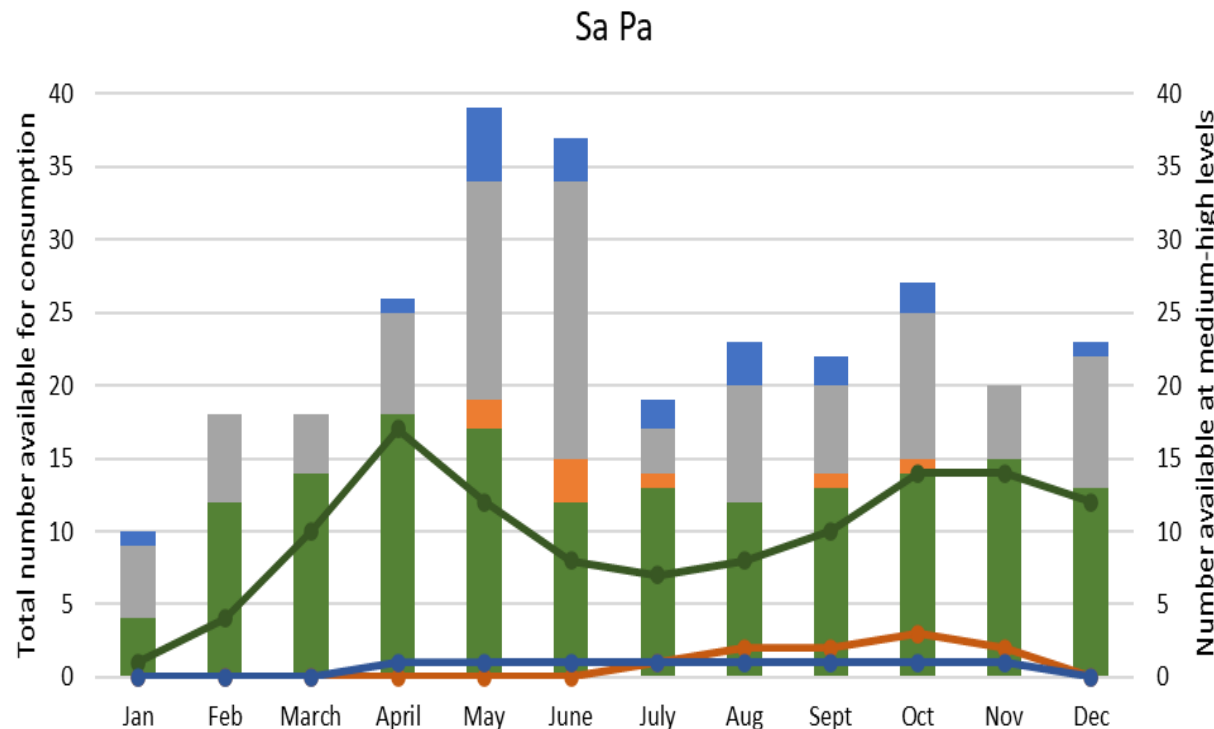


# Food systems profiles

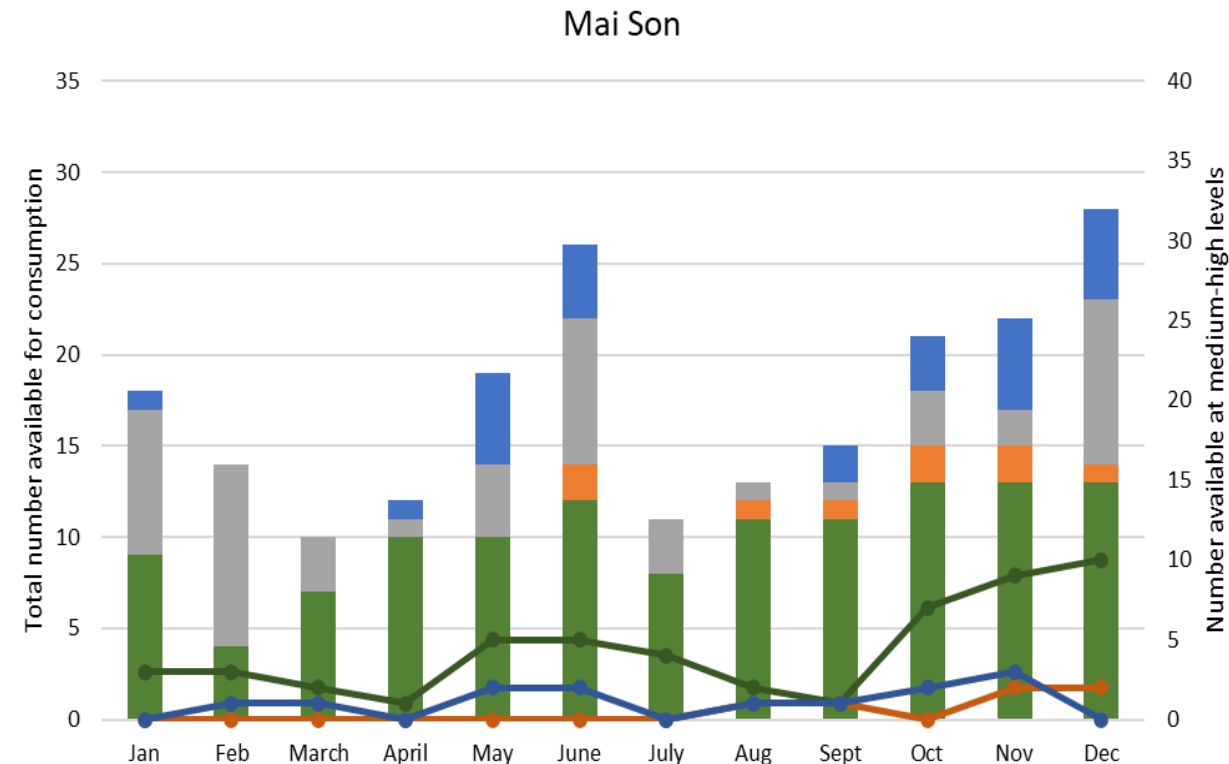


- ✓ Vietnam Sustainable Food systems Profile
- ✓ 3 separate food systems profiles and a comparison profile along the rural-urban transect

# Integrated vegetable seed systems development in ethnic minority communities in Northern Vietnam for enhanced nutrition and income security



## Seasonal availability



Overall lower levels of availability in Mai Son compared to Sa Pa

Diversity of DGLV can be harnessed to fill gaps in availability

Lean periods of Vit A rich veg and pulses can be addressed by improved post harvest practices

## List of other projects related to Food systems for healthier diets and nutrition

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- Revealing informal food flows through “free” WiFi (Inspire Challenge Grant)
- Increasing fruit and vegetable intake of low-income populations in Vietnam and Nigeria through food system innovations
- The Missing Middle: Food system transformation pathways to link action at multiple levels to SDGs 2, 12, 13 and 15 in Tanzania and Vietnam (WOTRO-NWO)
- FAO: consultancy on mentoring and coaching SMEs on NSVC.
- Agroecology and Safe food System Transitions (ASSET) in Southeast Asia
- EATS project



# Policy engagement along the rural-urban transect

Knowledge tools such as the “profile” used by CIAT-Vietnam have played a key role in awareness raising and for decision-making support in a complex participatory policy process with conflicting positions from different stakeholders.

The government will play a coordination and facilitation role to call for involvement of multi-sectors at the local context to work for a more comprehensive and system solutions to solve issues along the food systems’ elements to contribute to the socio-economic development plan.

### Top three solutions for each food-system issue and actor mapping for?

**Issues 1:** Although local agricultural production for various food sources has been growing rapidly, consumption form various food groups remains locally low

1

Boost communication, training, propaganda program to raise awareness and knowledge of local people about nutrition, especially about the importance of consuming foods from diverse food groups, to move towards healthier diets.

2

Provide seedlings, create jobs to help boost household income and escape from poverty.

3

Supply/Provide enough nutritious foods for school in the area.





# Contribution to the country target on Zero Hunger

Contributions to Vietnam's nutrition sensitive movement from  
The Alliance of Bioversity International and CIAT, supported by A4NH

## Contribution

Assist Zero Hunger Office to build up guidelines on applying nutrition sensitive approach for Zero Hunger National Action Program by 2025 in Vietnam in 2019

Member of the Nutrition Technical Working group led by UNICEF and the National Institute of Nutrition in Vietnam

## Contribution

Provide technical support to Zero Hunger National Action Program

Member of the Technical Group of Zero Hunger NAP led by Zero Hunger Office

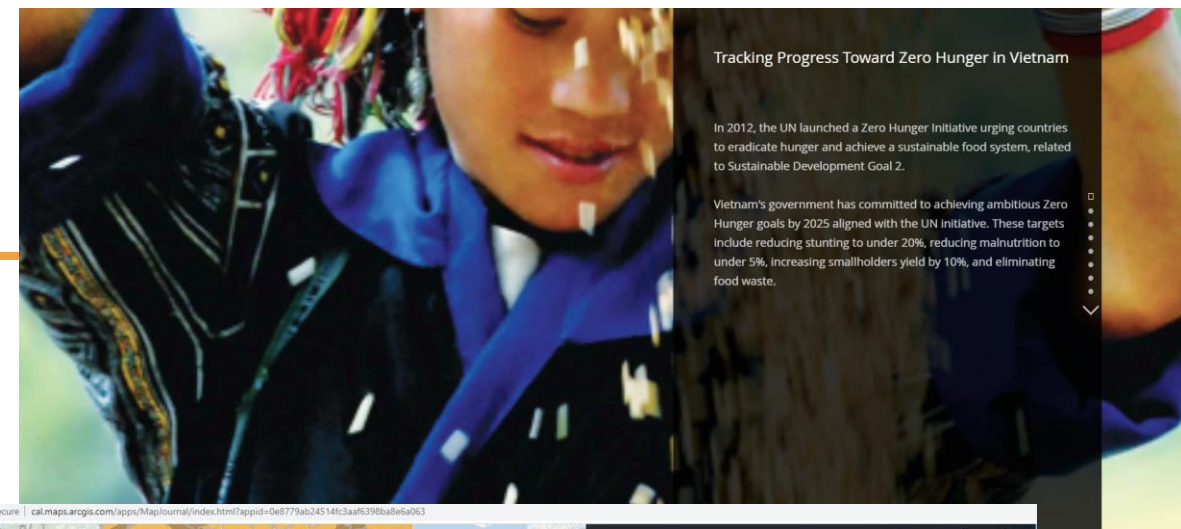
March 30th 2020 Guidelines approved by the Ministry of Agriculture of Agriculture and Rural Development for the period 2020 to 2025

Member of the Appraisal Committee for training materials for the Zero Hunger National Action Program

## Contribution

Map indicators along the food systems' elements into the five objectives of Zero Hunger National action program

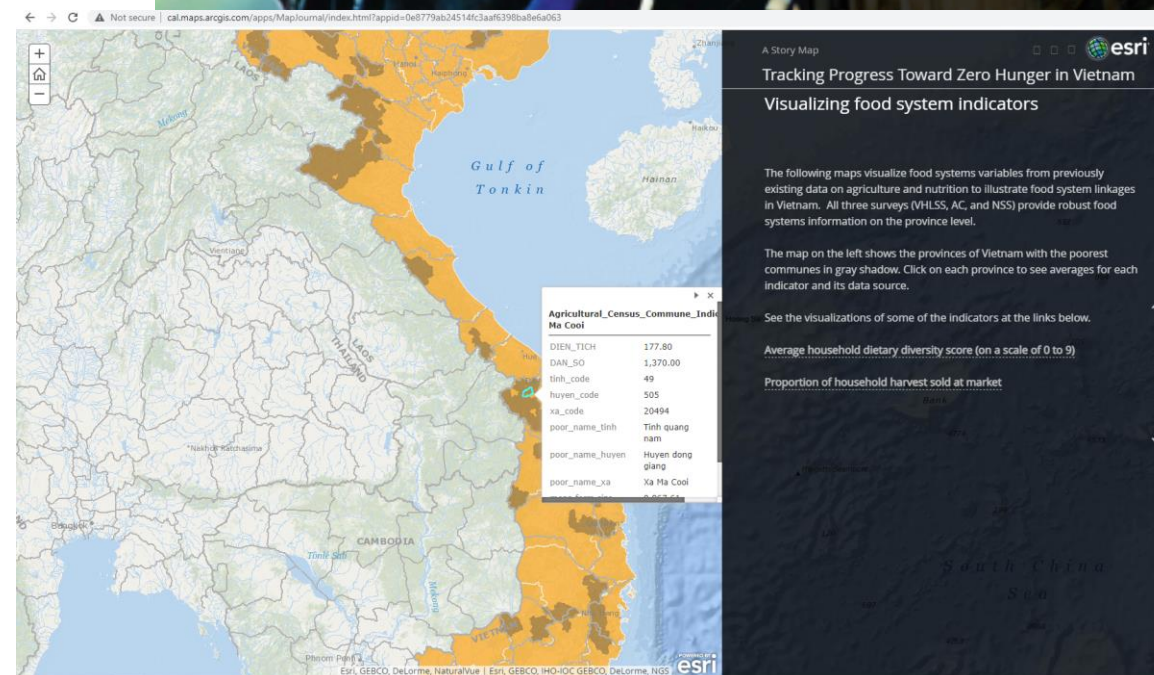
<https://a4nh.cgiar.org/files/2020/05/FSHD-in-Vietnam-May-2020-update.pdf>



## Tracking Progress Toward Zero Hunger in Vietnam

In 2012, the UN launched a Zero Hunger Initiative urging countries to eradicate hunger and achieve a sustainable food system, related to Sustainable Development Goal 2.

Vietnam's government has committed to achieving ambitious Zero Hunger goals by 2025 aligned with the UN initiative. These targets include reducing stunting to under 20%, reducing malnutrition to under 5%, increasing smallholders yield by 10%, and eliminating food waste.



<http://cal.maps.arcgis.com/apps/MapJournal/index.html?appid=0e8779ab24514fc3aaf6398ba8e6a063>



# Towards food systems transformation

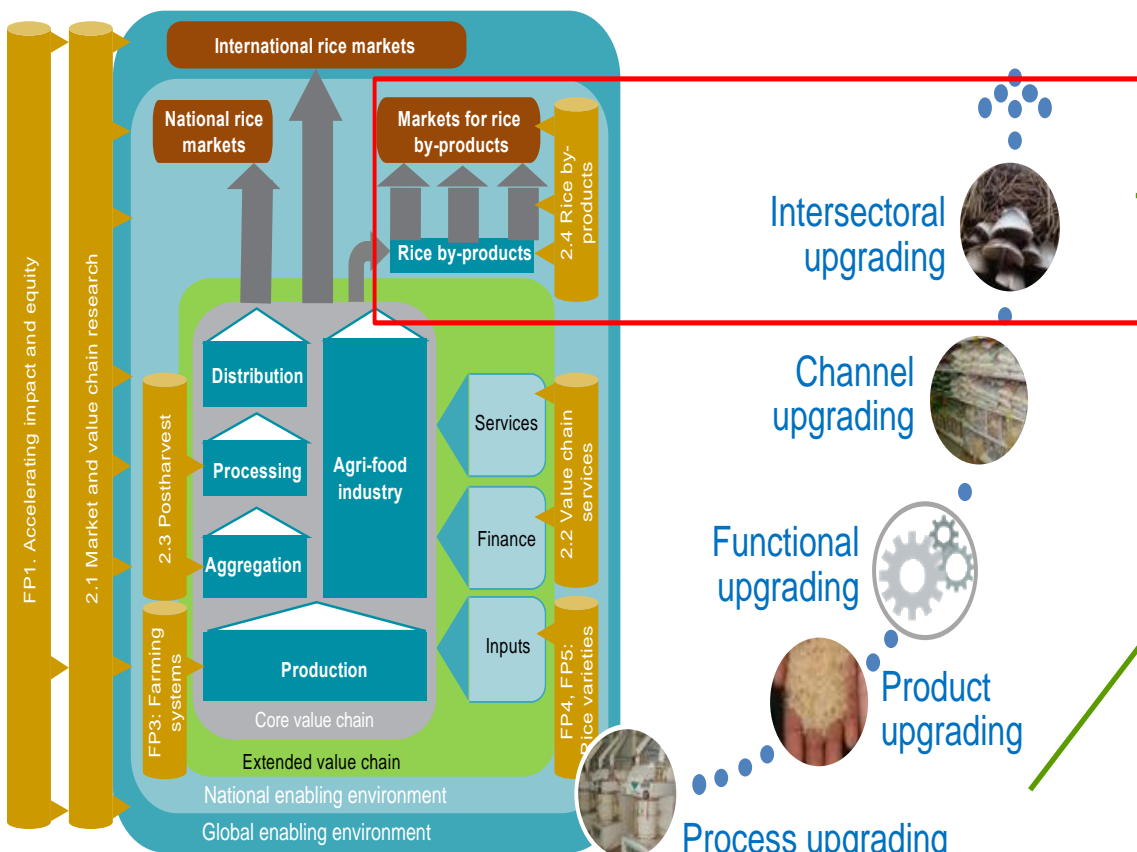


The [Vietnam food systems brief](#) was cited as a reference point during the discussions, and the Food System Profiles developed in 2020, providing an overview of food systems in rural-urban areas of [Moc Chau](#), [Dong Anh](#), and [Cau Giay District](#), were used to describe the current state of food systems in Northern Vietnam.



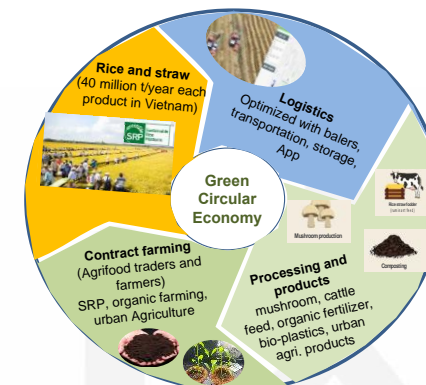
[Hệ thống lương thực, thực phẩm miền Bắc an toàn, minh bạch, bền vững | VTC16 - YouTube](#)

# IRRI – achievements and innovations



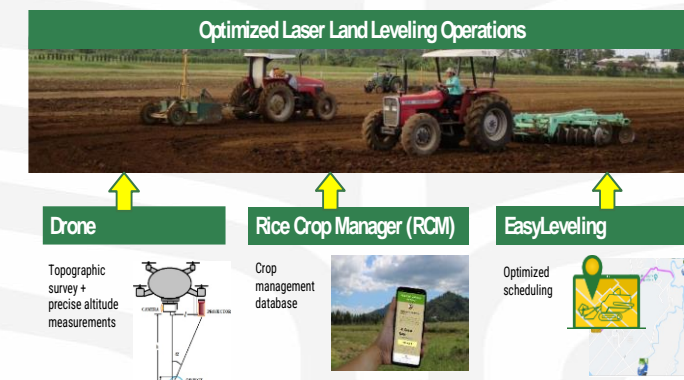
## Upgrading rice straw value chains

- Improved postharvest management for increasing food security and sustainability



## Improve farming efficiency

- Integrated mechanization, precision farming, and digital agriculture



Rice cultivation



# Food safety:

## Key achievements – Evidence of food safety risks in the pork value chain



Traditional retail



Street food



Canteens



„Boutique“ shops



Supermarket/convenient shops



Indigenous pigs

**Approach:** Risk based and three-legged tool: capacity building, incentives for change and an enabling policy environment

**Poor food safety outcomes (*Salmonella*)** across all retail types (modern and traditional)

**First evidence on:**

- **1-2 out of 10 pork** consumers estimated to suffer from foodborne disease (*Salmonella*) annually;
- Cost of hospitalization study due to food borne diseases; Estimate cost ~ **US\$200 M/year**

Value chain actors incorrectly perceive chemical hazards as more important than microbiological

**Low risk from chemical hazards:** grow promoters, antimicrobials (AM), heavy metals

Low risk from parasitic FBD, Cysticercosis and Trichinellosis

**Women more cautious** about **chemical residues** in pork/food than men while **men more in favour of purely technical interventions** than woman

# Key achievements

## – Food safety innovation to mitigate risks



### Food Safety Interventions at slaughter (300-1000 USD)



Inox grid, separate clean/dirty zones, cleaning & disinfection, and training, certification (as incentive)

**Significant hygienic improvement** (hygienic indicator)

### Food Safety Interventions at retail (40 USD)



Hygienic cutting board, separate meat/intestines/cooked products, cleaning & disinfection, scoring system for best retailers

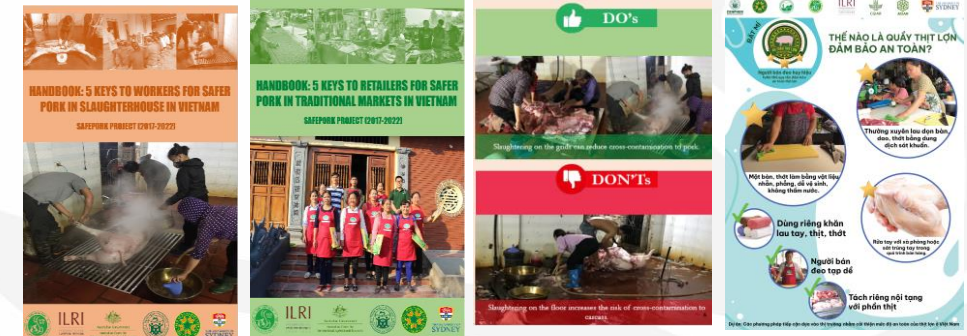
**Moderate hygienic improvement** (hygienic indicator)

### Food safety risk communication

#### Manuals, poster

Introduction of food safety nudges & guidelines

**Training** > 500 trained so far (VC actors, school canteen, media, academia and risk assessors) & > 40 media representatives



### Food auction/willingness to pay

Consumer tend to **pay 16% more** for the intervened pork





# Impact - Food safety

- **CGIAR contributed to:**
  - landmark report on Food safety risk management report & recognised by high level (DPM)
  - UNFSS dialogues and summit, AT 1 & related documents
- CGIAR engaged in Vietnam Food Safety Working Group (ILRI current chair) Vietnam Taskforce for FS Risk Assessment
- Through larger FS initiatives (SafeGRO/ASSET) – 2022 onwards

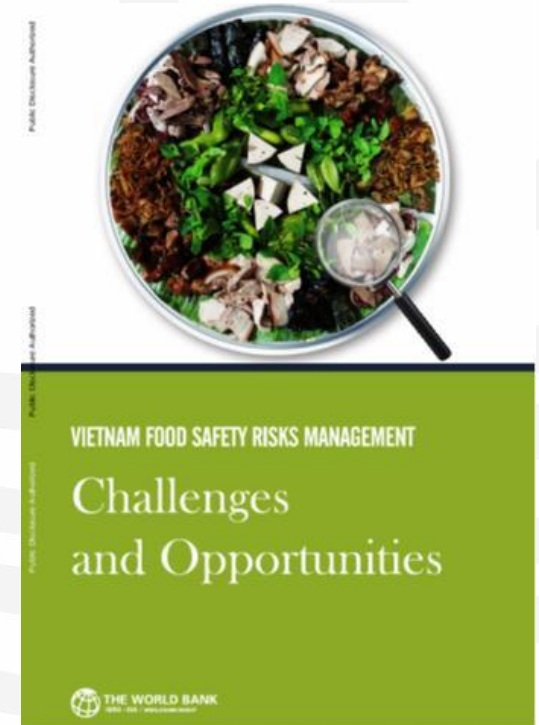
## Scientific impact:

Peer reviewed papers (30+)

PhD and MSc thesis (16+) and One Health leaders' internships (3)

## Community impact:

Trainings reached >600 value chain actors, students, authorities, most of them are woman & thousands of consumers reached in risk communication campaigns (e.g., estimated 25,000 for Hoa Binh)





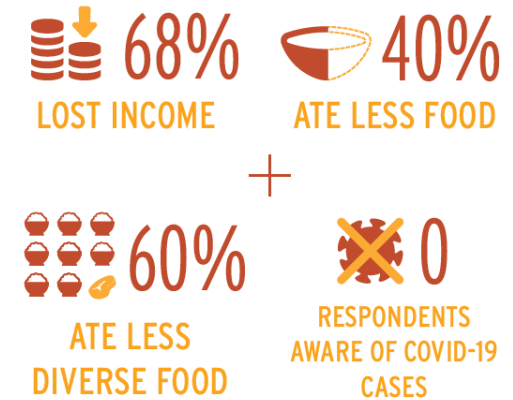
# Key achievements -

## CGIAR research on COVID-19 (impacts, transmission & value chain)



### Li Chan (Mai Son-Son La), Sep 2020

- Severe economic and food security impact, off-farm income also interrupted
- Sale of livestock was a major coping strategy; but often sale prices were low.
- There was evidence of ongoing disruption, even when restrictions were lifted



### Impact on ASF consumers and retailer (Hanoi, Hung Yen & Hoa Binh), Sep - Nov 2020

- Slightly increased consumer purchases in convenience stores and online shopping (urban areas) & after the social distancing period, the consumption behavior tended to resume to the pre-Covid19 pattern
- Retailer sales partly disrupted, not fully recovered till present (-25%); more serious in rural areas.
- Both groups tend to adapt good FS practices (C&D, mask) during partial lock down, and at present.

### COVID interspecies transmission and drivers for wildlife trade (Lao Cai & Dong Thap), Nov-Dec 2021

- Evaluation of Coronavirus (COVID-19) in bats and potential spillover (animals/humans, Lao Cai and Dong Thap)
- Identify actors for wildlife trade and leverage points for change (Dong Thap)

# Way forward & Recommendations

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- Facilitate more **cross sectoral collaboration** for higher impact (e.g., **stronger integrate** food safety or One Health in food system transformation)
- **Contribute** to the food systems transformation national action plan in Vietnam
- Continue **technical engagement** in Zero Hunger National Action Program in Vietnam
- **Provide technical engagement** with MARD in membership in the Multi-stakeholder Advisory Committee (MAC) of the One Planet networks (10YFP) Sustainable Food Systems (SFS) Programme
- **Ensure synergies of CGIAR food safety research** with planned initiative e.g., One CGIAR (One Health, SAPLING, SHiFT) or the food Innovation Hub and SafeGRO
- **Further promote** risk-based approach & risk communication
- Build up on evidence from **interventions**, focus on scaling & integration of **private sector**
- **Expand research links** with: One Health partnership, Food Safety Working Group



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# Thank you!

