



Protecting Human
Health Through a One
Health Approach



INITIATIVE:
**Protecting Human Health Through a
One Health Approach**



CGIAR initiative on One Health

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Presentations for Donor Calls, February 27th, 2023

More information on the One Health initiative:

[Protecting Human Health Through a One Health Approach](#)

[How to Stop Food Systems from Feeding Pandemics: Embrace One Health](#)

Initiative Components & Structure



Protecting Human Health Through a One Health Approach

WP4

Environment (Water)

Improve water management to reduce infectious disease risks



WP1

Zoonoses

Reduce disease emergence and transmission at wildlife-livestock-human interfaces



WP2

Food Safety

Reduce foodborne disease through capacity building of market actors and incentives for compliance



WP3

AMR

Reduce emergence and spread of antimicrobial-resistant zoonotic pathogens



WP5

Economics, governance, and behavior

Understand incentives for and constraints to behaviors affecting One Health



Work Packages & Partners by Country



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Country	Key Work Package	Partners in countries
Vietnam	WP1, WP2, WP5* WP3, WP4	Ministry of Agriculture and Rural Development, National Institute of Veterinary Research, Hanoi University of Public Health
Bangladesh	WP3	Ministry of Livestock and Fisheries, Bangladesh Livestock Research Institute (BLRI), Cefas UK, FAO, Icddr,b;
India	WP4 WP2	ICAR, Food Safety and Standards Authority of India; Office of the Commissioner of Food Safety – Assam and UP
Kenya	WP1, WP3, WP5 WP2	National and County Ministries / Departments of Veterinary Services and Public Health
Ethiopia	WP2, WP4, WP5	One Health National Platform; Ministry of Agriculture (Livestock); Addis Ababa University; Addis Ababa Food, Medicine and Healthcare Administration and Control Authority
Cote d'Ivoire	WP1 WP2	One Health National Platform, Centre Suisse de Recherche en Cote d'Ivoire
Uganda	Leverage from other One Health projects in Uganda	Ministry of Agriculture, Animal Industry and Fisheries, Inter-University Council for East Africa (IUCEA)

Global One Health Advocacy and Influence

- COP27 “Links between climate change and zoonotic diseases emergence”
- FAO Science and Innovation Forum - FAO and WUR event
- WHO “SAGO” Scientific Advisory Group for the Origins of Novel Pathogens
- Vietnam-CGIAR climate change and ag research innovations World One Health Congress - Singapore, November 2022
- Quadripartite's Technical Group on AMR and Use Integrated Surveillance (QTG-AIS)
- World Health Organization Expert Committee on African Trypanosomiasis
- FCDO talk on One Health agenda
- IUCEA food safety benchmarks
- WHO's Consultative meeting on strategic guidance for prevention and control of emerging and re-emerging vector-borne and zoonotic infectious diseases in the Eastern Mediterranean region



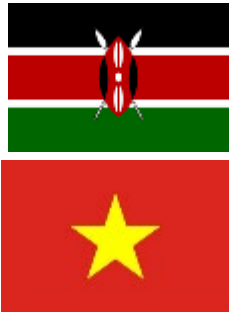
25 articles were published in 2023

One Health Initiative collection on CGSpace:

<https://cgspace.cgiar.org/handle/10568/114641>

Fostering national investment in One Health research and surveillance capacity

- The One Health Initiative, with the Kajiado County government in Kenya, manages a zoonoses surveillance lab established by ILRI with bilateral funding
- Kajiado County has funded a position to work in the lab in collaboration with the Initiative



- Vietnam One Health Research Partnership (ILRI + government and university partners) opened a 4th provincial field site in Thai Nguyen province

WPI: Wildlife value chains and health risks in Vietnam and Cote d'Ivoire

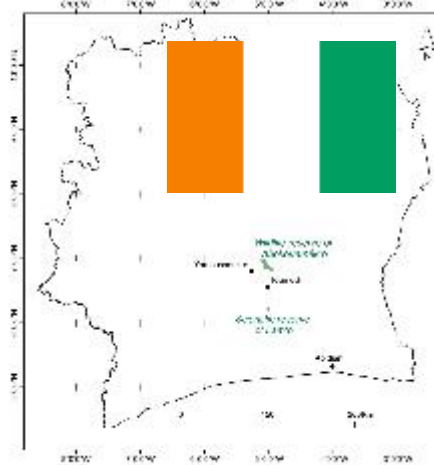


Objective: Identify effective strategies for managing zoonotic risks associated with wildlife farming, bushmeat consumption, and nutritional risks

- Met with stakeholders to decide on priority value chains
- Site visits to Lao Cai and Dong Nai, Vietnam
- Ethical reviews completed
- Survey tools being developed
- Pandemic working group (Vietnam)

Cote d'Ivoire

- Review of literature commenced
- Survey tools being refined



WP2: Food Safety intervention in Vietnam and Ethiopia



- Protocols developed for randomized controlled trials to involve 400 semi-informal meat vendors in Addis Ababa; 68 pork markets across 5 provinces in Vietnam
- Training + voluntary rating program + consumer awareness
- Builds on existing government structures
- Pilot of intervention completed in December 2022 (Vietnam)



Enabling
environment

Capacitating
*Training &
technology*

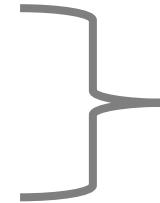
Motivating
Incentives and
motivation



WP3: Antimicrobial resistance in poultry farms in Kenya and aquaculture farms in Bangladesh



- **2022:** Observational studies of 130 (poultry) + 120 (tilapia) farms, repeat farm visits
 - deep understanding of the business
 - cost of production incl. profits
 - quantify farm-level antibiotic use



inform design of RCTs to be conducted in 2023 / 2024

- **Approach**

- A comprehensive survey tool collecting information on biosecurity, mortality, disease/health status, vaccinations, AMU, other inputs e.g., feed, cost of inputs, and outputs, i.e., sales and profit)
 - Incl. perceptions on antimicrobials and compensation for participation in the RCT
 - Developed drug and feed booklets
- Drug waste bin (collected used packages) - AMC quantification and classification
- Biological sampling - pathogens, resistome, antibiotic residues, mycotoxins (poultry feed)



WP4: Water



Modeling and monitoring of microbial pollution in watersheds

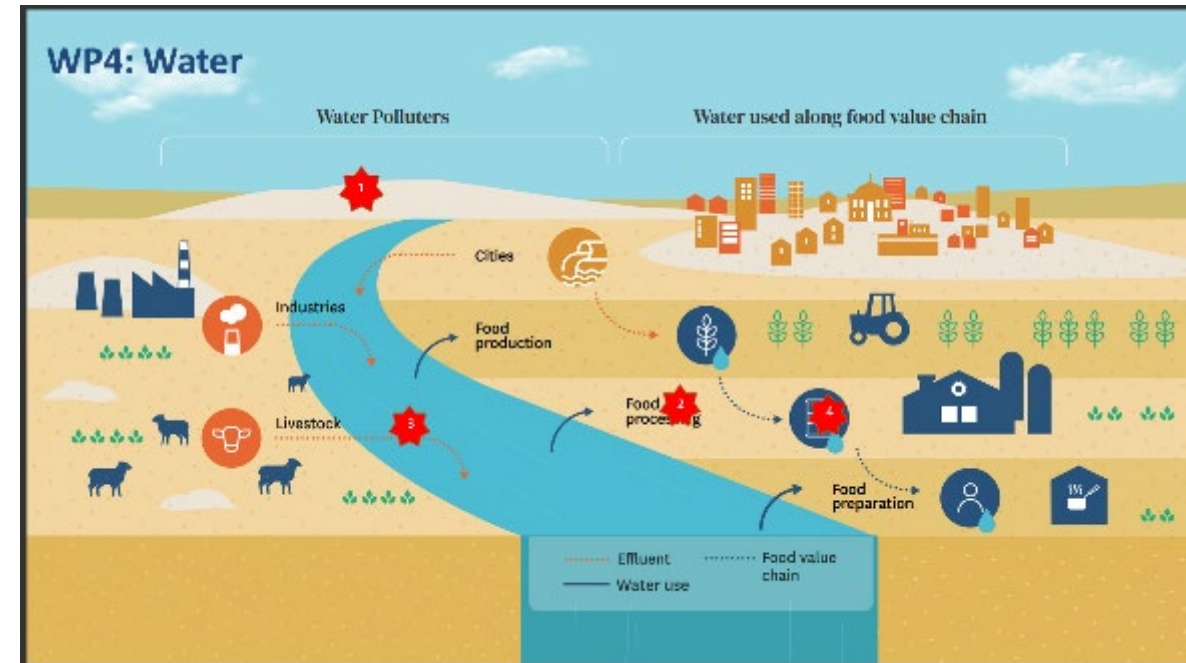
- Quantify relative contribution of livestock to pollution of water with *E. coli* and *Salmonella*
- *Ex ante* analysis of pollution control measures
- Assess health risk downstream
- Progress as of Feb 2023
 - Watersheds selected: Akaki in Ethiopia, Song in India
 - Partners and consultants engaged, staff recruited
 - Monitoring plan and stakeholder analysis developed
 - First monitoring campaign conducted in Akaki

Resource recovery and reuse (RRR) from animal waste

- Online survey disseminated for identification and pre-characterization of RRR cases. 60 cases identified. 5 characterized in detail
- Business models from successful cases will be synthesized and promoted for adoption and replication

Cross-initiative integration of water

- Contributing to food safety RCT protocols to include research questions on water

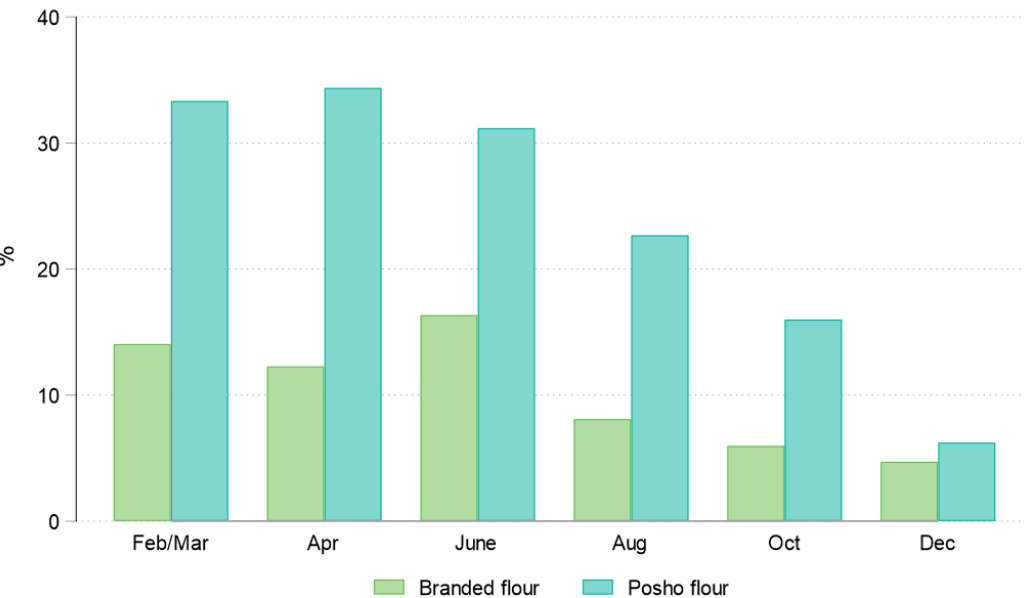


WP5: Impact of information on demand of safer food

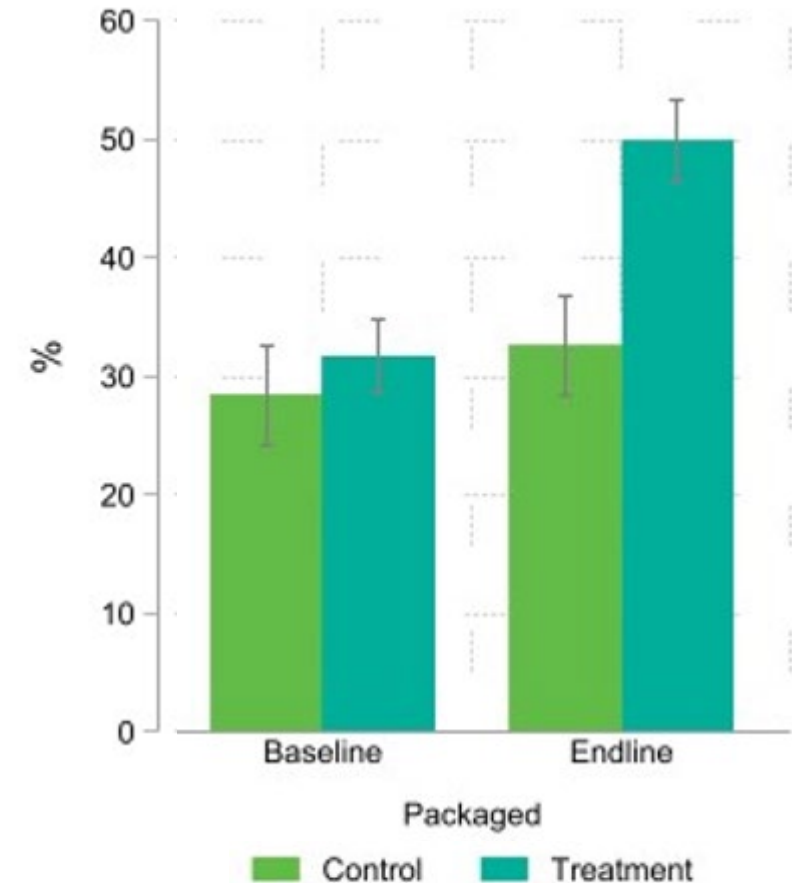


- 6 rounds of surveillance data in 10 urban areas show unbranded maize flour is more likely to contain high levels of fungal toxin
- Randomized intervention: info + posters to low-income Nairobi households
- Revisit 2 months later: 50% of those who got info are consuming safer flour, vs. 33% of control group

Share of samples above regulatory threshold (>10 PPB)



Results from 1255 flour samples



Plans: main ongoing and upcoming activities



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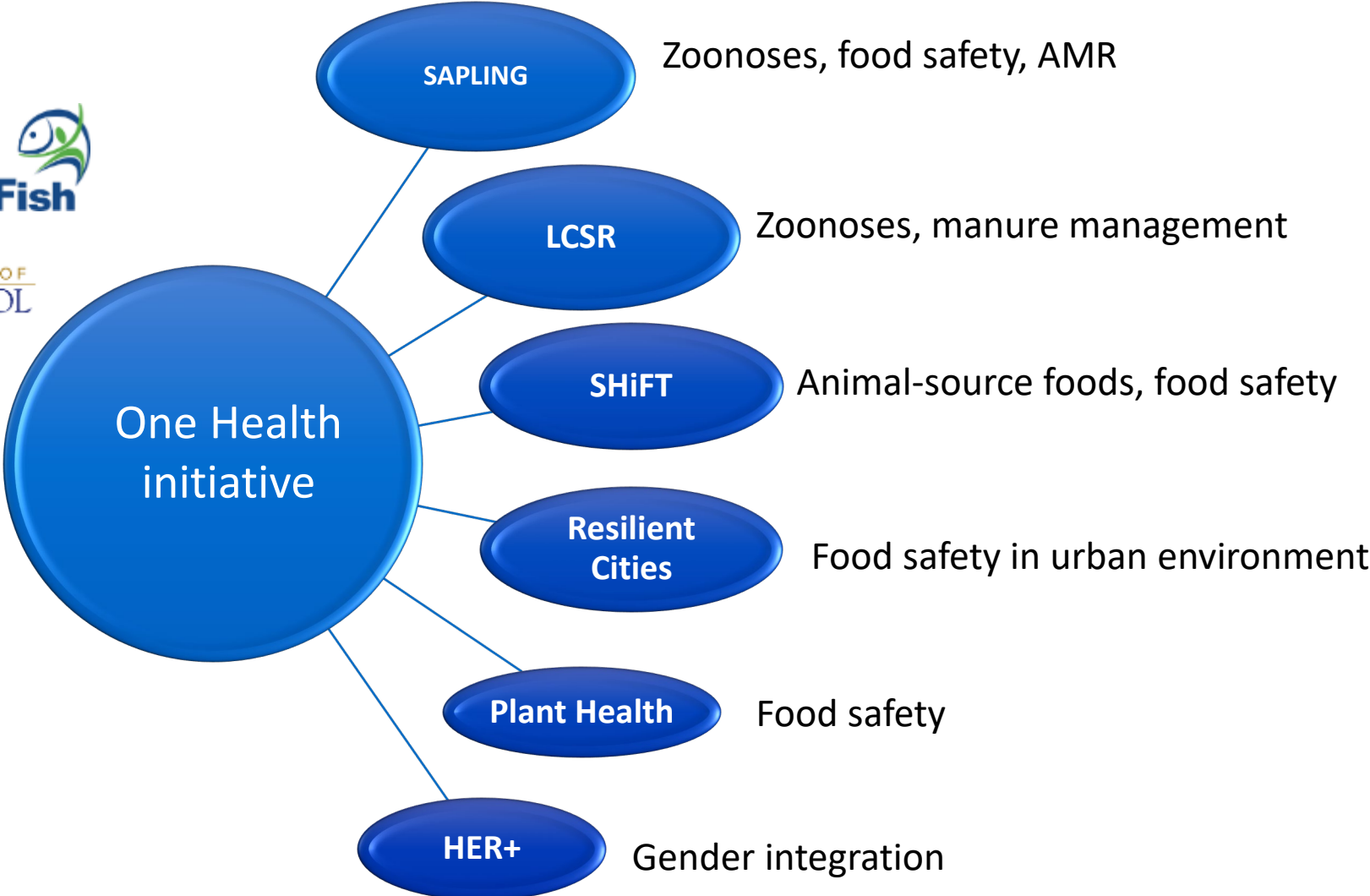
Upcoming events

- One Health curriculum development with IUCEA in Naivasha , Kenya, 8-10 March
- Indian partner meetings and field visit, Delhi and UP, 13-16 March
- Closing food safety SafePORK Vietnam, 28-30 March
- Annual meeting and stakeholder meeting in Ethiopia, 24-26 April
- Expert Workshop on the future of AMR Policy, 24-25 April in Toronto
- One Planet Food System conference of MARD (Vietnam) and One Planet 24-27 April
- WOAHO/OIE session general, Paris, 22-25 May in Paris
- International Food Protection Conference, Toronto, July 2023

Initiative ongoing activities:

- Risk mapping and zoonoses surveillance (Kenya)
- Characterize wildlife value chains (Cote d'Ivoire, Vietnam)
- Development of RCT on impact of reducing antimicrobial use (Kenya, Bangladesh)
- Development of a framework for gender responsiveness in AMR (Kenya)
- Development of a tool (with scales) to quantify levels of knowledge, appropriateness of attitudes or practices in AMR (Kenya)
- Food safety interventions in (Vietnam, Ethiopia)
- Water modelling in (India, Ethiopia)
- Slaughterhouse hygiene intervention (Kenya)

Linkages / synergies with other Initiatives



Challenges, opportunities and risk management

- Integration of innovations into national programs: lower scale than expected due to reoriented development priorities
- Slow government approval of research (Vietnam)
- Opportunities:
 - Wildlife-livestock interactions, health risks in value chains
 - Influencing national and regional One Health agenda
 - Inclusion of the environmental dimensions of AMR - new UNEP report "*Bracing for superbugs*"
 - Alignment with other One Health programs at CGIAR and beyond
 - One Health funding opportunities with new calls (WB pandemic fund)