

### Webinar

## on Human Health, Food Safety, Diets & Nutrition Research

## in Phase II of the Livestock Systems Innovation Lab

Event held virtually on April 9, 2021

9:00 to 10:30 am EDT

#### FEED THE FUTURE INNOVATION LAB FOR LIVESTOCK SYSTEMS











## WELCOME AND OPENING REMARKS

#### Dr. Gbola Adesogan

Director of the Feed the Future Innovation Lab for Livestock Systems and the Food Systems Institute, University of Florida, USA



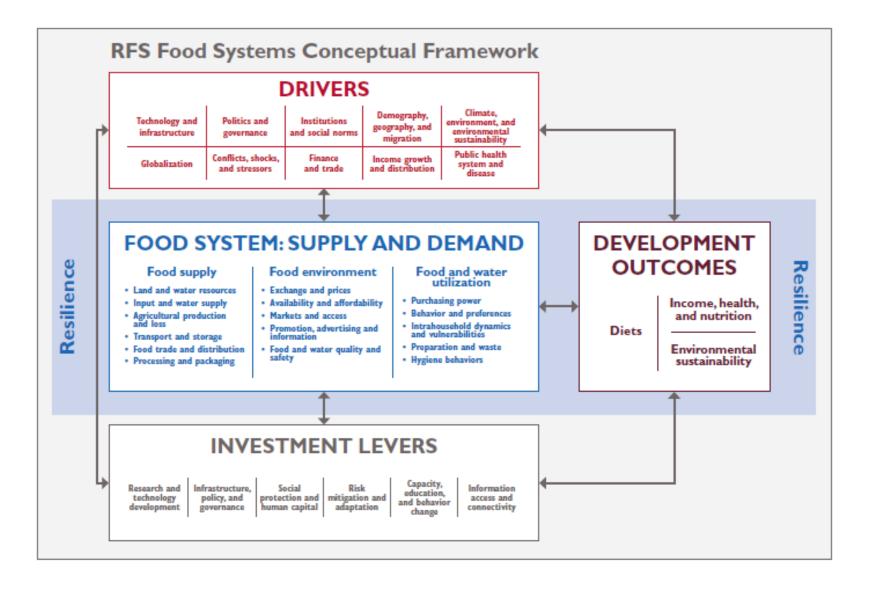
## ABOUT THE FEED THE FUTURE INNOVATION LAB FOR LIVESTOCK SYSTEMS

- **Vision:** To sustainably intensify livestock production to improve the nutrition, health, incomes and livelihoods of the poor
- Scope: Manage 45 field-to-fork research for development projects in 8 countries



- Motivation: Animal-source foods (ASF):
  - Are the best, high quality nutrient-rich food for 6-23 mo. olds (WHO, 2018);
  - 59% of children are not fed much-needed nutrients from ASF (UNICEF, 2020)







## **MEETING PURPOSE**



- I. Raise awareness among public health, nutrition, and food safety researchers of the funding opportunities as part of the LSIL Phase II.
- 2. Increase the number of applications focused on Human Health, Food Safety, Diets & Nutrition research.



## **OVERVIEW**

- Phase I Highlights of Human Health and Nutrition Research
- Phase II Priority research areas for the Human Health, Food Safety, Diets & Nutrition Area of Inquiry
- 3. Request for applications for Phase II research Process and eligibility
- 4. Q&A
- 5. Closing remarks





## **PHASE I**

# HIGHLIGHTS OF HUMAN HEALTH & NUTRITION RESEARCH



## **IMPROVING FOOD SAFETY**

Determined the types and cost (\$62/case) of foodborne disease from pork value chains

#### Main diagnoses:

- Acute diarrhea (74.4%)
- Food poisoning (24.4%)
- Typhoid (0.8%)
- Chronic diarrhea (0.4%)

Piloted interventions with pork sellers at markets to improve food safety

Food environments = safe diets







### **INFLUENCING POLICY**





- Detected high aflatoxin levels in animal feeds that can be transferred to ASF
- Conducted national workshop to prevent and mitigate aflatoxin contamination of food and feed
- Government of Rwanda activated the aflatoxin task force, which is now implementing recommendations
- Current AFM1 standards are not based on human health considerations, risk assessment ongoing

Policy investment lever = direct resources to increase safety and availability



## UNDERSTANDING THE ROLE OF LIVESTOCK AS RESERVOIRS OF HUMAN PATHOGENS



- Campylobacter species, a natural inhabitant of the gastrointestinal tract of livestock and poultry, are among the main pathogenic bacteria involved in the causal chain of stunting, due to the exposure of young children directly or indirectly to feces of these animals
- Formative research:
  - High prevalence of Campylobacter, EED and stunting in children in rural Eastern Ethiopia
  - High species diversity of Campylobacter
- Longitudinal study
- Understanding reservoirs and transmission pathways is essential to develop effective intervention strategies



**Driver: Public Health System and Disease** 



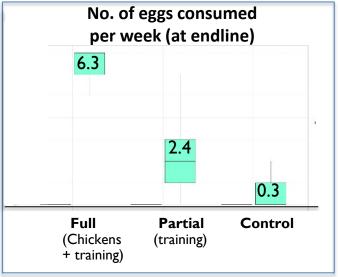
## STRATEGIES TO INCREASE EGG CONSUMPTION AMONG CHILDREN

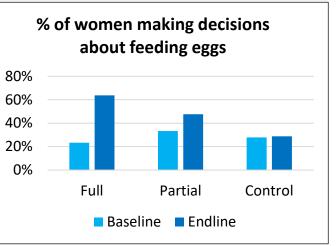
Culturally tailored behavior change intervention implemented in RCT:

- Increased egg intake in infants from 0 to 6 per week
- Reduced wasting and underweight
- Increased women's decision-making power

Behavior change = improved diets = improved child growth outcomes









## STRATEGIES TO INCREASE MILK CONSUMPTION AMONG CHILDREN





- Showed that mothers tended to underestimate the number of food groups a child should eat daily. Less than 50% were aware of the importance of feeding ASF to children.
- Showed that the positive impact of Girinka program on child milk consumption and household food security is significant for households with relatively larger livestock herd size (> I tropical livestock units) and land size more than 0.1 acres.
- Worked with the Rwanda National Early Childhood Development Program, which allowed to incorporate ASF-related messaging into the national assistance cards and related training.

**Behavior change = improved nutrition** 



## **TAKE HOME MESSAGES**

- Several aspects of the RFS food systems framework must be leveraged to achieve the goal of diversified and nutritious diets.
- Animal-source foods (ASF) are the best source of nutrient-rich foods for infants, but most (~60%) of them don't consume enough in their diets.
- Nutritional benefits of ASF may be offset or even negated by exposure to pathogens.
- Increasing the availability, affordability, and safety of ASF is critical to achieving diversified diets.





## **PHASE II**

## RESEARCH PRIORITIES

## HUMAN HEALTH, FOOD SAFETY, DIETS AND NUTRITION



## OVERARCHING GOAL



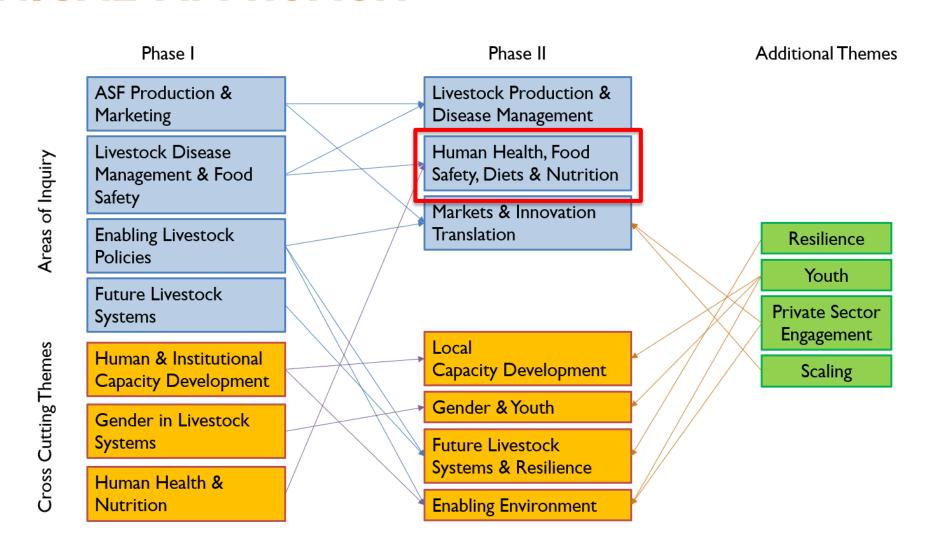
Contribute to more balanced diets, which include Animal-Source Foods (ASF), to ensure nutrition and food security for vulnerable populations.

## **SPECIFIC OBJECTIVES**

- I. Sustainably improve livestock productivity and marketing and ASF consumption using appropriate improved technologies, capacity development, and policy advocacy;
- 2. Increase the resilience of vulnerable populations;
- 3. Reduce the environmental impact of livestock systems; and
- 4. Advance the understanding of evolving livestock systems and their roles in food security, nutrition, and health.



## TECHNICAL APPROACH





### LSIL RESEARCH PORTFOLIO

#### **Phase I Focus**

- improve livestock feeds and feeding
- increase ASF consumption
- improve livestock disease surveillance and mitigation
- strengthen markets
- improve food safety
- foster a conducive livestock policy environment

#### **Phase II Focus**

Continue working in Phase I areas but stronger emphasis on systems approaches to improve dietary diversity and adequacy with ASF by:

- reducing ASF production costs,
- increasing ASF safety and markets,
- reducing ASF consumption barriers.

More research on ASF production and consumption on gut health to improve nutritional outcomes.



## **HUMAN HEALTH, FOOD SAFETY, DIETS AND NUTRITION**



#### **Overall research aim:**

 To maximize the benefits and reduce the risks of producing and consuming ASF from production to consumption stages.

#### This Area of Inquiry has 2 focus areas:

- Safe livestock production and food safety
- ASF consumption, dietary diversity and adequacy



## SAFE LIVESTOCK PRODUCTION & FOOD SAFETY

#### **Food Safety:**

Research to assess the risks and propose and test culturally appropriate interventions to improve the microbial safety of ASF that are consumed raw or with inadequate processing for safety, as well as ready-to-eat ASF.

#### **Risk Assessment:**

Building on Phase I results, integrate existing data into risk assessments that can inform appropriate standards for safe levels of aflatoxins in animal feeds, milk, and other dairy products.





### SAFE LIVESTOCK PRODUCTION & FOOD SAFETY



**Human-Livestock Interactions:** Research to better understand and mitigate the risks of human-livestock cohabitation in smallholder households.

#### Consider:

- 1) source attribution studies to better understand and quantify the contribution of different livestock species to exposure of children to enteric pathogens;
- 2) comparative exposure and risk assessment studies;
- 3) intervention trials of cost-effective and sustainable methods of separating children from livestock and their excreta, and
- 4) studies that design/facilitate/evaluate how collection and use of livestock manure as a resource in smallholder settings contributes to reducing exposure of children to pathogens.



## **ASF CONSUMPTION, DIETARY DIVERSITY & ADEQUACY**

#### **ASF Production Impact:**

Research to understand the impact of increased livestock production or productivity on nutritional outcomes.

## **Behavioral Change for ASF Consumption:**

Research to increase the current knowledge base on specific behavior change strategies to increase ASF consumption.





## **ASF CONSUMPTION, DIETARY DIVERSITY & ADEQUACY**

#### **Barriers to ASF Consumption:**

Research to identify and overcome cultural, economic, and structural barriers to ASF consumption by vulnerable populations.

#### Consider:

- Household-level interventions, community based social-marketing, market-based research, or policy-level intervention and/or analysis.
- 2. Studies that examine strategies (e.g., financing) to increase ASF consumption





## REQUEST FOR APPLICATIONS FOR PHASE II RESEARCH

**PROCESS AND ELIGIBILITY** 



## TYPES OF RESEARCH PROJECTS IN PHASE II

This year we aim to award (in each of 5 countries)

- I longer term REACH project
- 2-3 short-term FOCUS projects
- Funding for Local Capacity Development

#### **Future**

- Add-on projects
- Private Sector scaling projects
- Challenge project





### TEAM COMPOSITION AND ELIGIBILITY

- Target country & US/Western institutions
- Inclusion of Minority Serving Institutions (MSI) is highly encouraged
- Private sector, civil society, non-governmental organizations (NGO)

## STRONG PARTNERSHIPS ARE KEY TO SUCCESS

- Possess complementary technical skills
- Have longstanding experience and network of contacts in target country
- Can navigate ethical clearance and fulfill compliance needs
- Are suitable bridging or scaling partner



## Q&A

### LINKS SHARED DURING THE MEETING:

- List of all LSIL projects, by country: <a href="https://livestocklab.ifas.ufl.edu/projects/">https://livestocklab.ifas.ufl.edu/projects/</a>
- Areas of Inquiry, and Cross-Cutting Themes: <a href="https://livestocklab.ifas.ufl.edu/themes/">https://livestocklab.ifas.ufl.edu/themes/</a>
   Human Health, Food Safety, Diets & Nutrition Area of Inquiry <a href="https://livestocklab.ifas.ufl.edu/themes/aoihhfsdn/">https://livestocklab.ifas.ufl.edu/themes/aoihhfsdn/</a>
- Journal articles, based on LSIL funded research: <a href="https://livestocklab.ifas.ufl.edu/resources/articles-in-journals/">https://livestocklab.ifas.ufl.edu/resources/articles-in-journals/</a>
- Innovation Platform meetings, including the presentations from the virtual meetings in March and early April 2021: <a href="https://livestocklab.ifas.ufl.edu/events/innovation-platforms/">https://livestocklab.ifas.ufl.edu/events/innovation-platforms/</a>
- Examples of our US partners are listed at <a href="https://livestocklab.ifas.ufl.edu/about-us/partners/#d.en.536073">https://livestocklab.ifas.ufl.edu/about-us/partners/#d.en.536073</a>
- Past and prospective partners in each country are available on the country specific pages. Access those via <a href="https://livestocklab.ifas.ufl.edu/countries/">https://livestocklab.ifas.ufl.edu/countries/</a> More partners are welcome!
- Innovation Summaries (from a subset of projects; more forthcoming): <a href="https://livestocklab.ifas.ufl.edu/resources/innovations/">https://livestocklab.ifas.ufl.edu/resources/innovations/</a>



### **NEXT STEPS**

**Complete** Event evaluation <u>survey</u>

**Stay tuned Join the mailing list (newsletter)** 

https://livestocklab.ifas.ufl.edu/contact/

#### April 2021 Global, pre-RFA informational webinars:

- AOI Human Health, Food Safety, Diets & Nutrition (April 9)
- Application Requirements and Processes (April 14), register at <a href="https://ufl.zoom.us/meeting/register/t]woce6orzosGNHuPSwRql2kPmInTtiT7YMt">https://ufl.zoom.us/meeting/register/t]woce6orzosGNHuPSwRql2kPmInTtiT7YMt</a>
- Collaboration Opportunities for Minority Serving Institutions (April 16), register at <a href="https://ufl.zoom.us/meeting/register/t]YsdeyopjlsGtBET4WeACWLjg2OhxelN5l4">https://ufl.zoom.us/meeting/register/t]YsdeyopjlsGtBET4WeACWLjg2OhxelN5l4</a>

May 2021 Anticipate release of the RFA





## **CLOSING REMARKS**

Dr. Gbola Adesogan



#### **Disclaimer**

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## FEEDIFUTURE

The U.S. Government's Global Hunger & Food Security Initiative

www.feedthefuture.gov





