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

Feed the Future Innovation Lab for Livestock Systems

4th Innovation Platform Meeting in Rwanda

Hotel Mille Collines, Kigali, April 2, 2019





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Feed the Future Innovation Lab for Livestock Systems: Rwanda and global activity update

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Photo credit: KSU, LSIL, USAID



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OUTLINE

- Rationale, vision and approach
- Global activities
- Rwanda projects
- Next steps



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LISL SUMMARY

- One of 22 Feed the Future Innovation Labs
- Duration: Oct 1, 2015 – Sept 30, 2020
- Funding: \$ 49 million (Leader Award: 19m; Buy-ins: 10m & Associate Awards: 20m)
- Main partner: International Livestock Research Institute





STUNTING (LOW HEIGHT FOR AGE)

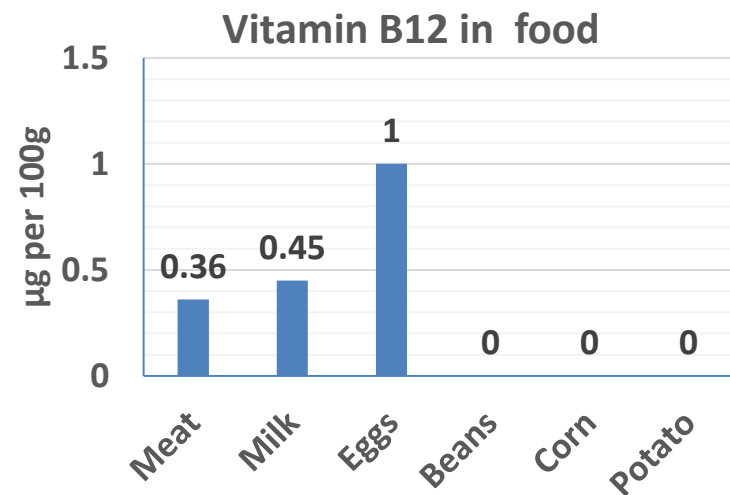
- Stunting reduces growth, health, cognitive development, and earning potential
- Causes *lifelong* and *intergenerational* effects
- Reduces the GDP of African / South Asian countries by about **10%** (World Bank Researchers, 2017)
- “If our children are *stunted today*, our economies will be *stunted tomorrow*”. President, Africa Development Bank, 2017 World Food Prize Winner



<http://miraclesinaction.org/stunting-epidemic-in-rural-guatemala-2/>

IMPORTANCE OF ANIMAL-SOURCE FOODS (ASF)

- **Best source** of high-quality, nutrient-rich foods for 6 to 23 month olds (WHO 2017)
- Contain high quality, bioavailable forms of the most deficient nutrients (I, Zn, Fe, Vit A + protein)
- Feeding **one egg a day** reduced stunting of 6 to 9 month old's by **47%** (Iannotti et al., 2017)
- Adding meat or milk to diets of school kids increased test scores by **45** and **28%**, respectively (Hullet et al., 2014)



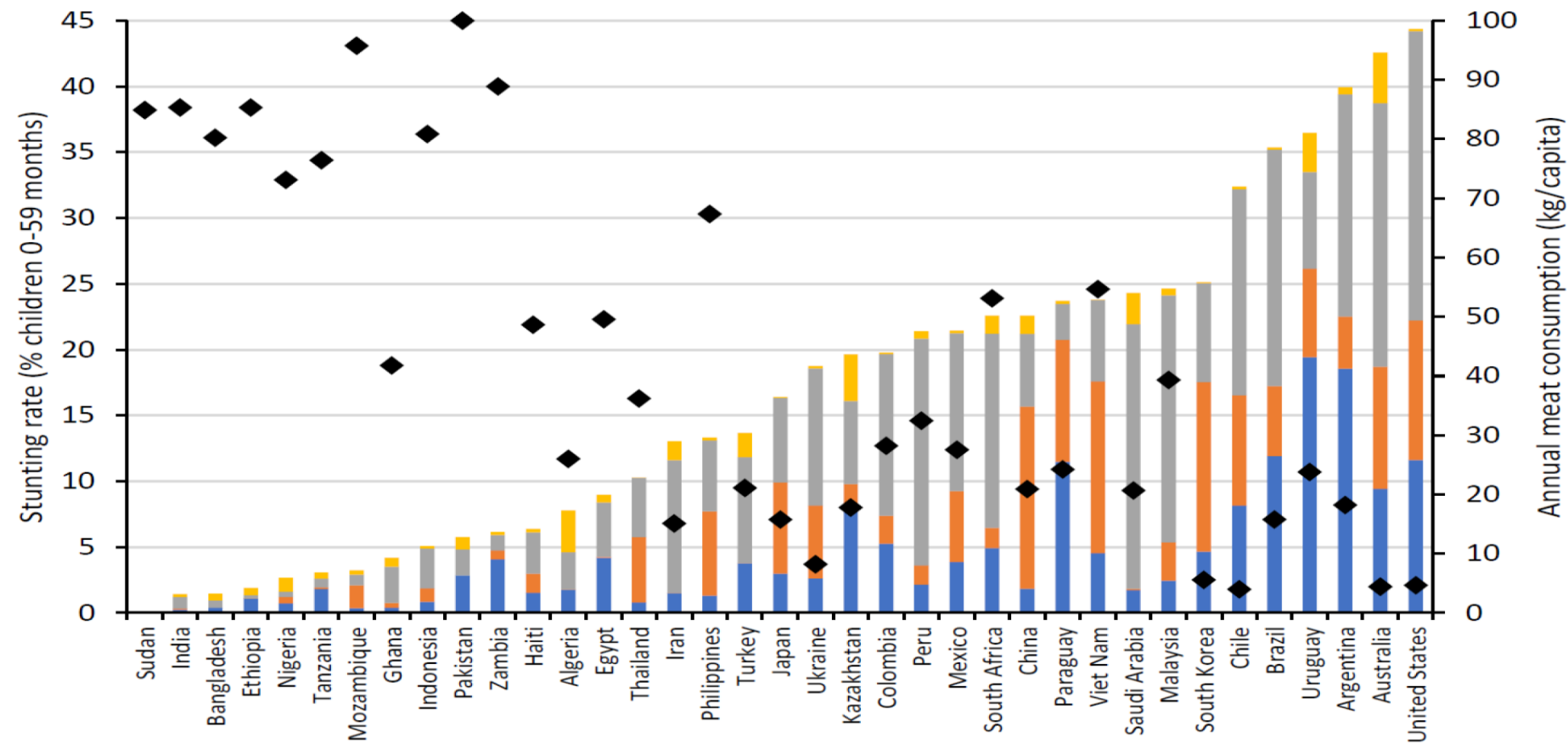
Picture credit: L. Iannotti



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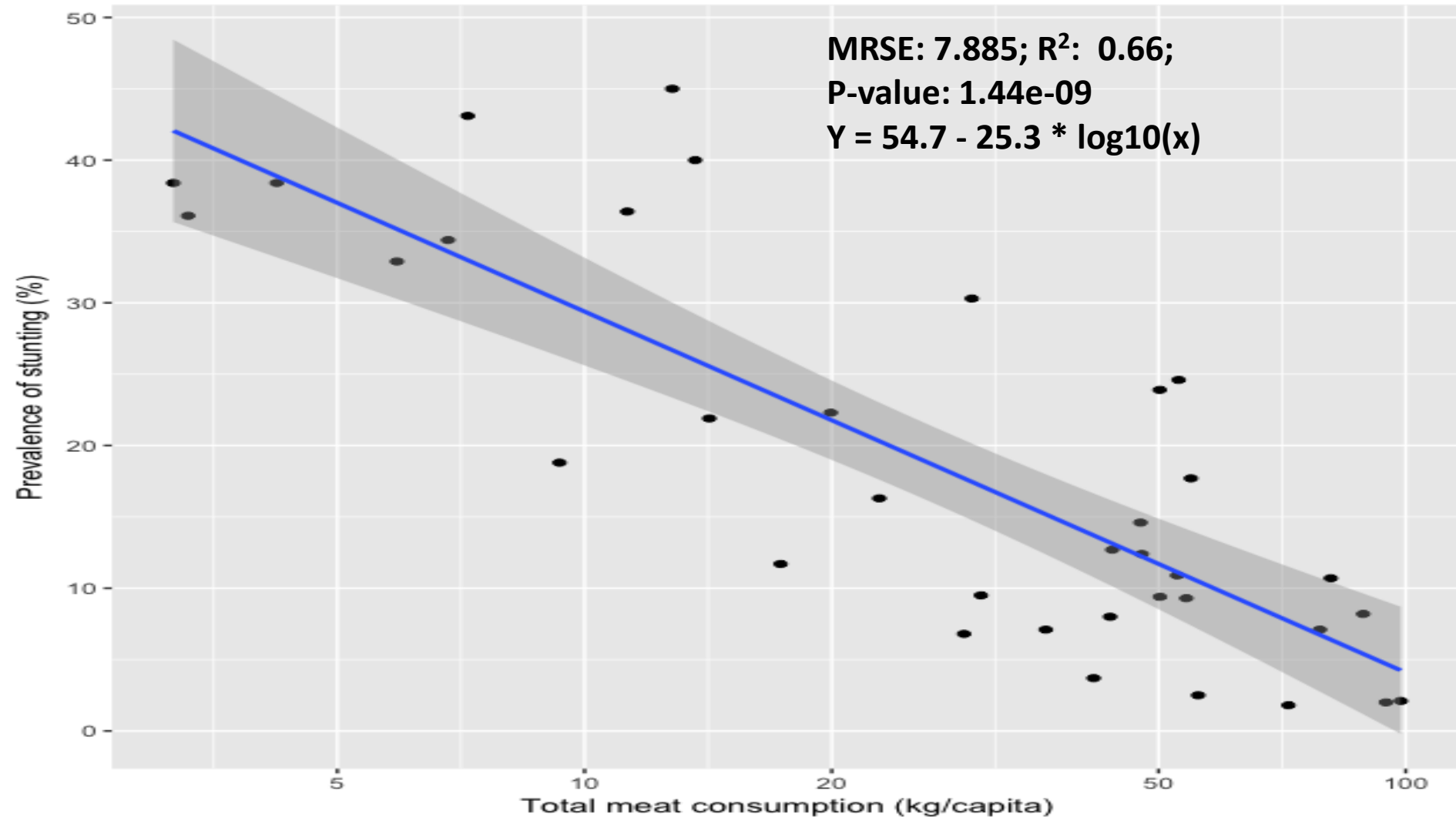
Stunting is inversely related to meat consumption



Adapted from OECD 2018 and UNICEF-WHO, 2017



Stunting prevalence vs. meat consumption





TYPES OF PROJECTS

Reach projects

- Multi-year (<4 years)
- Up to \$1.25 million
- Research & HICD
- Focus on one or more AOIs

Focus projects

- One-year (<1 year)
- Up to \$130,000 each
- Proof of concept studies or research for development
- Focus on one AOI

Non-competitive projects

- By University of Florida Management Entity
- Advance AOIs or incorporate CCTs
- Variable amounts & durations
- Research & HICD

Enhance and Alliance projects

- Enhance – Complement existing portfolio with new research that extends the scope and impacts of existing projects.
- Alliance - build capacity and strengthen research skills of NARS
- Up to \$100,000
- Variable durations



RESEARCH THEMES

Animal feed

- Assessing forage quality/quantity (Ethiopia, Cambodia, Burkina Faso, Niger, Nepal)
- Creating an app for ration formulation (Nepal)
- Assessing mycotoxins in feeds (Burkina Faso, Ethiopia and Rwanda)

ASF consumption

- Behavior change messaging to increase ASF consumption (Rwanda),
- Giving eggs to children 6 months-2 years old (Burkina Faso)

ASF markets

- Creating evidence on markets for enabling policies on ASF (Ethiopia)
- Phone app to improve marketing of ASF (Nepal)



RESEARCH THEMES

Food safety

- Assessing mycotoxin in milk (Burkina Faso)
- Evaluating pathogens in ASF value chains and their mitigation (Ethiopia, Cambodia, Nepal, Rwanda)

Animal disease

- Improved management of mastitis (Rwanda, Nepal)
- Phone app for surveillance and reporting of animal diseases (Ethiopia, Nepal)
- Phone app for training (distance learning) women to become CAHW (Nepal)
- Reducing youngstock mortality (Ethiopia)

Policy

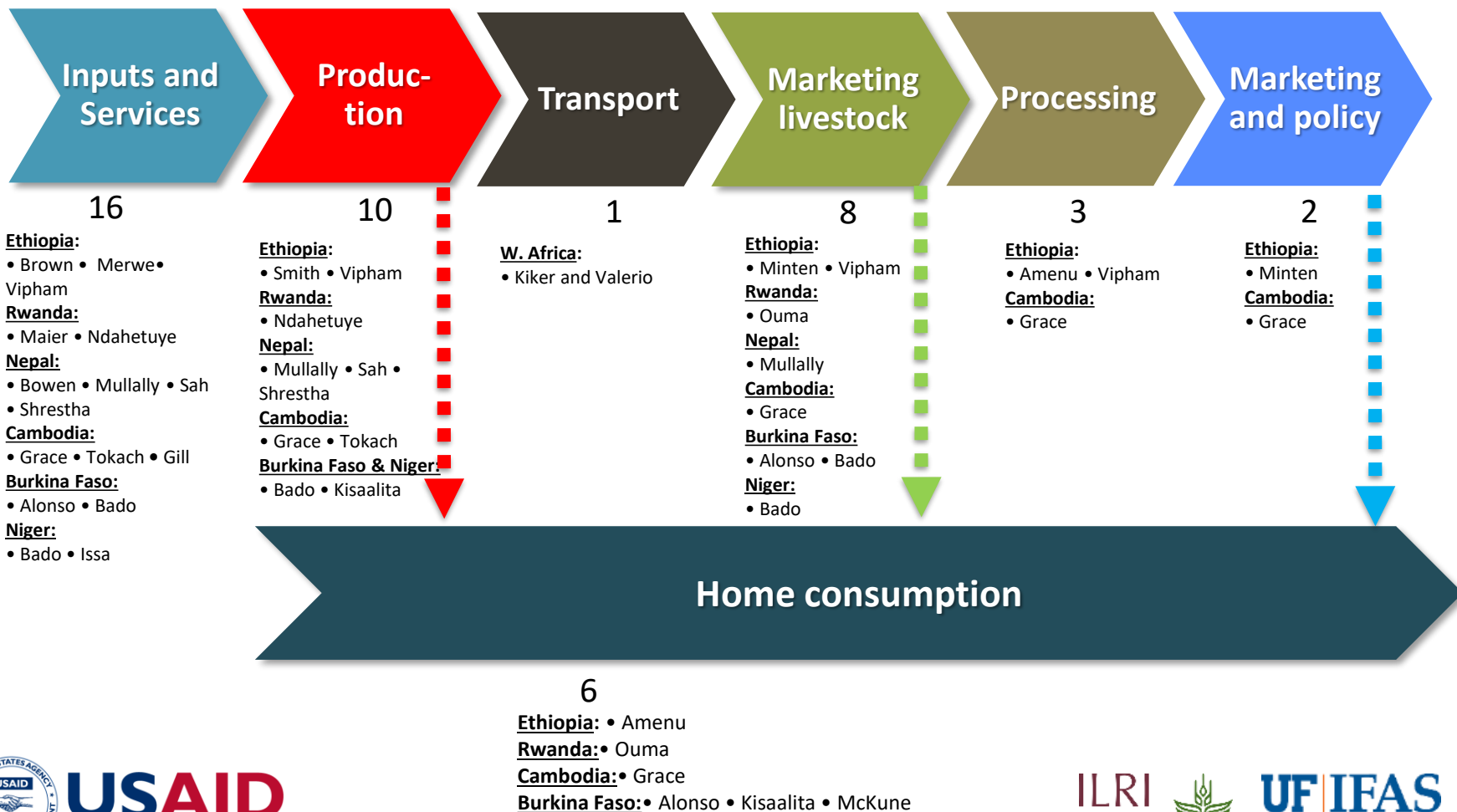
- Improving policies for the dairy value chain and ASF pricing (Ethiopia)
- Improving policies for small ruminant production (Burkina Faso and Niger)



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PROJECTS FUNDED ALONG THE ASF VALUE CHAIN



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RESULTS: BURKINA ONE EGG PROJECT

Percent of mothers reporting child consumption of egg the week prior

Intervention	Baseline	Month 4
Control	0	4%
Partial	0	72%
Full	0	99%

Mean egg consumption/week at Baseline and Month 4 in each treatment group

Intervention	Baseline	Month 4
Control	0	0.1264
Partial	0	1.7356
Full	0	6.8519



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2018 HIGHLIGHTS

- 64 students mentored
- 1874 people trained
- 47 workshops
- 18 new / adapted technologies under research,
- 8 under field testing having been validated by research,
- 10 made available for uptake.
- 1 peer-reviewed publication



TECHNOLOGIES DEVELOPED / ADAPTED

- Diarrhea pathogen detection kit
- Charm aflatoxin assay
- Mastitis reduction package
- Improved forage hybrids
- Ration formulation app
- Disease reporting app
- NIR feed analysis technique
- Greenfeed methane quantification eqpmt.
- Market empowerment app
- Distance learning app
- Surveillance improvement package
- Behavior messaging package



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BILL & MELINDA GATES FOUNDATION AWARD (\$8.7 M)

- Focuses on
 - Improving supply of quality feed Ethiopia and Burkina Faso
 - Environmental enteric dysfunction (EED) in Ethiopia
- Partners include ILRI, NARS and universities in both countries



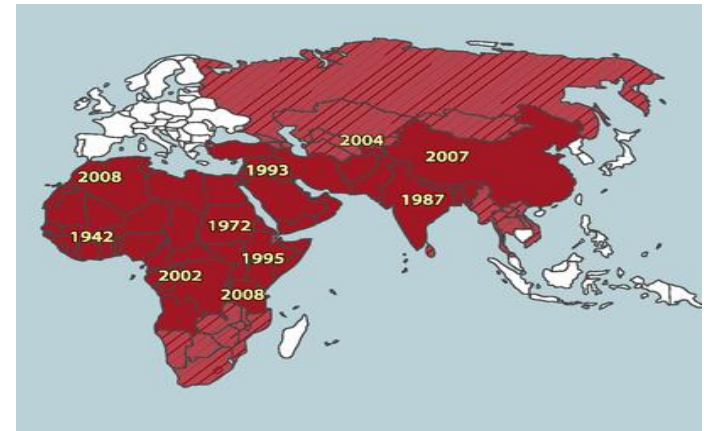


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PPR VACCINE ASSOCIATE AWARD (\$2.5 M)

- Testing a thermostable vaccine and innovative vaccine delivery models
- Targeting Karamojong cluster in Kenya and Uganda
- Project duration: 3 years
- Main collaborator: Tufts University
- Also partnering with ministries, NARS, Universities and NGOs



PPR-infected and at-risk countries



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COLLABORATION WITH USAID MISSION-FUNDED PROJECTS

In Ethiopia, LSIL partnered with the USAID mission funded Feed the Future Ethiopia Value Chain Activity led by Fintrac

Training of Trainers Course on Meat Hygiene in August 2017

20 participants from across Ethiopia from various organizations: butchers' organization, Ministry officials, abattoir managers..



By November 30, already 200 persons trained as part of follow up training courses → aim to train 2,000 people.



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INFLUENCING POLICY

- Vice Chancellor of Agriculture and Forestry University, Nepal visited UF in August
- On November 26, AFU organized a ***national agricultural education policy*** forum to foster policy change in agricultural education in Nepal



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NEW ENHANCE PROJECTS FOR RWANDA

Title	Institutions
Aflatoxin mitigation through education, intervention, and policy in Rwandan dairy systems	ISU, UoR
Engaging men in supporting maternal and child consumption of milk and other animal source foods in Rwanda	ILRI, RTI International Three Stones International, UF
Rwanda Enhancement for Enabling Policy Support to the Dairy Sector	UF, UoR



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NEW RAB-LED ALLIANCE PROJECT

Title: Challenges of implementing modern milk quality standards in Rwanda

Institutions: RAB, ILRI, Our

Objectives

- 1. Generate scientific evidence on the performance of main actors of the informal dairy sector in Rwanda
- 2. Assess households' milk purchase, consumption behavior and preferences
- 3. Evaluate milk quality attributes with a focus on hygiene and chemical analysis of milk samples collected from both formal and informal channels
- 4. Expand a system dynamics to include the informal milk marketing nodes, to assess the costs and benefits accruing to dairy value chain actors
- 5. Disseminate results of the analysis to relevant stakeholders including the Rwanda National Dairy Platform (RNDP), RALIS ,RAB, MINAGRI and development partners





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SOME NON-COMPETITIVE ACTIVITIES

Rwanda: Workshop on Epidemiology for RAB and universities

Rwanda: TOT on dairy processing and hygiene for milk processors

Rwanda: Dairy processing and competitiveness needs assessments

Rwanda: TOT on the Rwanda dairy assessment & advisory tool

Ethiopia & Rwanda: Integrating gender & nutrition in livestock systems research projects

Ethiopia: Scenarios workshop for future livestock systems modelers

Cambodia, Nepal, Ethiopia, Burkina and Niger: HICD gap analysis

Cambodia: HICD : UF – RUA twinning in animal sciences and vet. medicine





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NEXT STEPS

- Start four new projects and continue other projects
- Aflatoxin prevention and mitigation workshop, April 3
- Annual General Meeting in Kathmandu April 23 & 24
- Global Nutrition Symposium in Kathmandu April 25 & 26:

Bridging the research to extension divide to improve productivity, incomes and human nutrition and resilience

Aflatoxin sampling and proficiency testing webinar

Other webinars on gender inclusion in livestock research; accessing to peer reviewed journals available on our website





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