



FEED THE FUTURE

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



Feed the Future Innovation Lab for Livestock Systems:

ACTIVITIES IN ETHIOPIA AND GLOBALLY



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OUTLINE

- Update on LSIL activities worldwide
- Expanding the reach of LSIL
- Next steps



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VISION AND DONORS

VISION

To sustainably intensify livestock production to improve the nutrition, health, incomes and livelihoods of the poor

USAID

– \$49 million

Bill & Melinda Gates Foundation

– \$8.7 million



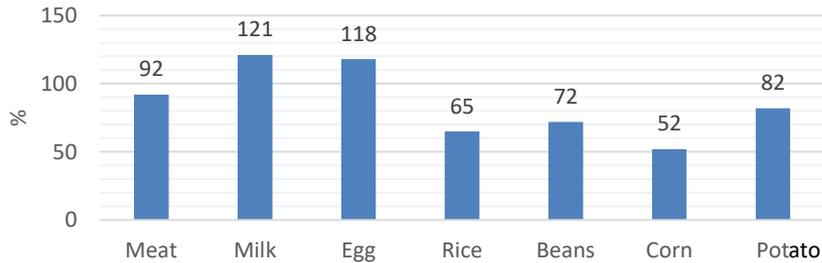
<http://miraclesinaction.org>

- Stunting penalizes African/Asian country GDP by 10%
- One egg a day reduced stunting by **47%**
- Meat supplementation increased exam scores kids by **45 and 28%, respectively**
- Stunting is inversely correlated to **meat and milk consumption**



NUTRIENT CONCENTRATIONS OF ANIMAL AND PLANT SOURCE FOODS

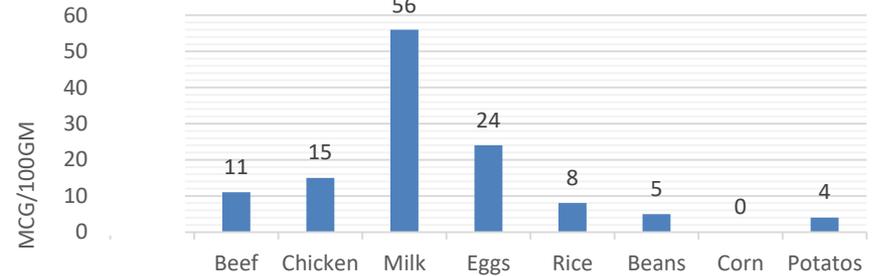
Biological value



<http://www.food-info.net/uk/protein/bv.htm>

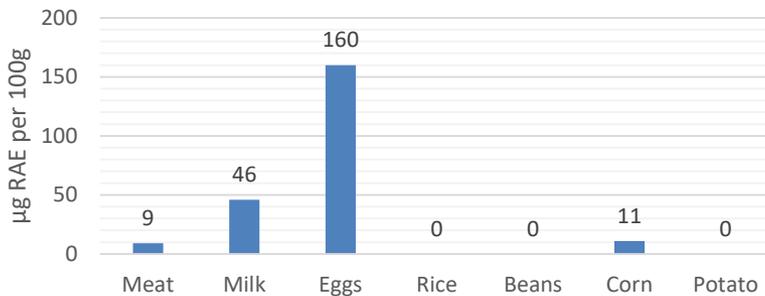
SOURCE FOODS

Iodine



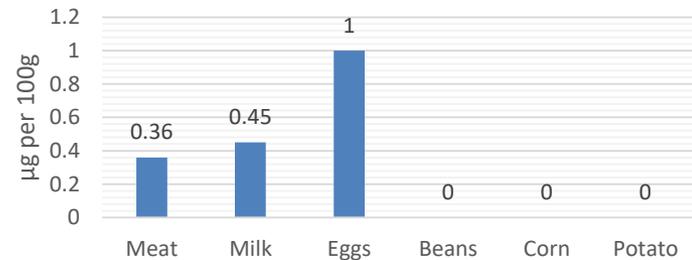
Pennington et al. Young et al., 1995;

Vitamin A



USDA, ARS

Vitamin B12



Dror and Allen (2011) Neumann et al. (2002)

Animal-source foods are the **best sources of high-quality, nutrient-rich foods** for children between 6 and 23 months (WHO, 2017)



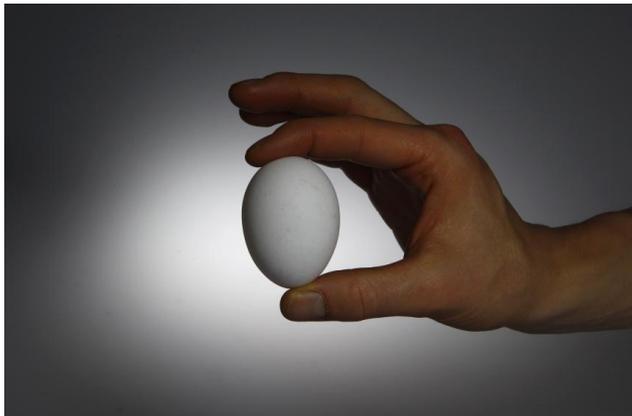


Lulun egg project, Ecuador

(Ilanotti, 2016)

- Giving one egg per day to 6-9 month olds in Ecuador for six months
- Reduced stunting (low height or length for age) by **47%**
- Reduced wasting (low weight for age) by **74%**

One egg per day boosts
infant growth *Newsweek*





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buzzkenya.com/wp-content

- Adapted from Demment, 2013

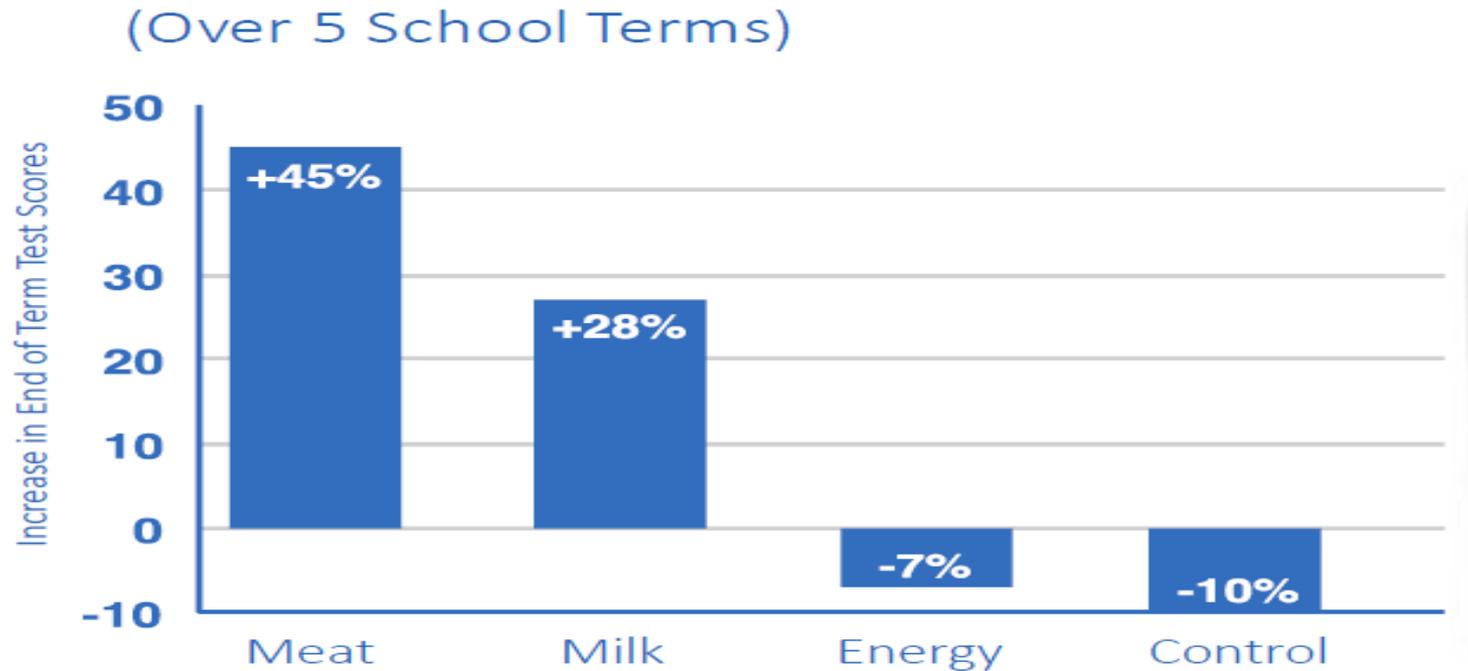


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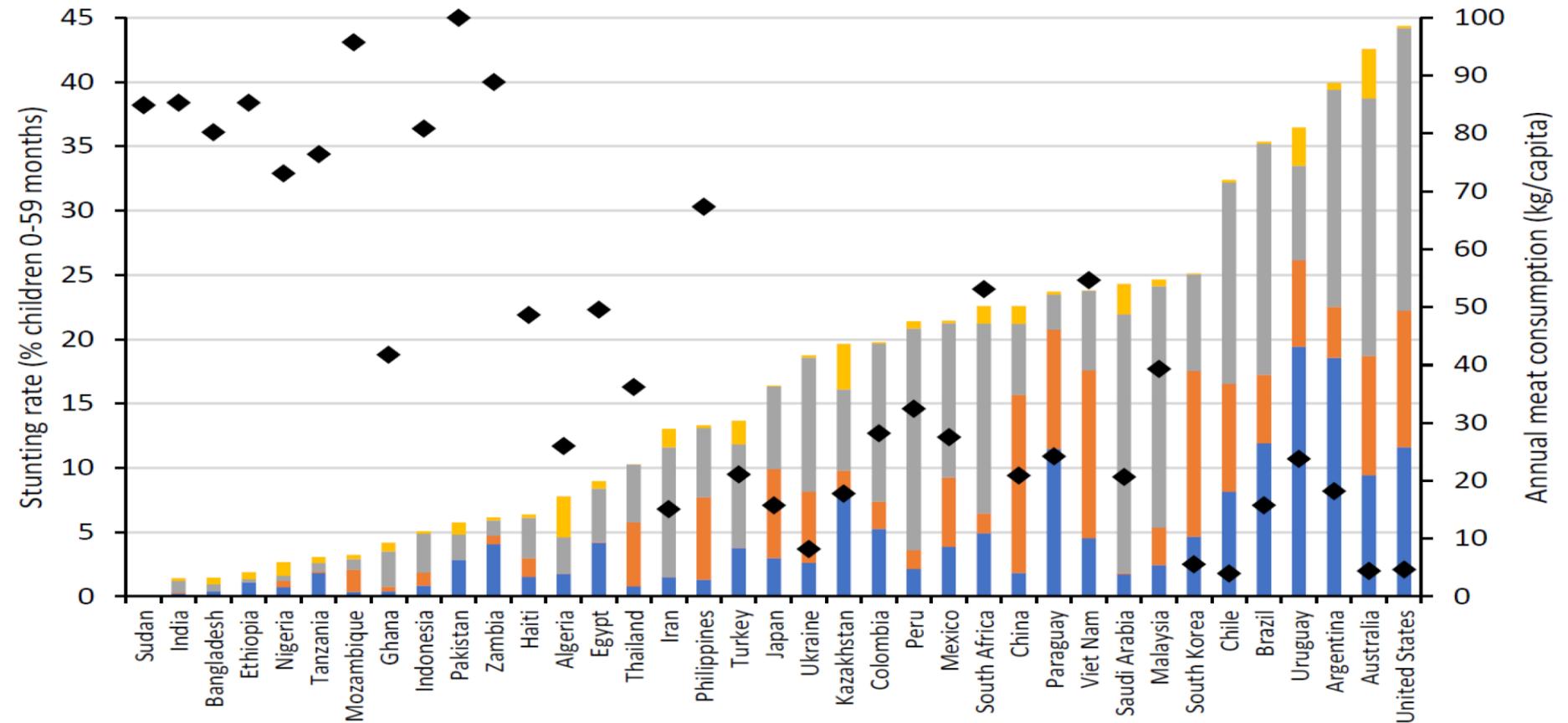
ASF supplementation effects on children's test scores



Adapted from Weldon, 2016
ELANCO



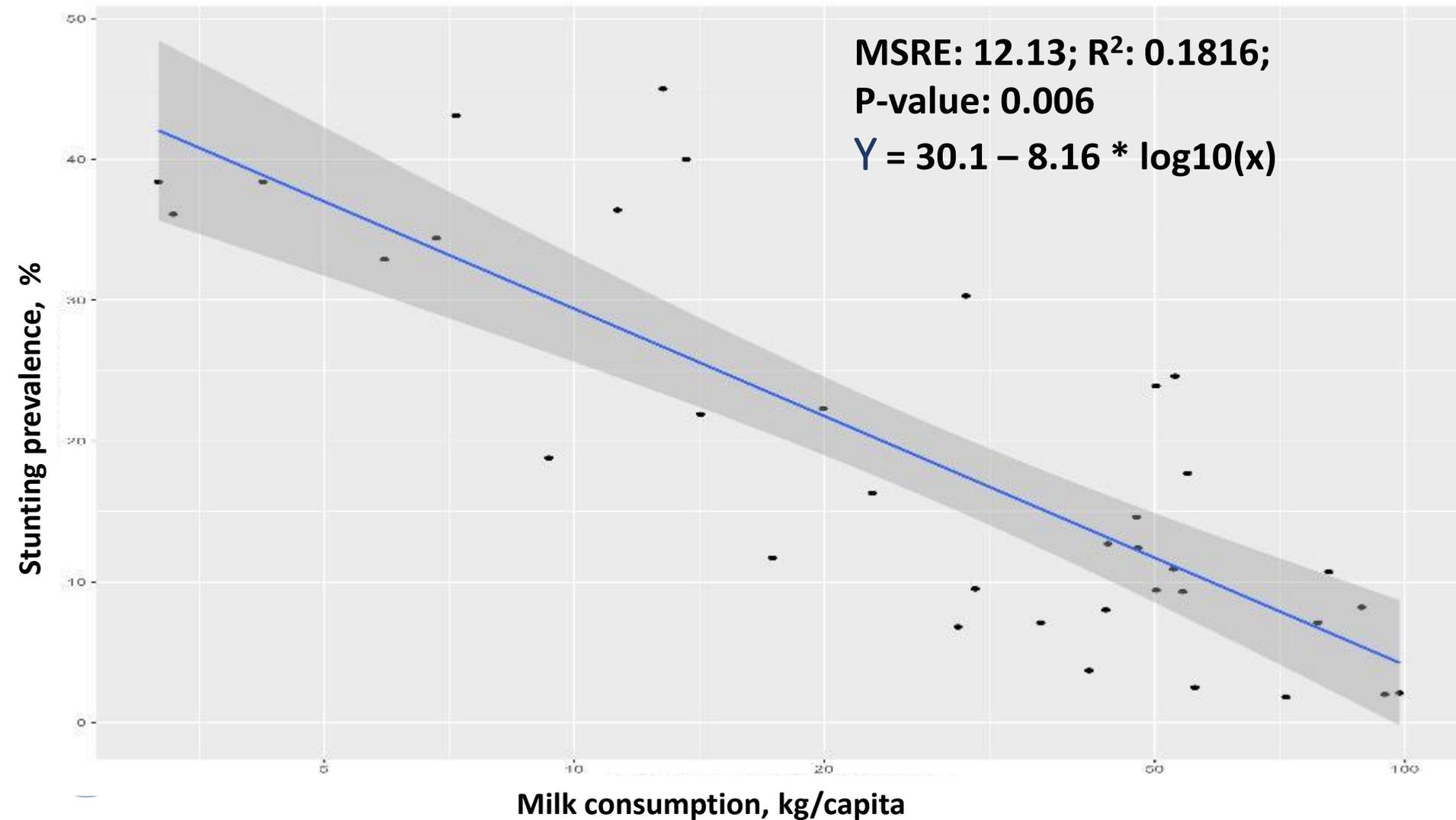
Stunting is inversely related to meat consumption



Adapted from OECD 2018 and UNICEF-WHO, 2017



Stunting prevalence vs. milk 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



FUNDED PROJECT PORTFOLIO

Competitive:

- **Ethiopia**- 3 Reach, 3 Focus, 3 Enhance,
- **Rwanda**- 1 Reach, 2 Focus, 2 Enhance, 1 Alliance
- **Nepal**- 1 Reach, 3 Focus, 1 Enhance, 1 Alliance
- **Cambodia**- 1 Reach, 2 Focus
- **Burkina Faso and Niger**- 2 Reach, 3 Focus, 1 Enhance

Non-competitive

- **Uganda and Kenya**- 1 Associate Award (PPR)
- **Burkina and Ethiopia** - BMGF award – 10 projects on FEED and CAGED
- **All countries** - Non-competitive AOI and CCT awards = 5 projects

TOTAL = 45 projects in 8 countries



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)



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

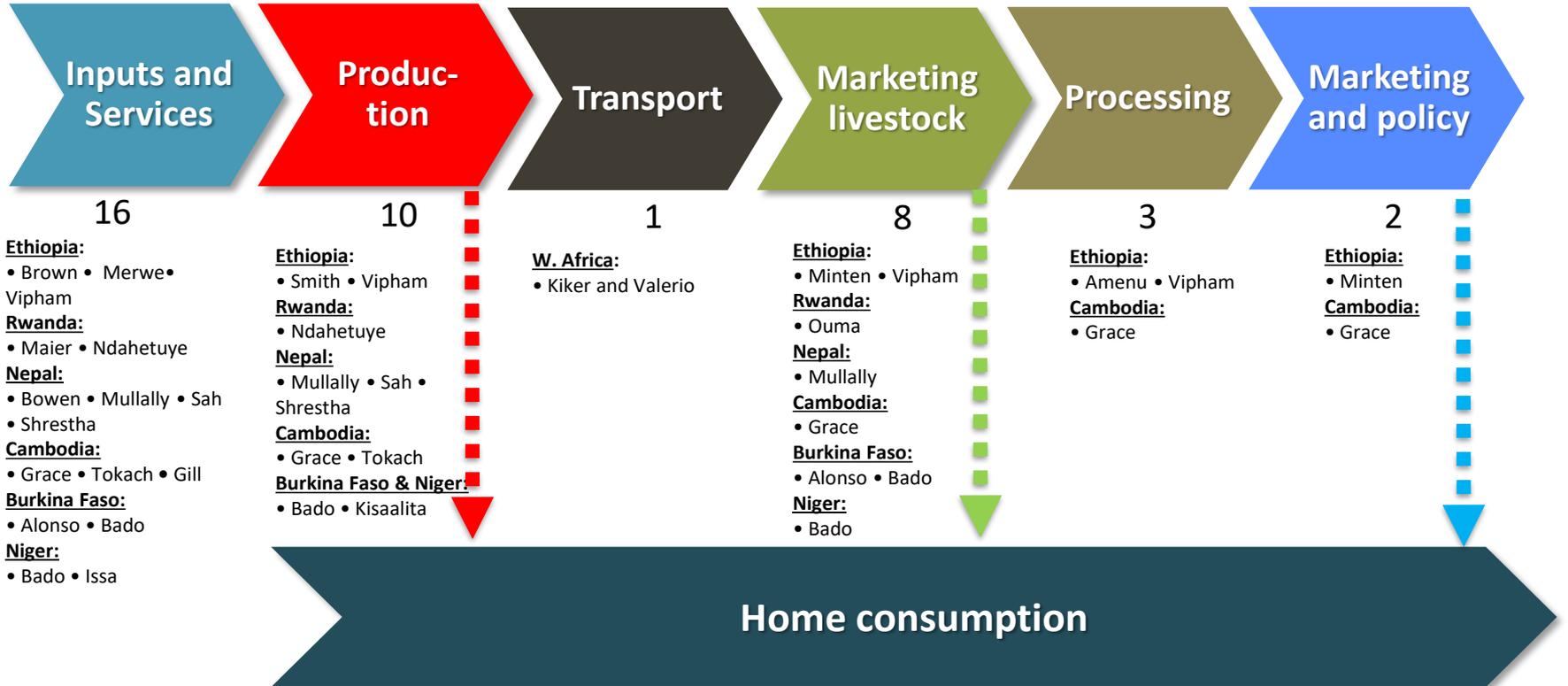
Intervention	Baseline	Month 4
Control	0	0.1264
Partial	0	1.7356
Full	0	6.8519



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PROJECTS FUNDED ALONG THE ASF VALUE CHAIN





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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EXPANDING OUR REACH AND IMPACT



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

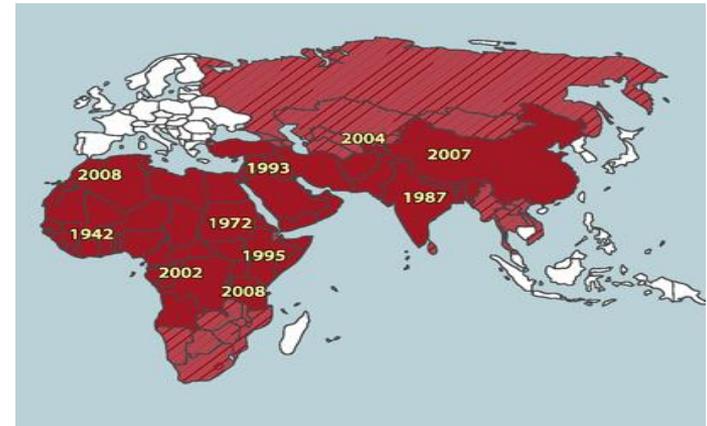
- Focuses on
 - Improving supply of quality feed Ethiopia and Burkina Faso
 - Environmental enteric dysfunction (EED) in Ethiopia
- Partners include ILRI, NARS and universities in both countries





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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NEW AWARDS (\$5 MILLION)

Burkina Faso, Ethiopia & Nigeria	<u>Urban food markets in Africa: Incentivizing food safety using a pull-push approach</u>
Ethiopia	<u>The assessment and management of risk from non-typhoidal salmonella, diarrheagenic Escherichia coli and campylobacter in raw beef and dairy in Ethiopia (TARTARE)</u>
Ethiopia	<u>Ensuring the safety and quality of milk and dairy products across the dairy value chain in Ethiopia</u>
Ethiopia	<u>Foodborne disease epidemiology, surveillance and control in African low and middle income countries</u>
Ethiopia	Exposure Assessment of Campylobacter infections in rural Ethiopia (EXCAM)





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COLLABORATION WITH USAID MISSION-FUNDED PROJECTS

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 ETHIOPIA ENHANCE PROJECTS

Proposal title	Institutions
Investigation of Mycotoxins Present in Feed and Milk on Smallholder Farmers in Ethiopia	KSU, Hawassa University, VDAFACA, ACDI/VOCA
Application of Integrated Decision Support Systems to improve livestock systems in Ethiopia: research and capacity development	TAMU, MoAL, Bahir Dar University
Modeling Livestock System Dynamics and Economywide Policy Impacts in Ethiopia	IFPRI, EDRI





NON-COMPETITIVE ACTIVITIES

- Human and institutional gap analysis at universities for capacity development
- Webinars on gender in livestock system
- Webinars on accessing peer reviewed journal papers

- Scenarios workshop
- Policy workshop
- HICD gap analysis
- Gender in livestock research workshop



WHAT'S NEXT?

- Continue research and HICD activities
- Thematic review publication
- Aflatoxin mitigation and prevention workshop, To be confirmed.
- Annual General Meeting in Kathmandu April 23 & 24
- Global Nutrition Symposium in Kathmandu April 25 & 26
Improving human nutrition and incomes by improving livestock research to extension linkages



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WHAT'S NEXT?

- USAID Regional Partner's Meeting, May 20 – 25, Addis Ababa
- American Dairy Science Association Symposium on “Milk production in developing countries”, June 23-26
- Using ASF to prevent stunting. June 5, Washington DC
- Expedition Ethiopia – September 22 – 29, Addis, Hawassa, Haramaya

Check website for updates: <http://livestocklab.ifas.ufl.edu/events>



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www.feedthefuture.gov



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