A Look Back on the TOPS-funded Livestock-Household Nutrition Learning Series

By Jennie Lane, Land O'Lakes International Development, DVM, MPH

In May of 2016, Land O'Lakes International Development received a 12 month sub-grant from Save the Children, funded through TOPS, to implement the Livestock-Household Nutrition Learning Series program. As our year-long series comes to an end, we at Land O'Lakes International Development have been reflecting on what we have learned.

When a small amount of animal source foods (ASF) are added to a mostly cereal-based diet, a person's nutritional adequacy can be vastly improved, especially for young children. As a network of industry leaders and development practitioners interested in how animal source foods can improve nutrition outcomes, this four-part learning series facilitated the identification, discussion and dissemination of best practices and emerging approaches to nutrition-sensitive ASF and market-based livestock programs.

This series and ensuing conversations have brought our industry a step closer to understanding the diverse roles livestock and ASF can play in improving household nutrition and overall wellbeing. They have also highlighted available resources to turn to and essential questions to consider when designing, implementing and monitoring livestock programs intended to improve household nutrition.

Along with key event cohosts including SPRING, Agrilinks, the International Food Policy Research Institute (IFPRI) and the International Livestock Research Institute (ILRI), the series reached an estimated 600 individuals from 52 countries. We covered the following topics across two webinars and two in-person events:

- Measuring the nutritional impact of livestock programs
- The importance of ASF in diets
- Food safety issues with ASF
- Technical considerations when implementing livestock projects
- Review of the evidence of livestock programs on nutrition outcomes
- Best practices when designing nutrition-sensitive livestock programming

The four events included[1]:

1) Livestock and Livelihoods: Measuring and Promoting Nutrient-Rich Value Chain Commodities
(Webinar, June 16, 2016)

2) Livestock Markets, Animal Source Foods and Human Nutrition: Considering Program Tensions, Maximizing Impact and Avoiding Harm
(National Council of Farmer Cooperatives, Washington D.C, October 17, 2016)

3) Issues and Opportunities: Addressing Food Safety Concerns in Animal Source Foods for Improved Household Nutrition
(Webinar, January 25, 2017)

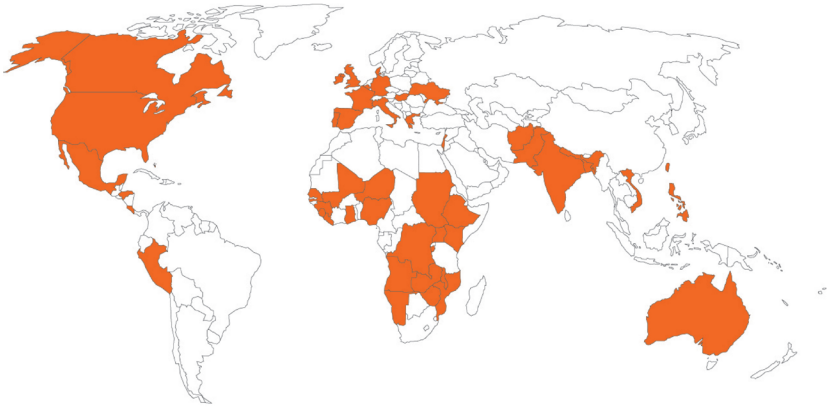
4) Animal Source Foods for Nutrition Impact: Evidence and Good Practices for Informed Project Design
(ILRI Campus, Nairobi, Kenya, May 4, 2017)

> *"Our understanding of nutrition has evolved greatly recently, from a focus on calorie counting to how much protein is available to the importance of micronutrients and the 'hidden hunger' their scarcity causes. And that's where livestock hit the sweet spot. Livestock provide nutrient-dense foods full not only of protein but also of essential micronutrients, some of which don't exist in plant foods. We have to do much more to get this message out—why animal-source foods are absolutely essential to global nutritional security."*
>
> **Jimmy Smith, Director General, ILRI**

Interest in this topic exceeded our expectations

Despite focus on a niche topic within nutrition and agriculture, members of the research and international development communities were highly engaged at each event. Though each event allocated significant time for questions and discussion, it never seemed to be enough. It became clear to us that the demand is high for continued discussion around nutrition, agriculture, livestock and ASF.

This high interest is appropriate and promising as global demand for ASF is increasing, particularly in low and middle income countries (LMIC). The livestock sector contributes an average of 40 percent to agriculture's gross domestic product in LMIC, however, this sector receives less than 1 percent of all official development assistance disbursements.[2] Additionally, ASF are rich sources of highly bioavailable micronutrients shown to improve cognitive development in children.[3] Recent evidence shows that young children fed eggs during complementary feeding have better nutrition outcomes, as presented by Dr. Lora Iannotti at the October workshop.[4]

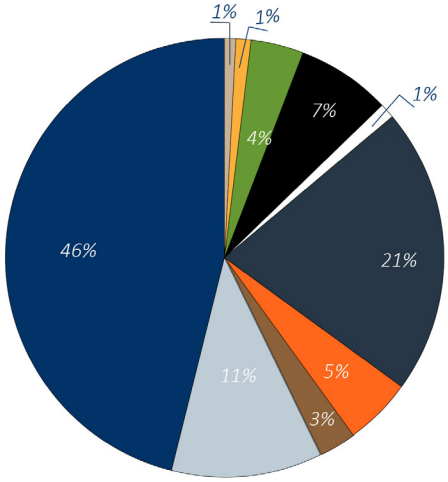


As a livestock and nutrition community, we need to continue momentum around the importance of animal source foods to reducing malnutrition in women and children – and frame them as imperative for building "grey matter infrastructure," while also harnessing opportunities for poverty reduction and inclusive development, particularly for women and youth.[5]

Countries Represented:

Afghanistan	Hungary	Peru
Australia	India	Philippines
Angola	Ireland	Portugal
Bahamas	Israel	Rwanda
Bangladesh	Italy	Senegal
Belgium	Kenya	Sierra Leone
Canada	Lebanon	South Sudan
Costa Rica	Liberia	Spain
DR Congo	Malawi	Taiwan
Denmark	Mali	Uganda
Ethiopia	Mexico	Ukraine
France	Mozambique	United Kingdom
Germany	Namibia	USA
Ghana	Nepal	Zambia
Greece	Niger	Zimbabwe
Guinea	Nigeria	Vietnam
Honduras	Pakistan	

From the four events, 598 people from 52 countries showed interest in the series through either attending, RSVP'ing and/or receiving event materials for at least one of the four events.



Sector Representation:

- CGIAR
- Private Consultant
- For Profit/Consulting/Contractor
- Nonprofit
- Other Government Ministry
- Other U.S. Government
- UN Agency
- USAID
- USDA
- Academic/Research Institution

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The following takeaways are topics we recommend the development and research community prioritize moving forward

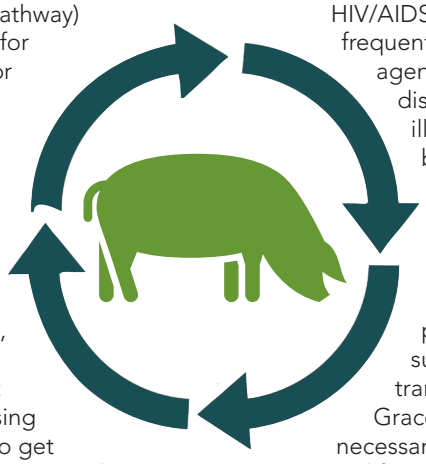
Additional guidance on measuring impact is needed

Event discussions were loud and clear: Our industry needs more specific and sensitive indicators to measure the impact of nutrition-sensitive livestock programs. The good news is, we aren't starting from scratch. Our series kicked off with a webinar on using the USAID Feed the Future Nutrient Rich Value Chain Commodity Indicator. And the Food and Agriculture Organization recently released a Toolkit on Nutrition-Sensitive Agriculture and Food Systems, which includes a Compendium of Indicators for Nutrition-Sensitive Agriculture.[6] These provide a helpful place to start; however, guidance on using disaggregated indicators specific for livestock interventions is still needed.

We also need to better understand impact evaluation of nutrition-sensitive agricultural projects. How do we ensure quality within our projects and impact evaluations? And, why are these projects important? Implicit in this need is an appreciation of the complications of running rigorous research projects in tandem with development interventions. Despite the complexities of such research, there is a need for more evidence to guide program development and implementation in the future. A great resource to start learning more about this topic is available in the book chapter "Evaluation of Nutrition-Sensitive Programs," by Deanna Olney, Jef Leroy and Marie Ruel. Dr. Jef Leroy presented some of his experience with impact evaluation at the October workshop, and Dr. Robyn Alders shared her experience of running a randomized control trial of a nutrition-sensitive livestock project in Tanzania at the May workshop. Read more about Dr. Alder's presentation in this blog from ILRI.[7]

Tensions exist between the direct and indirect pathways of agriculture to nutrition

A great tension remains between supporting vulnerable households, smallholder farmers and pastoralists in their production and consumption of ASF (direct pathway) versus leveraging market system approaches for increasing the availability of affordable ASF for poor households (indirect pathway). SPRING explored this same convergence and tension in nutrition-sensitive market development activities in a webinar last year.[8]



In reality, there is no one perfect solution. Local governments, donors and implementers need improved understanding of local, regional and global food systems. Then, we must better learn how to integrate livestock programs within these systems to effect change while sustainably and ethically increasing the availability of affordable ASF. It is critical to get this right while keeping up with the global increase in demand for livestock products. As Dr. Shirley Tarawali, ILRI, Kenya, explained during her presentation in October, there are opportunities to transform smallholder livestock systems while realizing benefits like improved nutrition, women's empowerment and opportunities for youth employment.

Food safety and ASF go hand-in-hand

It is estimated that the global burden of food borne illness matches that of illness from the major infectious diseases, HIV/AIDS, malaria and tuberculosis, combined.[9] The most frequent cause of food borne illness are diarrheal disease agents, and children under five years of age disproportionally bear the burden of food borne illness. ASF are one of the primary sources of food borne illnesses.

ASF and food safety are intimately related, and more attention needs to be directed to the intersection of these topics. However, merely increasing regulations does not translate to improvements in food safety; growth in supermarket culture in LMIC also does not translate into improved food safety. As Dr. Delia Grace, ILRI, explained in October, interim solutions are necessary to bridge the food safety gap between informal and formal markets in LMIC. At the Agrilinks webinar in January, ILRI researchers Dr. Hung Nugyen and Dr. Silvia Alonso presented opportunities to improve food safety in formal and informal markets and ways to incentivize producers to produce and consumers to demand safer foods. USAID will continue to explore this subject in an upcoming AgExchange online discussion.[10]

[1] Resources and materials from all events available at https://www.landolakes.org/Where-We-Work/Africa/Kenya/Livestock-Household-Nutrition-Learning-Series
[2] https://news.ilri.org/2017/04/03/from-livestock-smallholders-to-smartholders-nurturing-development-with-animal-source-foods/
[3] http://jn.nutrition.org/content/133/11/3941S.full
[4] http://pediatrics.aappublications.org/content/early/2017/06/05/peds.2016-3459
[5] https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Building_gray_matter_infrastructure.pdf
[6] http://www.fao.org/nutrition/policies-programmes/toolkit/en/
[7] https://news.ilri.org/2017/06/01/lessons-learnt-out-of-africa-19-factors-not-to-underestimate-in-rural-livestockagricultural-research-for-development/
[8] https://www.spring-nutrition.org/events/convergence-and-tension-nutrition-sensitive-agricultural-market-development-activities
[9] http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1001923
[10] https://agrilinks.org/agexchange/food-safety-developing-countries-research-gaps-and-opportunities
[11] https://www.slideshare.net/SUNCSN/landolake-communication-for-behavioral-change-68028572
[12] http://www.wageningenacademic.com/doi/pdf/10.3920/JIFF2014.0016
[13] http://www.fao.org/docrep/018/i3253e/i3253e.pdf

Behavior change communications resources are needed

Our industry needs improved understanding of how livestock can impact nutrition outcomes (both positively and negatively). Subsequently, there is a need for comprehensive and contextual behavior change communication strategies that can connect the dots between livestock production and improved household nutrition.

Multipronged approaches to behavior change communication are necessary to realizing lasting behavior change at the household and community level. In the Agrilinks-hosted Food Safety webinar, Land O'Lakes International Development Chief of Party Dennis Karamuzi shared a successful example of this from the USAID-funded Rwanda Dairy Competitiveness Program II (RDCP II). RDCP II worked with Urunana Development Communications Limited, a local radio producer, to increase understanding of and demand for quality milk consumption in Rwanda.[11] We can also find lessons from the private sector in this space; Hystra and Gain's webinar series on Marketing Nutrition for the Base of the Pyramid have case examples relevant to the livestock and ASF sector.

Group photograph on May 4, 2017, at ILRI in Nairobi, Kenya, on 'Animal-source foods for nutrition impact: Evidence and good practice for informed project design'. Photo credit: ILRI.

Insects are the buzz when it comes to ASF

Insects were not a focus of this learning series, however during a session at our Nairobi event, we asked participants to identify little known or underappreciated foods. The clear winner was insects! Seasonal consumption of insects (entomophagy) provides a significant (and inexpensive) source of quality protein and contributes to food security for many vulnerable populations around the world.[12] Insects as an environmentally friendly protein source are currently in vogue in the developed world, evidenced by the emergence of several brands of cricket flour bars, however this source of protein has been known in indigenous communities for millennia and deserves a deeper look as a human food as well as livestock feed. The UN Food and Agriculture Organization (FAO) has this report on the entomophagy.[13]

Sustain the moooo-mentum

The livestock and nutrition sectors are critical to engaging in the world's collective effort to achieve the UN Sustainable Development Goals. The Livestock-Household Nutrition Learning Series contributed to the global conversation on the importance of safe and affordable ASF to improve nutrition outcomes of the world's most vulnerable populations and highlighted critical points that the development community should prioritize moving forward. We are grateful to the TOPS program, USAID, Save the Children and ILRI for their support of our learning series, and we "egg-erly" look forward to seeing what our livestock and nutrition community can accomplish in the future.