Global Agenda for Sustainable Livestock

Food and Agriculture Organization of the United Nations

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Achieving multiple benefits through livestock-based solutions

Living synthesis lessons and insights from the 7th Multi-Stakeholder Partnership meeting of the Global Agenda for Sustainable Livestock, Addis Ababa, 8-12 May 2017

Compiled by Peter Ballantyne

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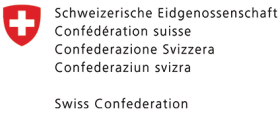

All materials and products from the meeting are accessible online at:
http://www.livestockdialogue.org/events/events/multi-stakeholder-meetings/addis-ababa-08-12-may-2017
http://ilri-events.wikispaces.com/gasl2017_products

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Introduction

The Global Agenda for Sustainable Livestock (livestockdialogue.org) recognizes that for livestock to be sustainable, the sector worldwide needs to respond to the growing demand for livestock products and enhance its contribution to food and nutritional security; provide secure livelihoods and economic opportunities for hundreds of millions of pastoralists and value chain actors in the livestock sector; use natural resources efficiently, address climate change and mitigate other environmental impacts; and enhance human, animal, and environmental health and welfare.

The Global Agenda's 7th Multi-Stakeholder Partnership meeting in Addis Ababa was organized to reinforce the unique roles of the Global Agenda in bringing together different types of stakeholders to explore tools and models to measure sustainability in the livestock sector, to consider lessons from diverse examples at global, regional and local level and to learn from on the ground examples of livestock-based solutions.

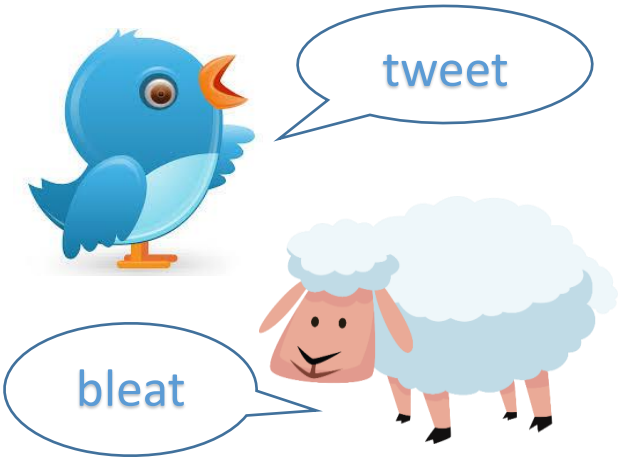
The full summary report of the meeting is published elsewhere and is accessible from the Global Agenda web site.

This brief report summarizes the 'living synthesis' component of the meeting, with the detailed comments and notes of participants listed in annex 1.

The contributions of many individuals who actively documented the different sessions is acknowledged; also work by Ewen Le Borgne and Alan Duncan to capture the notes and for initial set up of the excel file with the data.

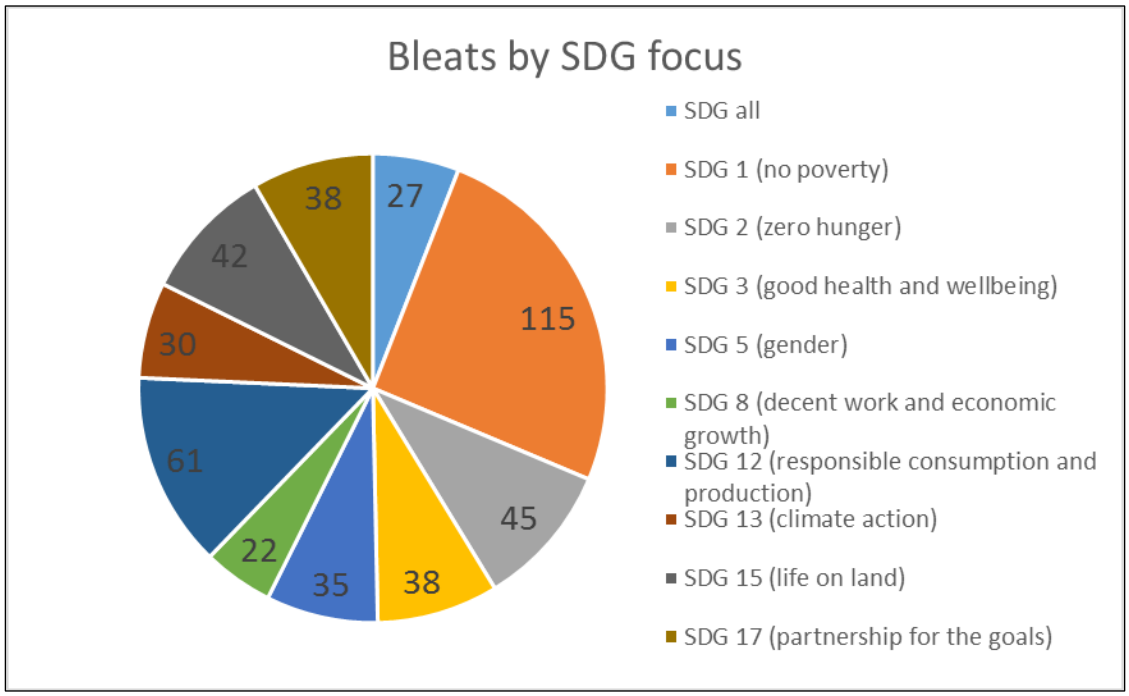
Livestock and the SDGs – the living synthesis

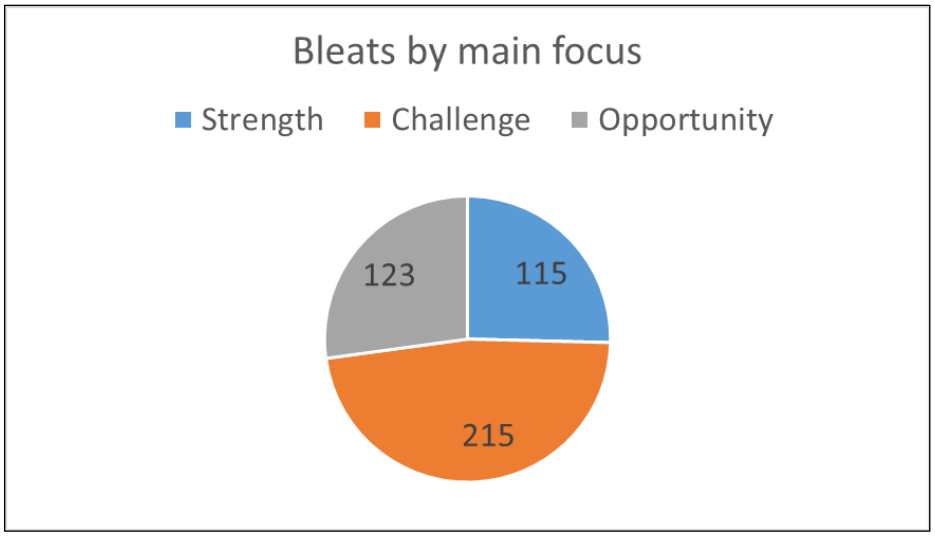
Throughout the meeting, participants were encouraged to document insight and lessons during and after sessions. This 'living synthesis' was intended to replicate twitter, within the meeting rooms, offline.



Instead of posting 'tweets' online, participants posted 'bleats' on walls organized around SDGs and zooming in on results, lessons and opportunities in terms of 1) what worked well, 2) what failed, and 3) what the gaps are. A similar approach was used to track insights on 'multi-stakeholder value addition' and 'solutions.'

By the end of the week, 453 messages related to SDGs had been posted. These were transcribed to excel and roughly clustered by session, SDG focus and message sentiment: was it highlighting a strength (of a tool, case, or experience), a perceived challenge (weakness or threat), or an opportunity (for livestock, for a project, for the Global Agenda).





What do the posts tell us? They were a mix of feedback on specific tools and cases and experiences shared as well as reflections on the general themes of the event – multiple benefits and opportunities of livestock and the SDGs. This section gives a flavour of the posts, structured around some headings that emerged (see Annex 1 for a fuller listing of the posts).

Overall messages

Most posts addressed a single SDG – some cut across all or several and serve as general insights.

Strengths and opportunities identified include:

- We have the evidence of multiple benefits of livestock – but we need the resources to implement at scale;
- This can help to address negative perceptions of animal agriculture that are building.

Further:

- We should think of SDGs in terms of clusters because that is how they work; and
- Addressing several SDGs at the same time contributes effectively to eradication of poverty.
- We need to remember that increasing production is not enough on its own to eliminate hunger or improve nutrition.

We have work to do:

- We have good tools to measure impact but not to measure the benefits;
- We still need to address the question on the long-term impact of these solutions; and
- There are challenges to translate many of the tools and case experiences into practical results on the ground.

Indicators, models and data

All the feedback around the methodology and tools was focused on challenges, areas that need to be improved and addressed. Issues were raised concerning data collection, choice of indicators, gaps, impacts, and issues around coordination and standards.

Examples are: Very hard to capture data from pastoral systems; some countries will not have enough base data; indicator measuring is a big challenge; appropriate metrics to measure impacts; ensure gender disaggregated input data; integrate social aspects; different though similar methodologies - need closer dialogue between 'developers'; good socio-economic tools disconnected from environment; consumer perspective is under represented; should be integrated with other tools.

Communications, dissemination and uptake

Many posts zoomed in on the need for tools, models and experiences to be better communicated and shared and implemented at scale.

Opportunities and strengths observed of existing experiences included: Tapping into farmer to farmer exchange and learning, including use of mobile phones and working through extension; exchanging good practices among countries; and making tools publically accessible.

Challenges identified included: Sharing information with farmers, lack of awareness, how the study can be scaled up, tools need to be shared with other stakeholders and methods for strengthening them developed, upscaling, applicability to developing country, and how can other countries learn from this project experience, lessons learned etc.

Multi-stakeholder engagement and partnerships

This element attracted many posts, highlighting a mix of what multi-stakeholder approaches can deliver (opportunities) as well as strengths and challenges observed in the experiences shared.

Strengths observed: Platforms led to coordination between different stakeholders; collaboration of farmers build resilience; multi-stakeholder approach to achieve results; research, extension and agribusiness work together with farmers to find common outcome; strong partnerships (government / producers / all stakeholders); bringing different partners together allows addressing their different interests + build on their strengths (e.g. knowledge); network allows for bringing knowledge together showing how animal welfare contributes to SDGs - how practice change has been accomplished; tool can be used to engage with the private sector, civil society and development groups to focus their projects; used by policy and industry to intersect; value chain approach that engages farmers.

Challenges observed include: difficulty of working with stakeholders; mobilizing engagement; tiring to coordinate partners to realise ownership; needs more dialogue with different stakeholders; coordination is missing (between government and partners); food industry needs to be brought in. But momentum + resources are needed.

Livestock-based impacts

The wider benefits of livestock on different development outcomes were the focus of many posts.

Opportunities from livestock included: Enhancing the resilience of farmers; environmental integrity for the future; increase family income; great potential for poverty reduction, gender gap reduction; optimizing livestock reduces carbon emissions; high potential for nutrition, poverty alleviation.

Observed strengths included: Focus on poorest farmers; focus on diseases of the poor; increasing milk production has led to more income more education; case studies show increase in productivity and profitability; better income of marginal minorities; people have better income and food.

Livestock-based solutions

Most of the posts were about the various solutions shared. These covered a wide range of issues.

Opportunities included: Combine forest + pasture to ensure feed availability; decrease PPR and other small ruminant disease will increase productivity; increasing forage value will decrease fertilizers use and decrease irrigation; reducing concentrates allows money to be used elsewhere; silvo-pastoralism to increase sustainability and address climate change; AMR very relevant for intensive large livestock farms; exporting animal products instead of live animals would (also) improve animal welfare; extensive systems less in need of antibiotics; identifying losses in value

chains will increase efficiency; animal disease a good entry point for farmers; animal welfare equals animal health, equals sustainable livestock; control of transboundary issues opens export opportunities; extensive systems have great environmental potential; improving smallholder access to markets addresses SDGs 1,2,5,8,12; simple improvements to herd management, feed, manure can increase milk and meat production and decrease GHG emissions;

Observed strengths included: Better offtake + market supply through multi-stakeholder platforms; grasslands can mitigate GHG through carbon sequestration; institutional partners shifting focus from production alone to include nutrition; education element to raise awareness on animal welfare; whole herd approach to disease management.

Challenges include: Livestock movement in pastoralist areas; linkages between farmers and market still low; SDG 1 (no poverty); providing opportunities beyond productive level; sustainability of restored communal grasslands. How to share the communal resources?; increasing number competitors for the same feed resource; resistance by some groups because for land ownership; determine the best combination tree-forage crops for better soil sequestration?; Need holistic approach for better livelihood improvement; SDG 8 (decent work and economic growth).

Implementation approaches

Moving from models and tools and cases to actual implementation of promising technical and institutional approaches solutions was the focus of another set of posts. These tended to identify better [technical] practices and choices to achieve better results.

Opportunities and strengths identified included: Develop interactions with nutrition communities; understand and quantify economic multipliers as development occurs; employ incentives that match the diversity of specific situations; move towards technical agents becoming more facilitators - help farmers find right management change; engaging multiple crop + food production systems; using methods that are practical and can be easily implemented.

Challenges included: recognizing that solutions have to fit within the present; how do you get from assessment to action?; how to deal with long term trends versus short term shocks?; how to achieve benefits on ground level?; tools should be tested in different production systems of livestock; how do we make this both inclusive but also fast enough to meet the 2030 target?; practical application towards climate aspects not obvious; a top down approach. Too soon to see the weaknesses and strengths; so far, there is no direct impact on dairy farmers; limited multiplier effect

Policy process and decisions

Sustainable livestock is increasingly a focus for policy development and several posts were on opportunities in this area as well as strengths observed in the experiences shared.

These included: Forecasting scenarios of alternative livestock, impact on society & recommend policy options; making livestock sector investment friendly: legal, political, economic, logistical) services, value addition, licences/certifications/intellectual property; offering high level advocacy and attracting investments in the livestock sector; helping decision makers for future scenarios in term of actions that can or cannot improve livestock production; using robust evidence/case studies to show how livestock can provide social development; guiding investment choices.

Gender and equity

Many posts suggested opportunities by addressing gender or identified observed strengths and challenges around the role of women in sustainable livestock.

Opportunities and strengths identified included: Potential to empower women; gender-based solutions enable bigger impact + production; link to gender to ensure nutrition awareness of animal sourced foods for maternal and infants/children health development; increase women's participation in market activities which places them in better position to make nutritious decisions; and economic benefits for gender equality; and embedding gender in training.

Challenges included: Risk that men may take over control of income; how to increase women's access to knowledge and improve decision making; creating awareness on gender equity; need to identify economic benefits achieved through gender equality.

Annex 1: Living synthesis lessons and insights

These pages present the largely unedited posts that were shared by participants during the meeting. They are organized under some headings; each also indicates which SDG it was associated to and which session it came from.

Overall messages

- Opportunity: We have the evidence of multiple benefits but we need the funds to implement at scale; SDG all; Cases
- Opportunity: Think of SDGs in terms of clusters because that is how they work; SDG 15 (life on land); Cases
- Strength: Addressing several SDGs at the same time contributes effectively to eradication of poverty; SDG 1 (no poverty); Cases
- Strength: Helps to address negative perceptions of animal agriculture that is building; SDG 1 (no poverty); Cases
- Challenge: We have good tools to measure impact but not to measure the benefits; SDG all; Tools
- Challenge: Increasing production is not enough on its own to eliminate hunger or improve nutrition; SDG all; Cases
- Challenge: What is the long-term impact of these solutions?; SDG all; Cases

Indicators, models and data

- Challenge: Capture progress to quantify impact; SDG 1 (no poverty); Tools
- Challenge: Need for sex-disaggregated data; SDG 1 (no poverty); Cases
- Challenge: Very hard to capture data from pastoral systems; SDG 1 (no poverty); Cases
- Challenge: Diversity of countries is difficult (not failure); SDG 12 (responsible consumption and production); Cases
- Challenge: common standard/indicators; SDG 17 (partnership for the goals); Cases
- Challenge: In some countries will not have enough base data; SDG 15 (life on land); Tools
- Challenge: lack of base data. Where to get the data?; SDG 15 (life on land); Tools
- Challenge: Indicator measuring… a big challenge (ongoing…); SDG 15 (life on land); Cases
- Challenge: Social benefits often lacking due to little data correlating it to economics and environment; SDG all; Tools
- Challenge: data needs to be accessible esp. for interested stakeholders; SDG 17 (partnership for the goals); Tools
- Challenge: identifying appropriate metrics is an indicators to measure impacts; SDG 2 (zero hunger);
- Challenge: Ensure gender disaggregated input data for the model; SDG 5 (gender); Tools
- Challenge: Integrate social aspects in your model; SDG 8 (decent work and economic growth); Tools
- Challenge: Misses the social dimension; SDG 8 (decent work and economic growth); Tools
- Challenge: need to include gender data in regional profiles so models can extrapolate benefits gained through improvements; SDG 5 (gender); Tools
- Challenge: data reliability high level; SDG 2 (zero hunger);
- Challenge: Addressing trade-offs and synergies; SDG 1 (no poverty); Tools
- Challenge: Assessing impact of the tool; SDG 1 (no poverty); Tools
- Challenge: Comparison before/after (impact) not possible; SDG 1 (no poverty); Cases
- Challenge: different though similar methodologies. Need closer dialogue between 'developers' (please); SDG 1 (no poverty); Tools

- Challenge: Good socio-economic tools disconnected from environment; SDG 15 (life on land); Tools
- Challenge: data accuracy to build the model (14 countries so far); SDG 17 (partnership for the goals); Tools
- Challenge: how will dynamic systems like pastoral systems be captured?; SDG 17 (partnership for the goals); Tools
- Challenge: In general the consumer perspective seems under represented; SDG 17 (partnership for the goals); Cases
- Challenge: representation of all livestock production groups + all regions; SDG 2 (zero hunger);
- Challenge: It should be integrated with other tools.; SDG 1 (no poverty); Tools
- Challenge: Linkages between economic models and environmental models is essential; SDG 1 (no poverty); Tools
- Challenge: Should include biodiversity; SDG 1 (no poverty); Cases
- Challenge: Social issues not included, lack of appropriate linkages; SDG 1 (no poverty); Tools
- Challenge: Very good tool for industry-based livestock production systems - seems difficult to apply for smallholder farms; SDG 1 (no poverty); Tools
- Challenge: No consistency in measuring impact; SDG 12 (responsible consumption and production); Cases
- Challenge: It will be difficult to standardize across very different production systems --> harmonization methods and common methods; SDG 3 (good health and wellbeing); Cases
- Challenge: Nutrition impacts?; SDG 12 (responsible consumption and production); Tools
- Challenge: Links with existing instruments not visible; SDG 13 (climate action); Tools
- Challenge: Needs more quantitative application of case studies; SDG 8 (decent work and economic growth); Cases
- Challenge: upscaling, data acquisition, alignment with existing harmonized metrics and methods (e.g. LEAP); SDG 17 (partnership for the goals); Tools

Communications, dissemination and uptake

- Opportunity: Farmer to farmer exchanges will greatly boost spread of the tool; SDG 1 (no poverty); Tools
- Opportunity: Farmers to farmers learning and sharing lessons; SDG 8 (decent work and economic growth); Cases
- Opportunity: Mobile phones to spread tools to farmers; SDG 1 (no poverty); Tools
- Opportunity: Awareness raising to strengthen existing OIE standards and regulations to safeguard animal welfare; SDG 12 (responsible consumption and production); Cases
- Opportunity: Exchange solutions/ideas around common resources (land tenure); SDG 17 (partnership for the goals); Cases
- Opportunity: Exchange good practices between countries; SDG 13 (climate action); Cases
- Opportunity: Communication adapted to stakeholders GHG --> Farmers (production efficiency). 'International markets 'low emission credits'); SDG 15 (life on land); Cases
- Opportunity: Extension services are key for sound livestock management and implementing innovation; SDG all; Cases
- Strength: Learn from each other, exchange good practices; SDG 1 (no poverty); Cases
- Strength: Publically accessible tools to increase efficiency of livestock feed production; SDG 13 (climate action); Tools
- Challenge: Better share information with farmers; SDG 1 (no poverty); Cases
- Challenge: Focus on awareness raising; SDG 12 (responsible consumption and production); Cases
- Challenge: Lack of awareness; SDG 1 (no poverty); Cases
- Challenge: How the study can be scaled up; SDG 1 (no poverty); Tools

- Challenge: Network move on macro level - how information trickles down?; SDG 12 (responsible consumption and production); Cases
- Challenge: Wider promotion of the PEG tool; SDG 12 (responsible consumption and production); Tools
- Challenge: How to bring visibility to the issue; SDG 13 (climate action); Cases
- Challenge: Need to be clear on packaging; SDG 13 (climate action); Cases
- Challenge: Difficult to upscale technology; SDG 15 (life on land); Cases
- Challenge: Lack of awareness on losses by policy makers. People; SDG 15 (life on land); Tools
- Challenge: Tools need to be shared with other stakeholders and methods for strengthening them developed; SDG 17 (partnership for the goals); Tools
- Challenge: transfer (approaches/knowledge) between different local contexts (bio-physical, policies); SDG 17 (partnership for the goals); Cases
- Challenge: Upscaling, applicability to developing country; SDG 17 (partnership for the goals); Tools
- Challenge: Can it be scaled? What are the barriers?; SDG 2 (zero hunger); Cases
- Challenge: Results need to be shared with all MSP groups; SDG 3 (good health and wellbeing); Tools
- Challenge: How can other countries learn from this project experience, lessons learned etc.; SDG 8 (decent work and economic growth); Cases
- Challenge: Make available findings of the pilot study; SDG 1 (no poverty); Tools
- Challenge: Public unaware; SDG 12 (responsible consumption and production); Cases
- Challenge: Climate change messages to farmers are not clear; SDG 13 (climate action); Cases

Multi-stakeholder engagement and partnerships

- Opportunity: multi-stakeholder participatory platforms at different levels (national, district, community); SDG 12 (responsible consumption and production); Cases
- Opportunity: Multi-stakeholder platforms to raise gender visibility; SDG 12 (responsible consumption and production); Cases
- Opportunity: Conceptual models with the potential to create partnerships across development, social science, production and 'beyond'; SDG 13 (climate action); Cases
- Opportunity: Platform = coordination between different stakeholders; SDG 15 (life on land); Cases
- Opportunity: Working with private sector (NGS) on modeling; SDG 2 (zero hunger);
- Opportunity: Stakeholders in workshop build scenarios of livestock development together; SDG 17 (partnership for the goals); Tools
- Strength: Active stakeholder engagement; SDG 1 (no poverty); Tools
- Strength: Collaboration of farmers build resilience; SDG 1 (no poverty); Cases
- Strength: Collaboration to harmonize policy ie. environment < GHG & < cattle with agriculture to > cattle to > econ & social; SDG 1 (no poverty); Cases
- Strength: Commitment of producers; SDG 1 (no poverty); Cases
- Strength: Multidisciplinary dialogue; SDG 1 (no poverty); Cases
- Strength: Multidisciplinary farmers-livestock environment public & private; SDG 1 (no poverty); Cases
- Strength: Multi-stakeholder approach needed to achieve results .; SDG 1 (no poverty); Cases
- Strength: Requires research, extension and agribusiness work together with farmers to find common outcome; SDG 1 (no poverty); Cases
- Strength: Strong partnerships (government / producers / all stakeholders); SDG 1 (no poverty); Cases
- Strength: Participatory approach up. Investments were triggered; SDG 12 (responsible consumption and production); Cases

- Strength: Platform for solutions at different levels; SDG 12 (responsible consumption and production); Cases
- Strength: Regional coordination. Good example of multi-stakeholder process on a specific issue; SDG 12 (responsible consumption and production); Cases
- Strength: Framework that has brought partners together; SDG 13 (climate action); Cases
- Strength: Provides integration and interaction; SDG 13 (climate action); Cases
- Strength: Bringing different partners together allows addressing their different interests + build on their strengths (e.g. knowledge); SDG 17 (partnership for the goals); Cases
- Strength: Brings together farmers, researchers, private sector and extensionists to identify strengths/weaknesses; SDG 17 (partnership for the goals); Tools
- Strength: Network allows for bringing knowledge together. Showing how animal welfare contributes to SDGs - how practice change has been accomplished; SDG 17 (partnership for the goals); Cases
- Strength: Tool can be used for engaging with the private sector. It can be used by civil society and development groups to focus their projects; SDG 17 (partnership for the goals); Tools
- Strength: Engages farmers; SDG 2 (zero hunger);
- Strength: Used by Policy and industry to intersect; SDG 15 (life on land); Tools
- Strength: Focuses on multi-stakeholders; SDG 2 (zero hunger);
- Strength: Links value chain partners and local governments /authority; SDG 2 (zero hunger); Cases
- Strength: value chain approach that engages farmers; SDG 2 (zero hunger); Cases
- Strength: working with farmers and multisector partners to overcome multiple factors impacting hunger; SDG 2 (zero hunger);
- Strength: MSPs facilitate engagement to determine priorities + agree on; SDG 3 (good health and wellbeing); Cases
- Strength: Involved private sectors and civil society for better use of projection; SDG 8 (decent work and economic growth); Cases
- Strength: Appropriate indicators decided by farmers and researchers, demonstrate gaps and help future actions for sustainable animal production; SDG all; Tools
- Strength: Model projection data is validated by country partners; SDG 2 (zero hunger);
- Challenge: Challenge to engage more stakeholders (e.g. MoH); SDG 1 (no poverty); Cases
- Challenge: Difficulty of working with stakeholders; SDG 1 (no poverty); Cases
- Challenge: make partnerships with African country; SDG 12 (responsible consumption and production); Cases
- Challenge: Mobilizing engagement; SDG 13 (climate action); Cases
- Challenge: Need for a champion to move engagement; SDG 13 (climate action); Cases
- Challenge: Tiring to coordinate partners to realise ownership; SDG 13 (climate action); Cases
- Challenge: Sustainable in-country coordination of multi-stakeholder partnership is often an issue; SDG 17 (partnership for the goals); Cases
- Challenge: expand partnership e.g. private sector. Partnership should be able to address challenges identified by projections; SDG 17 (partnership for the goals); Cases
- Challenge: Needs more dialogue with different stakeholders; SDG 8 (decent work and economic growth); Cases
- Challenge: Coordination is missing (between gov't and partners; SDG 12 (responsible consumption and production); Cases
- Challenge: Limited government involvement; SDG 12 (responsible consumption and production); Cases
- Challenge: Producers not really consulted? --> Using case studies; SDG 15 (life on land); Cases
- Challenge: Food industry needs to be brought in. But momentum + resources are needed; SDG 17 (partnership for the goals); Cases

Policy process and decisions

- Opportunity: Forecast scenarios of alternative livestock, impact on society & recommend policy options; SDG 1 (no poverty); Cases
- Opportunity: Make livestock sector investment friendly: legal, political, economic, logistical) services, value addition, licences/certifications/intellectual property; SDG 15 (life on land);
- Opportunity: Model could be good for high level advocacy and attracting investments in the livestock sector.; SDG 5 (gender); Tools
- Opportunity: Conceptual models help decision makers for future scenarios in term of actions that can or cannot improve livestock production; SDG all; Tools
- Opportunity: Pull out (lessons, principles) between different benefits of grassland; SDG 17 (partnership for the goals); Cases
- Opportunity: Robust evidence/case studies show how livestock can provide social development; SDG 3 (good health and wellbeing); Cases
- Strength: Guides investment decisions; SDG 1 (no poverty); Tools
- Strength: Guides investment choices --> shows potential and gaps. More comprehensive; SDG 1 (no poverty); Tools
- Strength: Long term impact projections are particularly helpful for development practitioners who are often compelled to design interventions that yield impact in the short term. This can help extend our vision; SDG 1 (no poverty); Tools
- Strength: Opportunities for scenario analyses e.g. climate; SDG 13 (climate action); Tools
- Strength: Strong political will; SDG 1 (no poverty); Cases

Gender and equity

- Opportunity: More women involved in livestock disease monitoring; SDG 1 (no poverty); Tools
- Opportunity: Potential to empower women; SDG 1 (no poverty); Cases
- Opportunity: Gender-based solutions enable bigger impact + production; SDG 12 (responsible consumption and production); Cases
- Opportunity: Frameworks for partnerships to be gender sensitive and flexible; SDG 17 (partnership for the goals); Tools
- Opportunity: Link to gender to ensure nutrition awareness of animal sourced foods for maternal and infants/children health development; SDG 2 (zero hunger); Tools
- Opportunity: Increase women's participation in market activities which places them in better position to make nutritious decisions; SDG 3 (good health and wellbeing); Tools
- Opportunity: Measure gendered preferences in food; SDG 3 (good health and wellbeing); Tools
- Opportunity: Economic benefits for gender equality; SDG 5 (gender); Tools
- Strength: Addressing vulnerability of effects as different by gender; SDG 13 (climate action); Tools
- Strength: Income and the role of women (gender); SDG 2 (zero hunger); Cases
- Strength: Embedding gender discussion in the trainings; SDG 5 (gender); Cases
- Strength: Farmers (6000!) are using the tool, mean and women; SDG 5 (gender); Cases
- Strength: Good tool for gender equality - nice to see results after training; SDG 5 (gender); Tools
- Strength: trainings involve both women and men; SDG 5 (gender); Cases
- Challenge: How change gender situation from cultural background; SDG 3 (good health and wellbeing); Tools
- Challenge: need to capture gender equity; SDG 5 (gender); Cases
- Challenge: Address vulnerability - as there are gender issues; SDG 13 (climate action); Tools
- Challenge: Risk that men may take over control of income from small ruminants - no gender strategy; SDG 5 (gender); Cases

- Challenge: How to increase women's access to knowledge and improve decision making; SDG 5 (gender); Cases
- Challenge: Needs upscaling with gender consideration; SDG 8 (decent work and economic growth); Cases
- Challenge: Incorporate men opinion in gender assessment; SDG 3 (good health and wellbeing); Tools
- Challenge: ambitious plan but not fully funded; SDG 5 (gender); Cases
- Challenge: Creating awareness and assessment on gender equity; SDG 5 (gender); Cases
- Challenge: Gender equity data could be included in regional data to extrapolate the benefits of improvements; SDG 5 (gender); Tools
- Challenge: gender not considered (but is it an issue?); SDG 5 (gender); Cases
- Challenge: Gender not considered - some benefits e.g. access to different foods - but not captured; SDG 5 (gender); Cases
- Challenge: In the livestock world it is necessary to have a gender equality to determine and treat animals more carefully; SDG 5 (gender); Tools
- Challenge: Indirect impact on gender equity through economic and nutrition effects; SDG 5 (gender); Cases
- Challenge: Integration of women in the value chain; SDG 5 (gender); Cases
- Challenge: Lack of social measures in the model relation to gender for now; SDG 5 (gender); Tools
- Challenge: need to identify economic benefits achieved through gender equality; SDG 5 (gender); Tools
- Challenge: Social measures are not included in GLEAM including gender balance; SDG 5 (gender); Tools
- Challenge: Women active at community level but low decision making power at household levels; SDG 5 (gender); Cases
- Challenge: Women not involved much in trainings but being addressed through training timing; SDG 5 (gender); Cases

Livestock-based impacts

- Opportunity: Enhance resilience for farmers; SDG 1 (no poverty); Tools
- Opportunity: Environmental integrity for future; SDG 1 (no poverty); Tools
- Opportunity: Increase family income; SDG 15 (life on land); Cases
- Opportunity: Livestock has great potential for poverty reduction, gender gap reduction; SDG all; Cases
- Opportunity: Need system that can survive risks (reserves against climate shocks); SDG all; Cases
- Opportunity: Optimizing livestock reduces carbon emissions; SDG all; Cases
- Opportunity: High potential of dairying for nutrition, poverty alleviation; SDG 12 (responsible consumption and production); Cases
- Opportunity: Potential of beef intensification to reduce poverty; SDG 1 (no poverty); Cases
- Strength: Ability to target the poor; SDG 1 (no poverty); Cases
- Strength: Clear focus on poorest farmers; SDG 1 (no poverty); Cases
- Strength: Focus on diseases of the poor; SDG 1 (no poverty); Cases
- Strength: Income goes up --> adoption goes up; SDG 1 (no poverty); Cases
- Strength: Increasing milk production has led to more income more education; SDG 1 (no poverty); Cases
- Strength: Targets poor population segments (smallholders, women); SDG 1 (no poverty); Cases
- Strength: Case studies show increase in productivity and profitability; SDG 1 (no poverty); Cases
- Strength: Better income of marginal minorities; SDG 12 (responsible consumption and production); Cases

- Strength: different scales are represented to target poverty; SDG 1 (no poverty); Cases
- Strength: Can increase profit (after a creation time); SDG 2 (zero hunger);
- Strength: Improved marketing = improved income = improved bargaining power; SDG 1 (no poverty); Cases
- Strength: People have better income and food made possible by cooperative approach; SDG 3 (good health and wellbeing); Cases
- Challenge: What is the direct or indirect benefit to small producers?; SDG 1 (no poverty); Tools
- Challenge: create greater awareness of social value of livestock; SDG 17 (partnership for the goals); Cases
- Challenge: In a poverty context, animal welfare is a luxury. Survival takes precedence over it; SDG 17 (partnership for the goals); Cases
- Challenge: In an industrial production context, animal welfare care can reduce profits; SDG 17 (partnership for the goals); Cases
- Challenge: Convincing that animal welfare is not a western luxury; SDG 1 (no poverty); Cases
- Challenge: Welfare standard may not be the same across the globe; SDG 12 (responsible consumption and production); Cases
- Challenge: there is a perceived cost associated with animal welfare; SDG 1 (no poverty); Cases
- Challenge: Does not directly link to vulnerable populations (smallholder); SDG 2 (zero hunger);
- Challenge: translation to populations suffering from hunger /vulnerable; SDG 2 (zero hunger);

Livestock-based solutions

- Opportunity: Combine forest + pasture to ensure feed availability --> more incentives?; SDG 1 (no poverty); Cases
- Opportunity: Decrease PPR and other small ruminant disease will increase productivity and effective use of resources; SDG 1 (no poverty); Cases
- Opportunity: Increase forage value. Decrease fertilizers. Decrease irrigation; SDG 1 (no poverty); Cases
- Opportunity: Knowledge of carbon footprint - reduced carbon emissions; SDG 1 (no poverty); Tools
- Opportunity: Reducing concentrates allows for money to be used elsewhere; SDG 1 (no poverty); Cases
- Opportunity: Silvo-pastoralism to increase sustainability and address climate change; SDG 1 (no poverty); Cases
- Opportunity: Using technical solutions (use of concentrates) to decrease impact on natural environment; SDG 1 (no poverty); Cases
- Opportunity: AMR very relevant for intensive large livestock farms; SDG 12 (responsible consumption and production); Cases
- Opportunity: Antibiotic (mis)use is very crucial and partnerships are needed since the 'official' mechanisms are very slow; SDG 12 (responsible consumption and production); Cases
- Opportunity: Exporting animal products instead of live animals would (also) improve animal welfare; SDG 12 (responsible consumption and production);
- Opportunity: Improved grasslands for dairy animals increase frequent milk supply and semi-settlement of nomads; SDG 12 (responsible consumption and production); Cases
- Opportunity: Livestock have a role in land rehabilitation; SDG 12 (responsible consumption and production); Cases
- Opportunity: Use max nutrient soil, max MT fodder per acre, conserve water micro irrigation, confine movement stock, genetics cross-breeds to max growth rates and numbers; SDG 12 (responsible consumption and production); Tools
- Opportunity: Better animal management means better production / unit GHG's; SDG 13 (climate action); Cases

- Opportunity: Extensive systems less in need of antibiotics; SDG 13 (climate action); Cases
- Opportunity: Identifying losses in value chains enables us to increase efficiency; SDG 13 (climate action); Tools
- Opportunity: Avoid losses to increase efficiency of productivity; SDG 15 (life on land); Tools
- Opportunity: Decide the seasonal changes in stocking rate; SDG 15 (life on land); Tools
- Opportunity: Guidelines provide traceability to consumer; SDG 15 (life on land); Tools
- Opportunity: identify where to reduce losses; SDG 15 (life on land); Tools
- Opportunity: Improve efficiency of production; SDG 15 (life on land); Tools
- Opportunity: Increase efficiency of value chains; SDG 15 (life on land); Tools
- Opportunity: Animal disease a good entry point for farmers. Can help identify need for partnerships; SDG 17 (partnership for the goals); Tools
- Opportunity: Access to market; SDG 3 (good health and wellbeing); Cases
- Opportunity: Animal welfare equals animal health, equals sustainable livestock; SDG 3 (good health and wellbeing); Cases
- Opportunity: Animal welfare links to several SDGs - horizontal nature; SDG 3 (good health and wellbeing); Cases
- Opportunity: Improve value of working animal (e.g. donkey) for women support; SDG 5 (gender); Cases
- Opportunity: Control of transboundary issues opens export opportunities; SDG 8 (decent work and economic growth); Tools
- Opportunity: Animal welfare supporting economics of the food chain; SDG all; Cases
- Opportunity: Extensive systems have great environmental potential; SDG all; Cases
- Opportunity: Improving smallholder access to markets addresses SDGs 1,2,5,8,12; SDG all; Cases
- Opportunity: Information from farmer to market to farm helps farmer decision making in real time and promote fair trade; SDG all; Tools
- Opportunity: Livestock decreases soil dependency on phosphorous; SDG all; Cases
- Opportunity: Silvo pastoralism can deliver multiple benefits but it requires private and public sectors to work on access to land; SDG all; Cases
- Opportunity: Simple improvement on herd management, feed, manure can increase milk and meat production and decrease GHG emissions; SDG all; Cases
- Strength: Developing both regional markets and branded (tribal) in Hanoi; SDG 1 (no poverty); Cases
- Strength: Better offtake + market supply through multi-stakeholder platforms; SDG 12 (responsible consumption and production); Cases
- Strength: Integrated approach to rangeland management (producers, academics, research etc.); SDG 12 (responsible consumption and production); Cases
- Strength: Grasslands can mitigate GHG through Carbon sequestration; SDG 15 (life on land); Cases
- Strength: addressing pastoral groups which are communally vulnerable populations; SDG 2 (zero hunger);
- Strength: Increase production while considering environment; SDG 2 (zero hunger); Cases
- Strength: Institutional partners shifting focus from production alone to include nutrition; SDG 2 (zero hunger);
- Strength: Addresses a real need on understanding of livestock in social development; SDG 3 (good health and wellbeing); Cases
- Strength: Education essential element of raising awareness on animal welfare; SDG 3 (good health and wellbeing); Cases
- Strength: Whole herd approach to disease management; SDG 3 (good health and wellbeing); Cases
- Challenge: Challenge is livestock movement in pastoralist areas; SDG 1 (no poverty); Cases

- Challenge: Disconnection between market and production center (instable market); SDG 1 (no poverty); Cases
- Challenge: Improve connection to higher value markets; SDG 1 (no poverty); Cases
- Challenge: Linkages between farmers and market still low; SDG 1 (no poverty); Cases
- Challenge: Providing opportunities beyond productive level; SDG 1 (no poverty); Cases
- Challenge: Public land - more difficult to encourage change; SDG 1 (no poverty); Cases
- Challenge: Market linkage development is challenging; SDG 12 (responsible consumption and production); Cases
- Challenge: Sustainability of restored communal grasslands. How to share the communal resources?; SDG 12 (responsible consumption and production); Cases
- Challenge: Increasing number competitors for the same feed resource; SDG 15 (life on land); Tools
- Challenge: thinking through environment options of feed options; SDG 15 (life on land); Tools
- Challenge: resistance by some groups because for land ownership; SDG 2 (zero hunger);
- Challenge: No "Solution" yet on breeding in pastoral areas (different approach needed); SDG 1 (no poverty); Cases
- Challenge: Small numbers. Measurement of carbon sequestration on soil.; SDG 12 (responsible consumption and production); Cases
- Challenge: determine the best combination tree-forage crops for better soil sequestration?; SDG 8 (decent work and economic growth); Cases
- Challenge: Needs holistic approach for better livelihood improvement; SDG 8 (decent work and economic growth); Cases

Implementation approaches

- Opportunity: Develop interactions with nutrition communities; SDG 3 (good health and wellbeing); Tools
- Opportunity: Understand and quantify economic multipliers as development occurs; SDG 8 (decent work and economic growth); Tools
- Opportunity: Milk safety/school milk programme. Best practice copied between countries (but 13 countries?) - Est. private sector involved to make it sustainable; SDG 3 (good health and wellbeing); Cases
- Opportunity: Helps to design targeted disease control programmes (production --> poverty); SDG 12 (responsible consumption and production); Tools
- Opportunity: Incentives that match the diversity of specific situations; SDG 12 (responsible consumption and production); Cases
- Strength: Community-based breeding program recognised by government. (In Ethiopia) for small ruminants + advanced in sheep; SDG 1 (no poverty); Cases
- Strength: Technical agent becomes more of a facilitator - help farmers find right management change; SDG 1 (no poverty); Cases
- Strength: Champions are important and efficient (in kind contributions, knowledge products); SDG 12 (responsible consumption and production); Cases
- Strength: Different interventions driven initially by different objectives that converge towards the same goal; SDG 12 (responsible consumption and production); Cases
- Strength: Engages multiple crop + food production systems; SDG 2 (zero hunger); Cases
- Strength: incentives for farmers; SDG 2 (zero hunger);
- Strength: methods are practical and can be easily implemented; SDG 2 (zero hunger);
- Strength: Integration of household level data with geospatial, etc. data to measure, influences of livestock; SDG 2 (zero hunger);
- Challenge: Short time span to achieve impact; SDG 1 (no poverty); Cases
- Challenge: Solutions have to fit within the present; SDG 1 (no poverty); Cases

- Challenge: Changing mindsets to business orientation; SDG 1 (no poverty); Cases
- Challenge: Need implementation in the field; SDG 1 (no poverty); Tools
- Challenge: How do you get from assessment to action?; SDG 13 (climate action); Cases
- Challenge: Guidelines can help characterizing current system - can it be adapted to facilitate decision-making for changes to improve system performance?; SDG 1 (no poverty); Tools
- Challenge: How do you deal with long term trends versus short term shocks?; SDG 13 (climate action); Tools
- Challenge: How to generate evidence - bring out difference between intensive and extensive; SDG 13 (climate action); Cases
- Challenge: Benefits on ground level? Smallholders? --> Promote links; SDG 15 (life on land); Cases
- Challenge: overcome cultures of the past; SDG 15 (life on land); Tools
- Challenge: Perennity of the platform?; SDG 15 (life on land); Cases
- Challenge: Milk safety/school milk programme. Relative short in action, evidence needs to come; SDG 3 (good health and wellbeing); Cases
- Challenge: test the conceptual model in other situations; SDG 3 (good health and wellbeing); Tools
- Challenge: Tools should be tested in different production systems of livestock (dairy, beef, small ruminants); SDG 3 (good health and wellbeing); Tools
- Challenge: How do we make this both inclusive but also fast enough to meet the 2030 target? MS processes need attention; SDG 17 (partnership for the goals); Tools
- Challenge: Practical application towards climate aspects not obvious; SDG 13 (climate action); Cases
- Challenge: Private sector cannot use it yet; SDG 17 (partnership for the goals); Tools
- Challenge: lack of political support; SDG 2 (zero hunger);
- Challenge: Only evaluated at a research level; SDG 2 (zero hunger);
- Challenge: A top down approach. Too soon to see the weaknesses and strengths; SDG 8 (decent work and economic growth); Cases
- Challenge: So far, there is no direct impact on dairy farmers. However the platform developed a framework for policy dialogue; SDG 8 (decent work and economic growth); Cases
- Challenge: Insufficient clarity on profitability of livestock solutions for farmers; SDG all; Tools
- Challenge: Need a big support from government to be apply; SDG 2 (zero hunger); Tools
- Challenge: Limited multiplier effect; SDG 12 (responsible consumption and production); Cases

Capacity development

- Strength: Capacitation of local research centres (national) --> Uptake at government level; SDG 1 (no poverty); Cases
- Strength: International networking to improve research capacities and solutions is quite valuable in particular among animal health institutions; SDG 17 (partnership for the goals); Field visit
- Strength: There is a relevant institutional capacity (NAHDIC) to develop solutions in animal health problems; SDG 8 (decent work and economic growth);
- Challenge: Capacitated people leaving; SDG 1 (no poverty); Cases
- Challenge: Increase farmer capacity; SDG 1 (no poverty); Cases
- Challenge: Developing countries not capable to fulfil; SDG 12 (responsible consumption and production); Cases
- Challenge: Extension people not capacitated; SDG 1 (no poverty); Cases