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### Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AGRF</td>
<td>African Green Revolution Conference</td>
</tr>
<tr>
<td>AMR</td>
<td>Antimicrobial Resistance</td>
</tr>
<tr>
<td>AN</td>
<td>Action Networks</td>
</tr>
<tr>
<td>AN2</td>
<td>Action Network 2 “Restoring value to grassland”</td>
</tr>
<tr>
<td>ANTHRA</td>
<td>Livestock development and ethnoveterinary group</td>
</tr>
<tr>
<td>APHCA</td>
<td>Animal Production and Health Commission for Asia</td>
</tr>
<tr>
<td>AST</td>
<td>Secretariat or the Agenda Support</td>
</tr>
<tr>
<td>AU-IBAR</td>
<td>African Union InterAfrican Bureau for Animal Resources</td>
</tr>
<tr>
<td>AUC</td>
<td>African Union Commission</td>
</tr>
<tr>
<td>AWAN</td>
<td>Animal Welfare Action Network</td>
</tr>
<tr>
<td>CA</td>
<td>Chinese Academy of Agricultural Sciences</td>
</tr>
<tr>
<td>CEG</td>
<td>Closing the Efficiency GAP</td>
</tr>
<tr>
<td>CFS</td>
<td>Committee on World Food Security</td>
</tr>
<tr>
<td>CIRAD</td>
<td>International Cooperation Centre of Agricultural Research for Development</td>
</tr>
<tr>
<td>CNE</td>
<td>Confederation Nationale de de l’Élevage</td>
</tr>
<tr>
<td>COAG-FAO</td>
<td>FAO’s Committee on Agriculture</td>
</tr>
<tr>
<td>COVID-19</td>
<td>Coronavirus disease</td>
</tr>
<tr>
<td>COAG-FAO</td>
<td>FAO’s Committee on Agriculture</td>
</tr>
<tr>
<td>COP</td>
<td>UN Climate Change Conference</td>
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<tr>
<td>DIM</td>
<td>Dairy Impact Methodology</td>
</tr>
<tr>
<td>DSF</td>
<td>Dairy Sustainability Framework</td>
</tr>
<tr>
<td>EAAP</td>
<td>European Federation of Animal Science</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
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<tr>
<td>FOAG</td>
<td>Switzerland’s Federal Office for Agriculture</td>
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<tr>
<td>FSS</td>
<td>Food Systems Summit</td>
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<tr>
<td>FSSD</td>
<td>Food Systems Summit Dialogue</td>
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<tr>
<td>FV</td>
<td>Food Vision</td>
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<tr>
<td>GASL</td>
<td>Global Agenda for Sustainable Livestock</td>
</tr>
<tr>
<td>GBD</td>
<td>Global Burden of Diseases</td>
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<tr>
<td>GDP</td>
<td>Global Dairy Platform</td>
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<tr>
<td>GSDB</td>
<td>Global Sustainable Development Report</td>
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<tr>
<td>GHG</td>
<td>Greenhouse Gas</td>
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<tr>
<td>GLEAM</td>
<td>Global Livestock Environmental Assessment Model</td>
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<tr>
<td>GNPS</td>
<td>Global Network on Silvopastoral Systems</td>
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<tr>
<td>GRA</td>
<td>Global Research Alliance</td>
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<tr>
<td>IDF</td>
<td>International Dairy Federation</td>
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<tr>
<td>IFCN</td>
<td>International Farm Comparison Network</td>
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<tr>
<td>IFIF</td>
<td>International Feed Industry Federation</td>
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<tr>
<td>IICA</td>
<td>Inter-American Institute for Cooperation on Agriculture</td>
</tr>
<tr>
<td>ILRI</td>
<td>International Livestock Research Institute</td>
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<tr>
<td>LS4D</td>
<td>Livestock for Social Development</td>
</tr>
<tr>
<td>LAMP</td>
<td>Livestock Antimicrobial Partnership</td>
</tr>
<tr>
<td>LEAP</td>
<td>Livestock Environmental Assessment and Performance</td>
</tr>
<tr>
<td>LESS</td>
<td>Low Emissions Slurry</td>
</tr>
<tr>
<td>LPP</td>
<td>League for Pastoral Peoples</td>
</tr>
<tr>
<td>MOFA</td>
<td>The Ministry of Foreign Affairs of Mongolia</td>
</tr>
<tr>
<td>MSP</td>
<td>Multi-Stakeholder Partnership</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non-Governmental Organizations</td>
</tr>
<tr>
<td>NRUE</td>
<td>Natural Resource Use Efficiency</td>
</tr>
<tr>
<td>RVG</td>
<td>Restoring Value to Grasslands</td>
</tr>
<tr>
<td>SCL</td>
<td>Sub-Committee on Livestock</td>
</tr>
<tr>
<td>SDGs</td>
<td>Sustainable Development Goals</td>
</tr>
</tbody>
</table>
Acknowledgments

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Special thanks to the host country Ireland and especially the following institutions:

- Department of Agriculture, Food and the Marine
- Bord Bia, Irish Food Board
- Devenish, Beyond Nutrition
- Teagasc, Agriculture and Food Development Authority
- Signpost, Farmers for Climate Action

The Department of Agriculture, Food and the Marine has made immense contributions. We had the minister, the minister of state, the chief inspector, and the secretary general all participating in different parts of our meeting. Let me recognize, Edwina Love, Dale Crammond, Carrie Nicholls, Joan McDougall, Andrew Castles from the Department of Agriculture, Food and the Marine and Juliana Dolum from FAO Panama who have done a huge amount of logistics support.

Our sincere thanks go also to the members of the Regional Support Groups that made possible the organization of the regional virtual multi-stakeholder partnership meetings and offered key inputs for the success of the global event. They are:

REGIONAL FOCAL POINTS

EASTERN EUROPE AND CENTRAL ASIA (EECA): Yuriy Nesterov, FAO SEC, Ankara

OCEANIA: Ruaraidh Petre, GRSB, New Zealand; Liz Wedderburn, AgResearch, New Zealand

EAST ASIA: Dengpan Bu, CAAC, China

SOUTH ASIA: Ilse Köhler-Rollefson, LPP, and Nitya Ghotge, Anthra, India

LATIN AMERICA: LA Chapter (Rogerio Mauricio, UFSJR, Brazil; Walter Oyhantcabal, Consultant, Uruguay; Pablo Frere, Redes Chaco, Argentina; Julian Chara, CIPAV, Colombia; Mauricio Chacon, MAG, Costa Rica)
NORTH AMERICA: Donald Moore, Mitch Kanter, GDP, USA

WESTERN EUROPE: Fritz Schneider, Consultant, Switzerland; Nancy Bourgeois, HAFL, Switzerland

AFRICA: Alexandre Ickowicz, CIRAD; Fagouri Said, WAMIP North Africa, Simplice Nouala, African Union Commission; Michael Victor, ILRI; Cynthia Mugo, ILRI
Report 12th GASL MSP Meeting, Dublin, Ireland, 3 to 7 October 2022

Organization

Core Group
- Shirley Tarawali (Chair)
- Eduardo Arce Diaz and Lavinia Scudiero (GASL Secretariat)
- Lavinia Scudiero (GASL Secretariat)
- Fritz Schneider (consultant)
- Peter Ballantine (consultant and moderator)

Task force:
- Shirley Tarawali (Chair)
- Eduardo Arce Diaz and Lavinia Scudiero (GASL Secretariat)
- Yuriy Nesterov and Henning Steinfeld (Intergovernmental, FAO)
- Fritz Schneider (consultant, former Chair)
- Walter Oyhantcabal (observer Uruguay)
- Nancy Bourgeois and Rogerio Mauricio (Academia/Research)
- Mauricio Chacon and Thomas Cherenet (Public Sector)
- Pablo Frère (Social Movements)
- Margherita Gomarasca or Martin Barasa and Nitya Ghotge (NGOs)
- Emmanuel Coste (Donor Cluster)
- Hsin Huang (Private Sector)
Background: The Global Agenda for Sustainable Livestock

The Global Agenda for Sustainable Livestock (GASL/Global Agenda) is an international multi-stakeholder partnership (MSP) founded in 2011. GASL’s mission is to enhance the livestock holder’s commitment and investments in support of the 2030 Agenda for Sustainable Development. GASL brings people and institutions together to understand and recognize the main questions and challenges in the livestock sector, exchange expertise, and provide answers. The multi-stakeholder approach is more efficient and effective than the actions of single stakeholders. The Global Agenda comprises more than 100 partners from governments, multilateral organizations, the private sector, civil society, non-governmental organizations (NGOs) and the research community. One of GASL’s main assets is its diversity of views. The Global Agenda Action Networks collect regional and global experiences and produce advisory documents and guidelines for all livestock systems. The Sustainable Development Goals (SDGs) provide essential benchmarks for GASL to measure progress in sustainable development. Livestock systems contribute to all 17 SDGs, many with positive and measurable results. The opportunities for poverty alleviation, food security, health, economic growth, innovation, climate stability and social cohesion are numerous and require continuous attention. The Global Agenda is supported and financed by both donor countries and private organizations, and by in-kind contributions from its members. The Secretariat or the Agenda Support Team (AST), based at the FAO in Rome, facilitates the activities, organizes meetings, and disseminates information.

The GASL MSP meetings

The annual MSP meeting is the main facilitation tool for GASL, and it has taken place in several countries (see Table 1).

<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
<th>Major issues discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>Hybrid, Dublin, Ireland</td>
<td>Livestock Sector Actions Towards More Sustainable Food Systems</td>
</tr>
<tr>
<td>2021</td>
<td>Virtual</td>
<td>Embracing Change and Harnessing Diversity: The Roles of Livestock in Sustainable Food Systems</td>
</tr>
<tr>
<td>2020</td>
<td>Virtual</td>
<td>From Crisis to Action – Lessons from COVID-19 for Building a Better Future through Sustainable Livestock</td>
</tr>
<tr>
<td>2019</td>
<td>Manhattan, Kansas, USA</td>
<td>Innovation for sustainable livestock systems.</td>
</tr>
<tr>
<td>2018</td>
<td>Ulaanbaatar, Mongolia</td>
<td>Livestock on the move, livestock experiences in the global sustainability debate. Regional focus on mobile herding. Focus on four sustainability domains derived from the 10th GFFA 2018.</td>
</tr>
<tr>
<td>2017</td>
<td>Addis Ababa, Ethiopia</td>
<td>Showcasing livestock-based solutions, tools and cases for sustainable livestock sector development.</td>
</tr>
<tr>
<td>2016</td>
<td>Panama City, Panama</td>
<td>Linking GASL to the SDGs. Clarification of roles of Action Networks. Panama Declaration, firming up the commitments of members towards sustainable livestock sector development.</td>
</tr>
<tr>
<td>2014</td>
<td>Cali, Colombia</td>
<td>Firming up health and social elements. Consolidation of governance by building the seven clusters (donors, private sector, NGOs, social movements, intergovernmental and multilateral organizations, public sector, academia and research).</td>
</tr>
<tr>
<td>2013</td>
<td>Ottawa, Canada</td>
<td>Decision to go beyond environment. Inclusion of social and health dimensions and focus on practice change.</td>
</tr>
<tr>
<td>2011</td>
<td>Phuket, Thailand</td>
<td>Decision on three focus areas: Closing the Efficiency Gap, Restoring Value to Grasslands, and From Waste to Worth.</td>
</tr>
<tr>
<td>2011</td>
<td>Brasilia, Brazil</td>
<td>Decision to focus on natural resource use with an open, consensual, action-oriented, multi-stakeholder process.</td>
</tr>
</tbody>
</table>
The GASL Dublin Agenda

The wider process and agenda have been designed around several key threads starting with the regional meetings where participants took stock of livestock sector achievements, singled out key challenges, and identified priority actions that will significantly contribute to reaching sustainable food systems and achieving the SDGs through attention to evidence, dialogue and changes in policies and practice. The 12th GASL MSP Meeting in Dublin had 148 in-person participants from 42 countries, 55 GASL-sponsored participants from 31 countries, 900+ views in YouTube.

<table>
<thead>
<tr>
<th>Agenda and Process Introduction</th>
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<tbody>
<tr>
<td>Peter Ballentyne moderates throughout the week (see also figure 1)</td>
</tr>
<tr>
<td><strong>Day one</strong> is based around food system challenges that the livestock sector must overcome or face up to through actions and commitments that make a positive difference to livestock producers and consumers worldwide.</td>
</tr>
<tr>
<td><strong>Day two</strong> brings together regional perspectives on these same challenges, showing how the priority actions of sector actors in different countries and regions respond to the specific issues.</td>
</tr>
<tr>
<td><strong>Day three</strong> participants explore and learn from Ireland’s agri-food systems, gaining insights and inspiration to devise actions to tackle the critical challenges facing the livestock sector.</td>
</tr>
<tr>
<td><strong>Day four</strong> convenes a policy forum to consider political choices and priorities for food systems under immense pressure and implications for livestock sector actions and priorities.</td>
</tr>
<tr>
<td><strong>Day five</strong> provides a global synthesis from the various sessions, contributing to a Declaration and commitments on livestock sector actions towards more sustainable food systems.</td>
</tr>
</tbody>
</table>

Alongside these main themes, day one features a youth-led and focused session, day four gives space to GASL’s action networks to set out their priorities, days one, two and four feature technical sessions for participants to discuss specific issues in more depth and an interactive poster display and exhibition run throughout the days. Virtual access in various forms is provided throughout the meeting. Interpretation is provided in English, French, and Spanish.
Day 1
Official Opening

Welcome by Shirley Tarawali, Chair of GASL

The Chair Ms Tarawali welcomes the participants both present in Dublin and online. She thanks Ireland for hosting the meeting and extends special thanks to Dale Crammond and his team from the Ireland Department of Agriculture, Food and the Marine.

“It has been three years since we last had a face-to-face GASL multistakeholder meeting. We are very pleased to be here now. Making the food systems more sustainable and also more resilient has become more urgent during the last three years. Climate Change, Covid-19 and Crisis such as the Ukraine war (the three C’s) have shown how vulnerable food systems including the livestock sector can be.

Yes, the livestock sector is implicitly involved and has to contribute to sustainable and resilient food systems.

We are very happy that this time, we have a good number of next-generation representatives. They are the ones who will have to take the issues further into the future.

What better place than Ireland to have this meeting? Ireland is at the forefront of sustainable and resilient livestock systems. We are happy to learn more during the sessions but particularly during our field visit on Wednesday.

We have put together an interesting program. We will set the scene today with keynotes and framing presentations and will also have a session on the next generation’s perspectives. On Tuesday, we will hear from the regional consultations. On Wednesday we will have the field visits. Thursday will be dedicated to a policy forum and the reports of the Action Networks, the technical networks of GASL. Friday we will define key messages, insights and commitments and will summarize the findings in a draft of a Dublin declaration.”

Ms Tarawali once more thanks Ireland for hosting the meeting and also thanks the organizers, both from Ireland and GASL for their dedicated work.
Opening by Thanawat Tiensin, Director, Animal Production and Health Division, FAO

Mr Tiensin welcomes the participants and stresses the need for a sustainable livestock sector transformation. Mr Tiensin knows GASL since 2012, where he was involved in the meeting in Phuket, Thailand.

In the last decade the livestock sector focus was on productivity, on sanitary and phytosanitary measures, international trade and animal and human health interactions.

Mr Tiensin refers to the publication “Livestock’s Long Shadow” and Henning Steinfeld. He calls Henning Steinfeld, the guy who came from the future.

As former Chair of the Committee on Food Security he considers that multi-stakeholder partnerships are crucial to work across the complex food system.

“Young farmers do not see opportunities, they face too many challenges. So, we want to see better future opportunities for the livestock sector: what can we do more? what can we do better together?

• Together, we need to develop a positive global narrative for the livestock sector and its important role in food systems and food security.
• We need to be able to show the young livestock keepers the solutions, not only the problems.
• We are here to talk but talking in not enough. We need to have more actions more results, more impact. We need to join efforts.
• The global livestock GLEAM model to be launched soon, we need to standardize tools, right now we have too many tools not corresponding properly together.
• GASL as multi stakeholder partnership has an important role to play. The newly formed COAG subcommittee on livestock again is a powerful tool. We can work together.”

Opening remark by Brendan Gleeson, Secretary General Ireland’s Special Envoy on Food Systems

“There is an urgent need to cooperate and collaborate to address global challenges. Global challenges need a global approach.

Feeding an expending population while addressing climate change is a huge challenge, but at the same time it also bears opportunities.

Ireland has a grassland-based livestock systems. Ireland exports its livestock products to 180 countries.

In spite of success, one should never be complacent, there is much more to do.

Ireland has adopted a legislative framework to reduce greenhouse gas (GHG) emissions in the livestock sector by 25% by 2030.

A strategic plan and a food systems approach is key, nutritious food can only happen sustainably if famers make an economic return.

People who will solve the problems are the farmers, they are the custodians of the land. They operate in ever more complex circumstances. I am very happy to know that you will visit farms on Wednesday. I am sure that farmers will talk about their challenges.

Hope you have a fruitful week and hope you will have the opportunity to also experience Ireland a bit beyond livestock.”
The Global Agenda for Sustainable Livestock

A brief overview

What is the Global Agenda for Sustainable Livestock?

- GASL is a unique, multi-stakeholder partnership operating in an open, consensual manner.
- GASL is adding together diverse livestock stakeholders. 120 member organizations, 100s of stakeholders, all dimensions of the livestock sector. From backyard one-cow operations, and pastoral/range-based systems, through emerging new businesses, to large-scale commercial enterprises; producers, and processors, covering every region of the world. All stakeholder typologies (‘clusters’): governments, private sector, NGO, research, investors, civil society and multilateral organizations.
- GASL network is working towards achieving its vision: by 2030 sustainable, inclusive, resilient and diverse livestock systems across the world contribute significantly to the SDGs of the UN Agenda 2030 and are integral to sustainable food systems.

Approach and ambitions

- **Sphere of interest:** Sustainable livestock options are included in global development programming and resourcing
- **Sphere of influence:** Knowledge, attitudes and skills of decision makers change so they recognize the importance of options and MSP principles for sustainable livestock
- **Sphere of control:** Diversity of GASL members and other stakeholders is aligned, interconnected and harnessed

Evidence and practice change  Dialogue  Policy change

3 – 7 October 2022 Dublin Ireland | 12th GASL MSP Meeting (Hybrid)

#LivestockAgenda
Framing Presentations

**Framing Presentation**

**Importance of Livestock in Global Food Security**

Highlights from Mr Arnold’s presentation:

**Changing international context**

- Climate, Covid, Ukraine. Implication: The political priority given to food and nutrition security must increase at the national, regional, and international level
- Growing recognition over the past decade of the need for sustainable food systems.
- The 2021 Food Systems Summit saw over 100 countries commit to developing ‘national pathways for food system transformation’.
- Two issues relevant to livestock have become politically important and divisive in recent years: The need for the agri-food sector to meet environmental targets. The role of livestock and livestock products in healthy diets. The challenge the livestock sector faces is to meet agreed societal environmental targets and to demonstrate that livestock products have an important role in healthy diets. If these challenges are met, it will allow a positive narrative to be developed to replace the current negative one. This presentation will use the Irish experience to demonstrate this proposition.

Ireland has a rolling series of strategies. Distinguishing features of Food Vision (FV) 2030:

- Committee adopted ‘Food Systems’ approach. More explicitly linking food systems with nutrition, health, and the environment. A Sustainable Food System: delivers food security and nutrition for all in such a way that the economic, environmental, and social bases to generate food and nutrition for future generations are not compromised (FAO, 2017)
- A coherent approach on Sustainable Food Systems (SFS) in domestic and foreign policy
- Mission approach, key objectives of FV 2030, and key statements signal policies to make the sector more diversified, resilient, and based on circular economy principles, including targets for food waste. It proposes expansion in nature-based production systems, tillage, horticulture, and organic production. But the core of Ireland’s agri-food output will continue to be grass-based livestock production recognizing the link between food and nutrition and the relationship between diet and health are crucial elements of a functioning food system. It is important that the debate on the consumption and production of food and drink products is informed by good science and evidence.

Follow up to FV 2030:

- Climate Action Plan 2021, setting a target of climate neutrality by 2050 with a legally binding GHG reduction of 30% by 2030.
- July 2022. Adoption of sectoral targets with an agreement that there be a 25% reduction in agricultural emissions by 2030.
- FV Groups on dairy, beef and lamb, set up to agree on the practical details on how these sectors can work towards achieving the 25%emissions targets.
- A sustained focus on implementation with a whole of Government/whole sector approach required, addressing water quality, emissions, and biodiversity, while protecting economic gains, is required.

Importance of livestock for global food and nutrition security:

Ireland supports FAO’s excellent work on how the global livestock sector can contribute to the SDGs. Ireland supports the substantial reductions in emissions from livestock production which can also contribute to increased resilience to climate change. This should be seen as part of Ireland’s commitment to improving global food and nutrition security, as evidenced by contributions to the 2021 UN Food Systems Summit and the Nutrition for Growth (N4G) Summit. Research alliance between Ireland and New Zealand.
Framing Presentation

**Origin Green. Making Farm to Fork Sustainable**

*David Kennedy, Head of Dairy Origin Green*

Making farm to fork sustainable

Mr Kennedy starts with an example of a “weather broadcaster” with his 4 tips to eco-anxious people to feel less anxious. One tip was “to eat less meat and to advocate for meatless Mondays. An example that there is a need to better broadcast facts, find ways to communicate these facts to change the negative narrative regarding animal-based food.”

Highlights from Mr Kennedy’s presentation:

- Origin Green has existed since 2012. Ireland exports 95% of its food produced to 180 countries. Buyers want suppliers with sustainability credentials and requirements for sustainability credentials are getting more and more important.

- **Origin Green Vision:** A thriving Agri-Food sector that is responsive to the future need of people and our planet.

- **Origin Green Purpose:** To power and prove the sustainability of the food, drink and horticulture sector of Ireland.

- Origin Green has 55,000 farmer members and, so far, have conducted 300,000 sustainability assessment on dairy and beef farms. The members believe that their membership adds value to their operation.

- Likewise, origin Green is supporting companies to develop their multiannual sustainability plans with 4 to 8 targets per company. These plans are independently audited annually.

- Ireland’s sustainability agenda is accelerating quickly as Ireland wants to stand for sustainable production systems with a strong focus on animal welfare.

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**Framing Presentation**

**Nutritional benefits of animal source foods:**

*Alice Stanton, Professor at Royal College of Surgeons of Ireland and Director of Human Health at Devenish Nutrition*

“Sustainable nutrition invites us to consider sustainable food systems (food production) and sustainable diets simultaneously as opposed to separately. We have to consider one health from soil to society (soil, plant, animal, human, environment).”

Highlights from Mr Stanton’s presentation:

- A healthy diet helps to protect against malnutrition in all its forms as well as against non-communicable diseases.

We have to deal with the triple burden of malnutrition:

- Overweight / obese.
- Undernourished: not sufficiently nourished.
- Malnourished, hidden hunger, sufficient in calories, but lacking in nutrients. Hidden hunger often is due to lack of animal source food. 18 out of 20 commonly lacking nutrients are of animal origin.
- Malnutrition leads to stunting of children, a huge problem in many least developed countries. There is an inverse relationship between childhood stunting and annual meat milk and seafood consumption. Likewise total meat intake is associated with life expectancy.

Ms Stanton is preoccupied by the EAT Lancet recommendations to drastically reduce red meat and dairy products and the lack of evidence for many of their recommendations. In addition, there are an increasing number of recent publications recommending dramatic
reduction of animal source food in the diets with often very weak or entirely absent scientific evidence. Policy makers should be wary of false statements.

Ms Stanton refers to the 2017 and 2019 Global Burden of Disease Reports and challenges the 36 increased risk of red meat consumption between 2017 and 2019 without any statistical or scientific evidence.

Referring to the novel plant-based meat and dairy alternatives, she states that these should be treated as alternatives in terms of sensory experience but not as the replacements in terms of nutrition.

Key take home messages.
- Animal source food (dairy, meat, fish, and eggs) are nutrient rich foods.
- The relationship between red meat and disease burden is mirror J shaped.
- When eaten as part of a balanced diet, red meat provides considerable protection against nutritional deficiencies.
- Low certainty evidence that relatively small deleterious effects possibly occur with consumption of >500 g weekly.
- The majority of the world’s population are not eating enough dairy nor omega-3-PUFA rich foods.
- Replacing animal sourced foods with plant based ultra-processed foods, so as to solve greenhouse gas emissions, is very likely to harm human health- women, children, the elderly and those of low income will be particularly adversely impacted.
- Policy makers should be extremely wary of global health estimates that
  - Are not rigorously and transparently evidence based.
  - Ignore the protections against nutritional deficiencies afforded by animal source foods.

Challenging livestock; global actions for sustainable food systems

Challenging livestock; global actions for sustainable food systems

Jessica Fanzo
Johns Hopkins University, USA (virtual)

Challenge Keynote

Food system ambitions and challenges for the livestock sector - Jessica Fanzo, John Hopkins University

Highlights from Ms Fanzo’s presentation:
- Multi-level food systems action is needed. Many contributors to GHG emissions (methane from livestock and crop production, burning forest, etc.).
- Some countries need to take more actions than others. Diets are the outcome of food systems. Healthy diets are unattainable for some (1/3 of all, 3.1 billion).
- Not one country is immune to one form of malnutrition, some countries have double or triple burdens of malnutrition.
- Zoonotic diseases: 60 of emerging diseases are zoonotic and 72% of them originate from wild animals. Covid is likely to be a zoonotic disease.
- Food systems are vulnerable to shocks. Multiple breadbasket failure.

Question: what is important for the livestock community and what are the trade-offs we face with food systems transformation?
- EAT Lancet report showed inequities.
- Some countries need to take more action than others.
- Who suffers the consequences of the World’s diet choices? Meat intake is very low in low/middle income countries.
- What kind of food should be grown?
- If the EAT Lancet diet would be adopted, massive shift from animal-based food to vegetable food.
- Land-based mitigation efforts can lead to increases in food prices and food insecurity.
- What would the future look like when moving away from livestock?
Livestock in food systems debate moderated by Shirley Tarawali, Chair, GASL

**Challenger No.1: Phil Howard Michigan State University, USA (virtual)**

The largest meat processors in the world are increasing their influence on the livestock sector. Firms would like to implement the model of lab-grown meat as they would have more power. How can we reverse this trend?

**Respondent No1: Bernard Kimoro, State Department for Livestock, Kenya**

We must look at food systems from three perspectives:

- Economic perspective: what are perspectives on the adoption of alternative protein?
- Social perspective
- Link of livestock and the environment: two parts of the same coin. Livestock can improve the biodiversity. Improve the circular economy.

**Challenger No. 2: Ermias Kebreab, University of California, Davis, USA, (virtual)**

Livestock contributes 14.5% to GHG emissions. These emissions are not the same everywhere. We have to look at the issue area and context specificities. The challenge is to reduce these emissions equitably. Would the livestock sector be able to attain zero emissions? Again, we cannot expect across-the-board reductions. How can we balance these emissions and reduce the impact of livestock on climate change?

**Respondent No.2 Julian Chara**

- We have to work a lot on efficiency, the intensity of emissions, and the great opportunities existing within the GASL.
- Amount of food wasted has an influence on equity and climate change.
- Issues of inequity to be reformulated with efficient monitoring.
- Multi-stakeholder engagement is important.

**Challenger No.3: Nitya Rao, University of East Anglia**

Gender is not men versus women but more about relationships. Approaching livestock from a gender lens. Many states provide women with livestock, but when looking at projects, animals are neglected because of feed and water shortages as they have no access to land. Institutions need to be looked at social dynamics, property, and agency. We need to better understand, but we also need more actions and results. No one is fit for all solutions. Things exist that work, they need to be tailored to the environment, but they also need to be upscaled.

**Respondent No.3: Nitya Gotghe, Anthra**

- Women do not inherit the land, but they inherit livestock or at least the work that goes with it. Benefits are not always associated with that.
- Feminisation of the sector: livestock is not seen as attractive by men and/or young people. Hence, invisibility of the women’s role, the social aspect was ignored along the value chain
- Data and evidence are still lacking on women and livestock.

**Challenger No.4: Truong Tuyet Mai, Vietnam National Institute of Nutrition**

In mountainous and poor areas in Vietnam, stunting is still prevalent in urban cities, obesity is increasing in children. The big challenge for developing countries is to deal with the double burden of malnutrition.

**Respondent No.4: Mitch Kanter Global Dairy Platform (GDP)**

- By acknowledging that the scientific community does not differentiate enough between developed and developing countries
- Research has been done a lot in developed countries. Needs in developing world.
Drowning in a sea of plenty in the West BUT should not throw the baby with the bathwater. There are still many people who are under or malnourished.

Closing words:

- Phil: a question of inclusiveness, supply chain governance, equity.
- Eremias: the solution is not the same everywhere, a lot of room to improve efficiency.
- Truong Tuyet Mai: notions of accessibility, affordability, improving technology, science-based solutions at every level.
- Mitch: animal source foods have been a source of food for humans since the dawn of humanity.
- Nitya: a question of funding to generate evidence from other research areas and locations.
- Bernard: is data reliable true? Need to challenge the system. Policy perspective: data is out there but how can it be brought together? Tailoring evidence to tackle policies
- Truong: the responsibility of the consumers towards sustainable food systems.

Opportune livestock - Interactive plenary sessions

Next generation perspectives on food system. Opportunities through sustainable livestock

GASL invites a group of next generation persons to the meeting:

<table>
<thead>
<tr>
<th>Leslie</th>
<th>Webb</th>
<th>United States</th>
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<tbody>
<tr>
<td>Logan</td>
<td>Emiry</td>
<td>Canada</td>
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<tr>
<td>Mackenzie</td>
<td>Argent</td>
<td>Canada</td>
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<tr>
<td>Mitchell</td>
<td>Zoratti</td>
<td>Canada</td>
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<tr>
<td>Katie</td>
<td>Collins</td>
<td>United States</td>
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<tr>
<td>Helena</td>
<td>Koury</td>
<td>Brazil</td>
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<tr>
<td>Kari</td>
<td>Moffatt</td>
<td>Australia</td>
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<td>Jacob</td>
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<td>Emmanuel</td>
<td>Ngore</td>
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<td>Paul</td>
<td>Smith</td>
<td>Ireland</td>
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<td>Lavinia</td>
<td>Scudiero</td>
<td>Italy</td>
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<tr>
<td>Gleise</td>
<td>Medeiros da Silva</td>
<td>Canada</td>
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<tr>
<td>Liam</td>
<td>Hanrahan</td>
<td>Ireland</td>
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</table>

The group addresses the following questions in an interactive session with the meeting attendees:

“Sustainable livestock systems: my next generation priorities for 2040 and how can we achieve them?” (Paul, Sarin, Jacob, Helena, Mitchell).

“More and better opportunities for youth in livestock agriculture what are they and how do we make them happen?” (Kari, Mackenzie, Liam, Gleise).

“Including and enhancing youth voices and priorities in livestock agriculture: what is needed and how can we achieve it?” (Katie, Leslie, Logan)

Main messages from the discussions

- Give incentives to producers for better practices.
- To create jobs for youth: youth are engaged at all levels of the value chain.
- To protect land and ecosystems currently used by livestock from urban sprawling.
- To improve the link between farmers and research.
- Antimicrobial resistance & GHG emissions reduction: One Health Institution to implement one health approach.
- Education: start with education in agriculture very young, continue in school.

Livestock sector actions for sustainable food systems

GASL invites the attendees to discuss interactively livestock actions for sustainable food system.
Report 12th GASL MSP Meeting, Dublin, Ireland, 3 to 7 October 2022

Main messages from the discussions
• The industry has to say the truth, need to sensationalize the truth!
• Mobilize the silent majority.
• Impact of climate change on livestock.
• Depends on the angle we look at: what does sustainability look like?
• How to reach a common understanding at a high level?
• Use incentives (e.g.: subsidies) in a better way. Towards more sustainability?
• How to square the circle? how to match better pillars of sustainability?

Day 2
Regional Agendas for Sustainable Livestock
In preparation for the 12th GASL MSP meeting, 9 regional meetings were conducted from June to August 2022. The regional consultations focused on the meeting theme and identified context region-specific activities towards sustainable food systems through livestock sector actions. The regions used the spheres of the Theory of Change of the GASL 2022-2024 action plan to structure their findings.

Figure 2 below illustrated the regions and the participation in these consultations. The Eastern Europe and Central Asia consultation took place as a face-to-face meeting in Tashkent, Uzbekistan. All other consultations were conducted virtually online.

Figure 2: Regional consultations with persons participating

The following statements were common to all the consultations. These elements will be taken up by GASL during its present Action Plan period 2022 to 2024.
• There are great opportunities to scale-out GASL’s activities and expand its reach.
• Every region has its specific challenges: food safety, food security, animal welfare, AMR issues, livestock numbers, production costs, emerging diseases, but the same stressors, climate change & the environmental crisis.
• Every region has its tailor-made solutions: locally adapted technologies, new technologies, global sustainability programs, etc.
• It was also concluded that GASL needs to give more space, voice, trust and means to the next generation.
• There are no fit-all solutions.
Oceania

Key Challenges in the Oceania Region
- How do we perceive market drivers?
- The need for transparency
- Balancing external influences with internal procedures
- Biosecurity

Key Achievements in the Oceania Region
- The Australian livestock industry has reduced its net GHG emissions by 59.1% (2019)
- We focus on our people – they lead sustainability
- NZ livestock exclusion from waterways has led to improvements in clarity and reductions in P across 40% of measured sites over 20 years.

<table>
<thead>
<tr>
<th>Sphere of interest</th>
<th>Evidence and practice change</th>
<th>Dialogue</th>
<th>Policy change</th>
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</thead>
<tbody>
<tr>
<td>Sustainable livestock options are included in global development programming and resourcing</td>
<td>Evidence in Australia’s reduction of 59% CO₂e</td>
<td>Carbon is becoming monetized, so there are more opportunities for all. This can be a win-win</td>
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<tr>
<td>Knowledge, attitudes, skills of decision makers change so they recognize the importance of options and MSP principles for sustainable livestock</td>
<td>Livestock can lead the way with reducing impact on climate change.</td>
<td>Working with stakeholders external to the industry to reach joint outcomes with vegetation and biodiversity</td>
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</tr>
<tr>
<td>Diversity of GASL and other livestock stakeholders aligned, interconnected and harnessed</td>
<td>The livestock industry must control the dialogue which influences policy through transparent evidence and practice change.</td>
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AUS: Doubling the value of red meat by 2030
NZ: Adding $44 billion in export earnings over the next decade

AUS: World leading traceability systems to increase responsiveness to biosecurity threats

NZ: Animal Welfare Act updated, including explicit recognition of senescence

AUS: Carbon Neutral by 2030
NZ: Reducing biogenic methane emissions to 10 percent below 2017 levels by 2030
Mitch Kanter, GDP

North America

Livestock Sector Challenges in the North American Region
- The need to balance sector changes so as not to adversely affect any key aspect of sustainable living/eating.
- With drought conditions worsening in parts of North America, need to use resources more prudently, lower regulatory hurdles, and embrace technical solutions that can enhance water availability.
- Create incentives for producers to continually seek and implement sustainability solutions.
- Increase investment in the agriculture sector as an environmental solution.
- Take story telling into our own hands so that external forces don’t set the narrative
- Encourage young entrepreneurial people to consider livestock farming as an attractive career option.

Livestock Sector Achievements in the North American Region
- Egg sectors reported improvements over the past decade in:
  - Energy usage (41% lower); GHG emissions (72% lower); animal productivity; (50% improvement in egg production; water usage (69% less water used).
- Ongoing pilots in dairy sector include research to improve:
  - Feed, enteric methane production, manure mgmt., GHG emissions, packaging, waste, water usage, etc.
- Beef industry developed a Sustainability Incentive Program that rewards innovative producers who implement sustainability solutions.
- Development of Pathways to Dairy Net Zero program has spurred many large and small industry partners to commit to significant GHG reduction over next decade, and out to 2050.

<table>
<thead>
<tr>
<th>REGION:</th>
<th>OUTCOMES OF THE 2022-2024 GASL ACTION PLAN</th>
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<tbody>
<tr>
<td>North America</td>
<td>Evidence and practice change</td>
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<td>Sustainable livestock options are included in global development programming and resourcing</td>
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<td>Diversity of GASL and other livestock stakeholders aligned, interconnected and harnessed</td>
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Livestock Sector Actions Towards More Sustainable Food Systems

Latin America and the Caribbean (LAC)

Key Livestock Sector Challenges in the LAC
- Scaling up silvopastoral and improved grasslands management systems.
- Develop public policies that promote sustainable livestock systems.
- Who is going to provide capacity building, technology development and transfer, and finance?
- Governance - better articulation of stakeholders.
- Modify the negative image of livestock systems.
- Reduce deforestation caused by the expansion of pastures and feed production.
- Long-term programs and projects (research & development).

Key Livestock Sector Achievements in the LAC
- LAC makes a great contribution to the world meat production and food security.
- Moving towards silvo-pastoral systems and better grassland management practices.
- Stocking rate, rotational system, trees and rangeland management.
- Reducing GHG intensity, enhancing sinks (soils and trees), increasing biodiversity.
- Brazil, Colombia, Costa Rica & Uruguay have large-scale projects, policies & scientific evidence on the success of sustainable livestock systems.
### Spheres of the GASL Theory of Change

#### Sphere of Interest
- **Outcomes of the 2022-2024 GASL Action Plan**
  - **Evidence and practice change**
    - Sustainable livestock options are included in global development programming and resourcing
  - **Dialogue**
    - Mainstream available technologies and practices in rural development policies, in system approaches.
  - **Policy change**
    - Farmer’s – government-industry-civil society

#### Sphere of Influence
- **Knowledge, attitudes, skills of decision makers change so they recognize the importance of options and MSP principles for sustainable livestock**
- **Evidence and practice change**
  - Knowledge, attitudes, skills of decision makers change so they recognize the importance of options and MSP principles for sustainable livestock
  - There is evidence that information for decision-making is key, but in LAC there is a lack of it available to farmers. MSP can contribute to promoting capacity building and better access to information.
- **Dialogue**
  - Farmer’s – government-industry-civil society
  - Farmer’s – government-industry-civil society
- **Policy change**
  - Incentives for innovation and capacity building
  - Develop and strengthen extension services and provision of information for decision-making and risk management, including early warning systems and contingency plans.

#### Sphere of Control
- **Diversity of GASL and other livestock stakeholders aligned, interconnected ad harnessed**
- **Evidence and practice change**
  - Diversity of GASL and other livestock stakeholders aligned, interconnected ad harnessed
  - Moving to more sustainable livestock systems requires the coordinated participation of main stakeholders in MSP.
- **Dialogue**
  - Farmer’s – government-industry-civil society
  - Farmer’s – government-industry-civil society
- **Policy change**
  - Identify, develop and assess policies in an MSP manner, involving the value chain and other relevant actors, such as civil society.

---

**Livestock Sector Actions Towards More Sustainable Food Systems**

**Livestock sector outcomes to deliver in the region, by sustainability domain**

- More efficient and sustainable use of natural resources to produce more with less.
- Higher sustainable livestock production systems
- Improve animal health and animal welfare, e.g. through vaccination, reducing AMR, promoting open grazing systems, providing shadow and shelter (SPS)
- Improve resilience, promote biodiversity and soil health as key factors in adaptation to and mitigation of climate change, through better provision of public goods and incentives.

---

**Question by Alwin Kopse**
- We strive toward sustainability, but do we do enough in terms of resilience?

**Question by Cynthia Mugo**
- We need to see how to address the issue of communication. The narrative is in our sphere of control. What happened to One Health?
East and Southeast Asia (virtual)

Key Livestock Sector Challenges in the Region
- Sustainable farming system (feed supply, technology innovation, animal health, environmental impact, consumption, and economic efficiency).
- Tension supply and efficiently utilize the feed, especially for high-quality forage, energy, and protein feeds.
- Farm waste disposal for environmental protection and biosecurity.
- Waste and loss of meat within the supply chain.
- Poor quality of livestock products which cannot meet the growing demanding.

Key Livestock Sector Achievements in the Region
- Concept of the low-carbon green livestock production system is built by leading players, reducing energy input, precision feeding, and integrated crop and livestock farming to form the system.
- Assessment of waste and loss of meat within the supply chain and target the key points to reduce the waste and loss.
- Improving livestock products by nutritional enhancement to satisfy the demand and increase farmers’ income.

<table>
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<tr>
<th>REGION: South-East Asia, China</th>
<th>OUTCOMES OF THE 2022-2024 GASL ACTION PLAN</th>
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<tbody>
<tr>
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<td>Sustainable livestock options are included in global development programming and resourcing</td>
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<tr>
<td>Sphere of control</td>
<td>Diversity of GASL and other livestock stakeholders aligned, interconnected and harnessed</td>
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</table>
### Three to four key livestock sector outcomes to deliver by sustainability domains

| 1 percentage increment per year of urbanization in last decade |
| Contract farming model is getting popular to protect farmers benefit |
| Intensive scaled livestock project provide more opportunity for job and accessory business to rural people |
| 20 points FCR reduced of broiler farming since 2017, or 600 grams of feed saved per broiler marketing |
| 7 kg carcass weight of hog increased in past 5 years at same marketing days in past 6 years |
| As the e-commerce and logistic system popularizing, food is much easy to get by rural residents |
| Anti-food waste law issued in 2021 |
| Since 1997, there are 2 times revised and 2 times amended the law of animal epidemic prevention |
| High level bio-security system built against ASF since 2018, as well as other livestock and poultry production |
| More and more measures respect to animal welfare implemented in farming, transport and slaughtering |
| More and more consumers go for green purchase concept, which considering climate change, environment friendly and animal welfare when purchase foods and goods |
| Precise feeding to save natural resources and reduce emission |
| Heat exchange and water recycling in animal farming in Northern China |
| Since 1997, there are 23 times revised and 23 times amended the law of animal epidemic prevention |
| High level bio-security system built against ASF since 2018, as well as other livestock and poultry production |
| More and more measures respect to animal welfare implemented in farming, transport and slaughtering |

### 3 – 7 October 2022 Dublin Ireland | 12th GASL MSP Meeting (Hybrid)

### Africa

#### Key Livestock Sector Challenges in the Region
- Low investment by donors and national governments leads to weak national and regional policy implementation and institutional arrangements, uncoordinated investments, and inadequate engagement of sector stakeholders.
- Poor husbandry practices due to lack of adequate human resources and weak extension that no longer match market requirements, weak capacity in veterinary services, inadequate extension/animal health infrastructure, and also the high cost of feed.
- Absence of product diversification, low-value addition, poor market expansion, and the lack of structured markets.
- Degradation of pasture/rangelands and risk of genetic erosion due to uncontrolled crossbreeding and breed replacement.
- Emergence and re-emergence of livestock diseases at the human-animal-environment interface; and non-compliance to standards in animal health and welfare.

#### Key Livestock Sector Achievements in the Region
- Significant progress in developing sustainable milk value chains all over Africa and introducing milk in school feeding programs have significantly reduced stunting in children.
- Better recognition of livestock roles as an important segment of sustainable food systems (CAADP BR, Food systems convenings, African Common Position to UNFSS, AGRF, Development of livestock sector policies and master plans in many countries).
- One Health approach slowly getting recognition and implemented: establishment of national and regional OH platforms; joint training programs for the public health workforce (vets and medical doctors) that support the surveillance systems, respond to public health emergencies, and use data for decision making.
- Advancement of ICT has supported the timely delivery of animal health services to livestock keepers, especially in remote areas.
- Index-based livestock insurance to mitigate the vulnerability, especially in drylands.
REGION: AFRICA

OUTCOMES OF THE 2022-2024 GASL ACTION PLAN

<table>
<thead>
<tr>
<th>SPHERES OF THE GASL THEORY OF CHANGE</th>
<th>Evidence and practice change</th>
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<th>Policy change</th>
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</thead>
<tbody>
<tr>
<td>Sphere of interest Sustainable livestock options are included in global development programming and resourcing</td>
<td>Strengthened understanding of value chain approach in its entirety (not just producers) to attract other actors (e.g. private sector) and funds/resources to address challenges</td>
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<tr>
<td>Sphere of influence Knowledge, attitudes, skills of decision makers change so they recognize the importance of options and MSP principles for sustainable livestock</td>
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<td>Increased recognition (by governments and development partners) of the importance of Livestock Derived Foods in school meal programs.</td>
</tr>
<tr>
<td>Sphere of control Diversity of GASL and other livestock stakeholders aligned, interconnected and harnessed</td>
<td>Taking stock of the livestock master plans and similar sector-wide strategic initiatives across the continent to identify weakest links (countries, specific value chains etc.)</td>
<td>Strengthened GASL African Chapter that champions the regions’ achievements and attracts greater resources to address challenges.</td>
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South Asia

Key Livestock Sector Challenges in the Region
• Young people do not want to practice farming or herding.
• Emerging diseases and poor animal health services.
• Disconnect between Science, technology, and practice,
• Planetary boundaries limit land use, climate change and loss of biodiversity.
• High input costs.

Key Livestock Sector Achievements in the Region
• Enormous growth in the sector in most countries more milk, meat and eggs available.
• Small and local initiatives which acknowledge local knowledge systems, biodiversity.
• Women-centred initiatives such as project Mesha, India, initiatives in Nepal by Heifer International and initiatives by private entrepreneurs in Nepal and Bangladesh.
• Locally adapted technologies.
• Sharing and exchange of knowledge and practices in the Himalayan system especially yak care through the Hindu Kush Himalaya (HKH) Yak Herders Network Pathway towards sustainable yak farming for pastoral resilience.

REGION: South Asia

OUTCOMES OF THE 2022-2024 GASL ACTION PLAN

<table>
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<tr>
<th>SPHERES OF THE GASL THEOREY OF CHANGE</th>
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<tbody>
<tr>
<td>Sphere of interest: Sustainable livestock options are included in global development programming and resourcing</td>
<td>Women and youth are key stakeholders in different parts of the livestock value chain</td>
<td>IYRP 2026</td>
<td>More support for sustainable systems which support a circular economy</td>
</tr>
<tr>
<td>Sphere of influence: Knowledge, attitudes, skills of decision makers change so they recognize the importance of options and MSP principles for sustainable livestock</td>
<td>Biodiversity is embedded in the region and in the communities that rear livestock</td>
<td>Importance of local innovations and knowledge systems</td>
<td>Research Developments in Science and technology and extension services have to be in tune with the felt needs of livestock holders/ e.g. Lumpy skin disease, mastitis</td>
</tr>
<tr>
<td>Sphere of control: Diversity of GASL and other livestock stakeholders aligned, interconnected and harnessed</td>
<td>Many more women participating as presenters, entrepreneurs and participants</td>
<td>Planetary boundaries discussion</td>
<td>One health initiatives are being undertaken</td>
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<td>Local and indigenous breeds are now being recognized</td>
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</table>
Impressions by Alwin Kopse

- Showed the variety of focus, initiatives.
- How to feed people (less than how to reduce GHG emissions).
- One health, quality of products.
- Loss along the value chain, food system approach.
- Importance of diversity of systems mean diversity of problems but the pool of diversity solutions.
- Innovation mentioned.
- For GASL: meetings are shaped around actions, for that we need to have financers chipping in.

---

Eastern Europe and Central Asia

Key Livestock Sector Challenges in the Region

The participants, through a brainstorming process, identified 12 main challenges for livestock protection in the region. After that, they voted to narrow down the list to the three key challenges:

- Enhancing feed production and promoting balanced feeding.
- Improving breeding practices and genetic quality of the livestock.
- Improving the transfer of knowledge to livestock keepers, including the development of advisory (extension) services.

Key Livestock Sector Achievements in the Region

- Rapid intensification of some subsectors (e.g.: poultry production), which leads to relatively climate-friendly and efficient production of animal proteins.
- The appearance of some modern dairy farms, which may serve as models for promoting a more efficient milk production.
• Preservation of the household-based livestock-keeping model (backyard/smallholder production), which despite often low production efficiency is very resilient to disruption of markets and supply chains.
• Preservation, in some countries, of traditional extensive livestock systems that rely on the local ecosystems, e.g.: karakul sheep production in extremely arid environments.

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<thead>
<tr>
<th>Eastern Europe and Central Asia</th>
<th>Outcomes of the 2022-2024 GASL Action Plan</th>
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<tbody>
<tr>
<td><strong>Evidence and Practice Change</strong></td>
<td><strong>Dialogue</strong></td>
</tr>
<tr>
<td>Sustainable livestock options are included in global development programming and resourcing</td>
<td>Promote the use of science-based evidence for the inclusion of sustainable livestock options in global development processes</td>
</tr>
<tr>
<td>Knowledge, attitudes, skills of decision makers change so they recognize the importance of options and MSP principles for sustainable livestock</td>
<td>Support building capacity of national stakeholders to generate scientific evidence.</td>
</tr>
<tr>
<td>Diversity of GASL and other livestock stakeholders aligned, interconnected and harnessed</td>
<td>Highlight the potential of mutual benefit of collaboration among various stakeholder groups, evidenced by successful cases of practice changes.</td>
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**SPHERES OF THE GASL THEORY OF CHANGE**

**Sphere of interest**
- Sustainable livestock options are included in global development programming and resourcing

**Sphere of influence**
- Knowledge, attitudes, skills of decision makers change so they recognize the importance of options and MSP principles for sustainable livestock

**Sphere of control**
- Diversity of GASL and other livestock stakeholders aligned, interconnected and harnessed
Key Livestock Sector Challenges in the Region

- Journey to sustainability: complex and uncertain, no blueprint approach.
- Reduction in GHG emissions: successful, but mostly due to efficiency gains so far.
- Efficiency curve reaching its peak.
- Reduction potentials: theoretical, no consideration of crucial elements (e.g. costs of development/implementation, social, economic, political barriers, etc.) preventing uptake.
- Some measures may have unwanted side effects.

Key Livestock Sector Achievements in the Region

- Rolling-out sustainability assessment tools (e.g. CAP2R) & initiatives in the private sector (SAI platform, origin Green).
- Efficiency gains are possible in all farm systems; depend on farm management, not on systems.
- Technical measures are possible (e.g. feed additives, manure additives, etc.), but with limitations.
- Need to reduce livestock numbers (lower demand for ASF) and food waste.
Western Europe

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<tr>
<td>Sphere of interest: Sustainable livestock options are included in global development programming and resourcing</td>
<td>Sustainable livestock options are included in global development programming and resourcing. Promote the importance of locally anchored solutions, and best practices. Mainstream a system’s approach.</td>
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<td>Sphere of influence: Knowledge, attitudes, skills of decision makers change so they recognize the importance of options and MSP principles for sustainable livestock</td>
<td>Knowledge, attitudes, skills of decision makers change so they recognize the importance of options and MSP principles for sustainable livestock. Disseminate results &amp; impact from good practices, sustainability schemes (e.g. GHG Origin Green, CAP2R, sustainable breeding) implemented by farmers and companies in the food system.</td>
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<tr>
<td>Sphere of control: Diversity of GASL and other livestock stakeholders aligned, interconnected and harnessed</td>
<td>Diversity of GASL and other livestock stakeholders aligned, interconnected and harnessed. Emphasize the multifunctionality of livestock and its role in nutrition, biodiversity (grazing), soil fertility, economic, social and cultural benefits, etc.</td>
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**Three to four key livestock sector outcomes to deliver in the region, by sustainability domains**

- **Highlight the role of livestock for the two other pillars of sustainability: economic & social**
- **Reduce food waste**
- **Incentives (policy instruments) to avoid food-feed competition**
- **Concentrate message on crucial role of animal-source food in nutrition**
- **Pursue efforts to reduce antibiotics use & better communicate it (success story!)**
- **Increase animal welfare to improve animal health**
- **Increase carbon capture in soils, possibly sub-soil C sequestration & biochar (not yet at best practice level)**
- **Reduce emissions by further efficiency gains & reduction in number of animals**
Impressions by Cynthia Mugo
- No “size fit for all” solution but how to move further?

Impressions by Walter Oyantcabal
- Importance of technology transfer in Asia
- Better balance between the three pillars of sustainability
- Communication is a problem

Reflections on region

“We have heard numerous presentations from different regions. Issues are inherently complex and diverse. In addition, we talk about livestock systems, adding to the complexity. It is hard to come up with solutions.

I get the impression that in GASL the discussion has been mainly focused on environmental sustainability because it is pressing.

Furthermore, the focus has been on mitigation, less on adaptation

The inclusion of youth in the debate is adding value to the discussions.

Sustainability indicators are key. Many indicators have been presented. Data is key. Data are a challenge, more so for countries in the South. Too often data for countries in the South are extrapolations of data from Europe.

Theory of change. For countries that are export-driven: regulations come from the private sector. In other countries, regulations mostly come from the government. Solutions will depend on where you stay on the continuum of the trade.

There have been a lot of discussions on the impact of livestock on climate change, but not much on the impact of climate on livestock. This again is region-specific, and regions specific data sets could help. GASL can learn across regions.

Finally, we must get control of the livestock narrative, good communication, needs factual evidence.”

Ministerial Remarks

Charlie McConalogue
Minister for Food, Agriculture and the Marine, Ireland

Minister McConalogue’s remarks at the Global Agenda for Sustainable Livestock Multi-stakeholder meeting on 3 October – 3 pm, Castleknock hotel

“Vice Minister Gonzales, Ambassador Cherniak, GASL Chair Tarawali, distinguished guests, ladies and gentlemen, I am truly honored to be here today to address this 12th Multistakeholder meeting of the Global Agenda for Sustainable Livestock. When I was made aware earlier this year that my officials were approached to host the event here in Dublin this week, I couldn’t have been more pleased. Our friends in the FAO informed me that 43 different countries from all over the globe are represented at this week’s meeting, as I look out across the room, I can see people from different cultures and different backgrounds, but let me be very clear,
Let me tell you about our industry which I am so very proud of. The agri-food sector is Ireland’s most important indigenous industry; it plays a vital role in Ireland’s economy and the fabric of our rural communities and societies. It is the bedrock of every rural village in Ireland. Our agri-food sector is dominated by livestock; this will not surprise you, we have 80% of our agricultural area under permanent grassland, underpinning our world-famous grass-based production system, producing beef and dairy products that are exported to 180 countries all over the world. The sector accounts for 8% of all employment and 10% of all exports that leave Ireland are agri-food based. The sector is a significant driver of economic activity in rural Ireland.

The sustainability of Ireland’s food production system is well recognized internationally and acts as a key competitive driver in international markets for Irish food producers. Through hard work and dedication, Irish food products can be seen on supermarket shelves all over the world. Our Kerrygold butter brand is a truly global brand now; for example, it is the 2nd bestselling butter brand in the United States currently. We are very proud of this, and it is a great testament to the 16,000 dairy farmers in Ireland who farm about 1.6M dairy cows, with an average herd size of 100 cows. The future of the global dairy sector is very bright, with demand for animal-based protein expected to remain high over the coming decades.

We enjoy similar success on the beef, pork and lamb side, where our products are exported globally. Ireland is the largest net exporter of beef in the northern hemisphere, with approximately 500,000 tonnes exported in 2021. We exported 290,000 tonnes of pigmeat, and just under 60,000 tonnes of sheepmeat in 2021 also. Although a small country, Ireland punches above its weight when it comes to global trade. I am delighted to hear that you will get to visit some Irish farms on your field trips tomorrow, this will really bring to life what we do so well in this country.

Nevertheless, we can never become complacent, there are challenges ahead for food production systems globally and no more so in Ireland where 37% of all national greenhouse gas emissions come from the agri-food sector. Whilst farmers have delivered much by way of efficiency gains in recent years, some environmental parameters have been impacted on the back of increasing dairy production. As Minister that leads our sector, we must acknowledge this and put a plan in place to address these declines. I know Tom Arnold spoke to you yesterday and would have mentioned Food Vision 2030. This new ten-year Strategy for the sector is a landmark because it charts a course for how Ireland can become a world leader in sustainable food systems. This means the sector is profitable throughout, having broad societal benefits and having a positive or neutral impact on the environment. It is worth noting that the Strategy identifies being able to demonstrate sustainability in all its forms as the source of competitive advantage for agri-food but it makes clear that if this is to be realized, the sector, along with Government and society, have to make significant changes. Chief among these is the ambition to become climate neutral by 2050, with verifiable progress by 2030.

Food Vision 2030 is about targeting increases in value added from agriculture and evolving and adjusting to a more sustainable way of farming that uses fewer inputs and relies instead on new technologies and new practices.

Food Vision takes a systematic approach to address the challenge of ensuring that Ireland can continue to produce high-quality food in a manner that protects the environment and mitigates climate change. Mission 1 of the Strategy focuses solely on this with seven goals across climate, biodiversity, water quality, forests, seafood, the circular bioeconomy and Origin Green. Within these solutions are proposed in the form of over sixty specific actions, with ten of these on climate alone. At a national level in Ireland, the finishing age of our prime beef animals, by moving from the current average finishing age of 27 months to 24 months over the next 8 years. This reduces the amount of methane the animal produces over its lifetime, making a positive contribution to our sustainability journey. Improved animal breeding can help us in this regard.

In the marketplace, there is an emerging demand for organically produced food, and Ireland is well-placed to take advantage of this growing trend. We are putting significant extra resources into this system of production, because at the heart of Food Vision is the economic sustainability of the farmer, if the farmer is not making a profit, he or she cannot be truly sustainable. I know this principle is endorsed by the Global Agenda for Sustainable Livestock.

Research and innovation and international collaboration will also play a role in helping improve the resilience of livestock production systems. My Ministerial colleague, Martin Heydon, will address you all on this important subject on Thursday morning at your policy forum.
We cannot lose sight not only of food security but nutrition security, how many millions of people around the globe rely on livestock products for their basic nutrition. I was pleased to see Prof. Stanton address this important subject yesterday. Livestock will and must remain a key part of the global food system, we cannot feed our growing global population with it. But we must get better at what we do.

In conclusion, I am genuinely excited about the future, while food production systems will evolve driven by many different demands, I have no doubt that resilient livestock systems will remain the bedrock of agricultural economies all over the world. I know you all have an incredibly busy program this week, including, and importantly, some time to relax at a couple of social events during the evenings. You will enjoy your visit to the Guinness Storehouse later, it is a fabulous facility associated with our iconic global brand Guinness, I’m sure many of you will be familiar with it.

Finally, I would like to acknowledge Shirley Tarawali, the head of GASL for her continued leadership in this space. You clearly made a very good decision in asking Ireland to host this great meeting! I would like to thank the FAO and indeed my own staff for all they have done in putting this weeklong event together. Last, of all, I would like to thank all the delegates for taking the time out of our busy schedules to come to Ireland and visit with us this week. Enjoy the week and make sure to come back and visit us again. As we say in our Irish native tongue, “Go raibh mile maith agat”- Thank you very much indeed.”

Day 3

Field visits

**Teagasc Grange**

Teagasc Grange is one of the world's leading beef production research centers. The center encompasses 250 hectares of grassland, cattle accommodation capacity for over 1,100 animals and a suite of forage, animal tissue and molecular laboratories. The vision for Grange is to be a center of international scientific excellence in research and technology development for the efficient production of safe, quality, healthy beef, in profitable production systems that meet stringent environmental and animal welfare standards. Current research is focused on developing technologies to meet the development needs of the beef sector, including management practices (e.g. grassland management, animal nutrition and husbandry, reproductive management, etc.), beef farm systems innovations and developments in animal breeding, which together allow the exploitation of Ireland’s competitive advantages.

**Dermot Heaney- Commercial Dairy Farm**

Dermot is a dairy farmer near Navan, county Meath, with his wife Catherine, and four children. The dairy herd at 245 cows, is larger than the national average herd size (approximately 90 cows). There is one full-time employee on the farm with additional family and student labor being availed of during the spring. The herd is spring-calving and is in the top 2% of EBI (Economic Breeding Index) nationally. Dermot has placed a huge emphasis on increasing both the productivity and efficiency of his production system, which has also allowed him to reduce his farm’s carbon footprint. Some of the changes he has made have included:

- The incorporation of clover into his swards,
- The use of low-emissions slurry spreading technology, and
- The use of protected urea as a source of fertilizer nitrogen, while also reducing the level of fertilizer nitrogen spread on the farm.

He has also planted new hedgerows and increased the biodiversity area on the farm.

**Devenish Lands at Dowth**

Devenish is a global agri-technology company, which employs over 600 people and operates in more than 40 countries. The Devenish Lands at Dowth lies within the Brú na Bóinne UNESCO World Heritage Site in county Meath. Some of Ireland's first farming communities built the Neolithic monuments of this area 5,500 years ago. The Lands at Dowth is one of the Global Network of Lighthouse Farms and is dedicated to developing sustainable agriculture solutions and promoting human health through nutrition. The farm is used to showcase the Devenish strategy: “One Health from Soil to Society”. Heart Land is a key research project comprising both a system grazing experiment and small plot component experiments that provide the evidence base for the “soil to society” approach. Biodiversity, both above and below ground, features heavily at Dowth.
Day 4

Feedback from Field Visits
Kindly see annex 5 for feedback presentations from the field visits

Policy Forum

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<tr>
<th>Shirley Tarawali, Chair, GASL</th>
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<td><strong>Welcome</strong></td>
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<td>The Chair welcomes the speakers, panelists, and the moderator of the policy forum.</td>
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<td>“The policy forum is a format we are organizing in every MSP meeting of GASL. To get insights from the country we are in about the challenges and opportunities in the policy environment for sustainable livestock. Today we are bringing together diverse actors to consider research, policy choices, and priority for food systems and implications for livestock system action. As we have seen this week already sustainability discussions often highlight multiple competing goals and may surface apparently conflicting outcomes depending on how these different goals are being addressed. Facing the challenge of multiple trade-offs among production, environment, food and nutrition security, food availability, livelihoods, human and animal health and welfare must nevertheless all be part of sustainability discussions and thus they must be explicitly included in policy options. So, we need research, policy, and global engagement. Our three opening speakers are going to touch on all these dimensions.”</td>
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<th>Martin Heydon</th>
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<td>Minister of State, Department of Agriculture, Food and the Marine, Ireland</td>
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<td><strong>Research Agenda for Sustainable Livestock</strong></td>
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<td>Mr Heydon welcomes everybody to Ireland and thanks the organizers to bring this meeting to Ireland.</td>
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<td>“The theme of this meeting is timely, given the international focus given to livestock over the last two years up to the UNFSS. As minister for research and innovation, I firmly believe that enhancing and strengthening research is paramount in terms of assuring livestock systems sustainability. Livestock farming is important in many countries. Here in Ireland, 90 % of farms have some form of livestock farming. 88 % of agricultural outputs come from livestock products. Extensive sheep and beef farms are optimal for the climate and land types of large parts of Ireland and critical for employment, social cohesion and preserving a unique landscape. At a global level livestock plays a key role to meet a triple challenge: food security, supporting livelihoods and improving environmental sustainability. Global food production needs to increase by 28 % over the next decade. Annual demand for meat and dairy is projected to increase by 1 to 2 % annually. We must provide food and nutrition security for the growing world population by reducing inputs and lowering the impact on the environment. The transformation required can only happen through the generation of new knowledge and science and translation to concrete action for our farms and food businesses. The Irish agriculture sector has always been at the forefront of scientific research and innovation. Our approach to research includes is guided by a 10 year strategy for the agri-food sector which is part of the food vision 2030. Marin Heydon continues to detail the research efforts and international scientific collaboration of Ireland toward more sustainable food systems.”</td>
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<td>In conclusion, he emphasizes the positive attributes of livestock systems but also stresses the need for continuous research and evolution over the coming years to ensure the way toward sustainable food systems. Working together in the spirit of partnerships, and common purpose, he is convinced the science and innovation community can provide solutions to reconcile our food systems, meet the needs of our farmers, environment, agri-food industry, citizens, and many others participating in it and depend on it. An old Irish saying: “If you do not seed in spring, you won’t harvest in the autumn.”</td>
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<tr>
<th>Importance of policy support for sustainable livestock</th>
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<tr>
<td>Highlights from Mr Cherniak’s intervention:</td>
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Report 12th GASL MSP Meeting, Dublin, Ireland, 3 to 7 October 2022

| Carlos Cherniak,  
Permanent Representative of Argentina to the UN Agencies for Food and Agriculture and Chair of the Sub-Committee on Livestock, FAO COAG |
|---|
| • Produce more food with fewer inputs.  
• First plenary meeting of sub-committee on livestock: how animal farming will be addressed in future.  
• Powerful to discuss the debate about the future of livestock.  
• Holistic approach.  
• No one fits all solutions.  
• Science-based approach, not an ideological point of view.  
• Livestock producers produce goods but also culture, which must be respected.  
• Work is working backward when it goes to food.  
• Consequences of the war are taken into consideration.  
• Complex and challenging horizon.  
• Sector contributes 17% of calories and 33% of protein worldwide.  
• Artificially created narrative around livestock ignores its contribution to food & nutrition security, social well-being, positive externalities.  
• We do not neglect issues: effect of methane, antimicrobial medicines, zoonotic disease outbreaks.  
• Establish balance: if we permit ideology to drive our efforts, we will fail.  
• Promote synergies, avoid silos.  
• Advocate for one livestock approach.  
• Proposal: robust articulation between Committee on World Food Security (CFS) & GASL, common goals and count GASL as part of the solution for the livestock sector. |

| Thanawat Tiensin,  
Director, Animal Production and Health Division, FAO |
|---|
| Introduction to the Policy Forum  
Highlights from Mr Tiensin’s intervention:  
• We need policy actions  
• We discuss with Irish farmers, they are in action, they make things happen  
• COAG sub-committee on livestock: talk about actions to perform  
• UNFSS talk about livestock, mistakes made in the past  
• We want to take control over the narrative:  
  • Better production  
  • Better environment  
  • Better nutrition  
  • Better life  
• The road is not easy |
Scene Setting Presentation

Importance of pasture-based livestock systems:

Highlights from Mr Shalloo’s presentation:

- Grass-fed protein efficiency.
- Net efficiency = human protein in/human protein in TMR compared to grass-based systems.
- France: TMR 1 to 1, Grassland 1 to 2, Ireland: 1 to 3-4.
- 330 days at grazing to 230 days.
- System is designed to make the best use of the grass production, matching compact calving (January-February), compact breeding (April), feeding 95% of the diet from grass (75% pasture, 20% silage), rest concentrate (4%) and alternative feed.
- EU quota introduced in 1984: milk production increased between 2008 and 2015, the quota abolished in 2015.
- Policy in Ireland: quota abolished:
  - Significant pent-up capacity in the industry
  - Number of cows dropped and increase again
  - Milk production increased from 5.4 to 8.7 million liters
  - Milk yield per cow increased fat and protein is higher
- Carbon footprint model updates
  - kg CO2/kg FPCM to 0.97 CO2/kg FPCM
- Technologies ready: urea, additives, earlier age at slaughter.
- New technologies: feed additives at pastures, breeding low emitting animals.
- How to reach climate neutrality by 2050 achieving the balance.
- Methane research: methane is probably overstated, robust data is needed.
- Inventory model calculation:
  - Carbon footprint model updates
  - As more robust data is collected, more precise calculations
- CH4 after feeding additive, manure.
- Genetics: EBI environmental footprint of the next generation herd improving.
- Genetic emission factor: genetics gives a better effect on methane than expected, research currently done.
- Carbon sub-index: new genetic index for inclusion in the EBI.
- Achieving climate neutrality.
- Achieving temperature, no additional warming.
- Historic warming not reduced.
- Biogenic methane, 10% reduction in methane allows to stabilize methane, no additional warming by methane.
- Want to stop additional warming.
- Carbon dioxide: land use and land use change.
- Peat soils lose mineral soil sequesters CO2.
- Still, lots of unknown figures about soils.
- Soil carbon measurement: the most important research done.

Key initiatives by Teagasc

- New national Centre for Agrifood Climate Research and Innovation
- New signpost climate advisory program with individual farmer support
- New sustainability digital platform
- Progress at the farm:
  - Using protected urea
  - Using LESS (low emissions slurry)
  - Applying lime
Bill Callanan, Moderator
Chief Inspector, Ireland’s Department of Agriculture, Food and the Marine.

Panel discussion – research and policy priorities for sustainable livestock:
Bill Callanan frames the discussion.
For Ireland, agriculture is key. 10% of GDP is from agriculture. Also, one-third of GHG emissions are from agriculture.
Ireland follows a broad approach:
- Reduce emissions
- Remove emissions
- How can agriculture contribute to energy production and bioeconomy.

“A broad approach and a clear focus. We need the science to bring us forward. We are happy to work together with FAO and are happy to have the GASL meeting here.”

“The first question to Ambassador Carlos Cherniak: how do you see GASL? How can GASL contribute to the COAG Subcommittee on Livestock (SCL)?”

Carlos Cherniak, Permanent Representative of Argentina to the UN Agencies for Food and Agriculture and Chair of the Sub-Committee on Livestock, FAO Committee on Agriculture (COAG)

Ambassador Carlos Cherniak

“GASL existed before the Subcommittee on Livestock was formed. GASL has a lot of expertise. He had a meeting with the Chair of GASL. It will not be possible to achieve the goals without a close collaboration with GASL. The FAO team is convinced that we need to work together.
We will invite GASL to report in the next bureau meeting to report on the results of the GASL Dublin meeting.

GASL should be a permanent observer. Our way of working is very transparent. It is important to develop our own and positive narrative.”

Bill Callanan, Moderator

“We have over 43 countries here. A variety of production systems along with these countries. Paraguay, Minister, from a policy perspective, how are the production systems in Paraguay and what are the challenges in terms of sustainability?”

Marcelo Gonzalez, Deputy Minister for Livestock, Ministry of Agriculture and Livestock, Paraguay

“Paraguay has a great export profile. 70% of the meat is exported with a steady increase over the last 5 years. Export is very important, we export to Brazil, Taiwan, Israel, and Europe. Since 1973 we have a law to protect forests (40% of the country’s surface). Paraguay forests remain protected. Nevertheless, between 2017 and 2020 700,000 ha of forest land has been brought under crops and livestock production.

Social elements have become more and more important. GASL is a good platform, but the international community should also be ready to look at context-specific issues and problems as we are facing in Paraguay.”
Bill Callanan, Moderator

“Now over to Frank: Frank, how can science convey the solutions they create to farmers, both locally and internationally?”

Frank O’Mara, director TEAGASC

“Livestock is suffering from a negative narrative. Livestock lives in a contested place: water, welfare, AMR, GHG, etc. We who are working in the sector as scientists are convinced that livestock has a good sustainability story and a solid future. Many do not agree with us.

But research and science have to be part of the solution also to ensure food security. Emissions from agriculture are more difficult to measure because they are biological systems. Developing ways to measure emissions will be important. But food production will always produce emissions.

There is a huge role in science. Ireland is focusing on GHG emissions. Farmers deserve and ask from science. Measuring GHG emissions in agriculture is more difficult than e.g.: in transport since it is a biological system.

The research will need to develop technologies to reduce emissions. We already have technologies and the take up by the farmers is good, but we need more.

The translation of science to farmers is an important task of science but also to translate this to policy and the larger part of society.”

Bill Callanan, Moderator

“Zoe, from a consumer perspective, what insight can you bring into this discussion? And particularly in the context of what Carlos said at the beginning in terms of the next generation.”

Zoe Kavanagh, National Dairy Council, Ireland

“What are consumers’ expectations? People want immediate action. Livestock has a new inspector, it is the concerned citizen, 5 million in Ireland. Some citizens are concerned about how to survive. 40 million citizens in the world, some have a 24-hour horizon. Some citizens have the privilege of choice (taste, fashion, intrinsic nutrition). In Ireland, for concerned citizens, the environmental costs are too high compared to the food costs. How are calories produced, and what are the costs? More transparent and direct dialogue between the food sector & consumers is needed.”

- In Ireland, 40% of calcium requirements are provided by milk.
- Family based model is positive.
- Water and biodiversity are immediate concerns
- Where are we good, where can we get better?
- Under 30 years old are much critical than the > 30
- How are we going to produce without jeopardising the future?
- Animal welfare (calf welfare) is another key aspect.
- Willingness to pay more if an incremental piece goes back to farmers.
- Is food sufficient, and is it safe? Empathy is needed for other contexts.
- Developing countries waiting for the transfer of technologies, capacities, and resources needed.
- Emissions of CH4 are going up and livestock contributes by 37% to them. Total emissions have to decrease, otherwise, we cannot talk about sustainability.
- Food has to increase, and the food production system has to be diversified
- Adaptation, not only mitigation, will be key.
• It is not the fault of family farmers, they were driven by policies.
• Now farmers have opportunities.
• The sector is suffering reputational damage.
• Urgent call for action: Implement technologies and policies which are known to work. All farmers have to follow. Implementation is a huge challenge.
• Consumers are willing to pay a higher price for sustainably produced food.
• The honesty will be around how to reduce emissions, also animal welfare is very important.
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<tr>
<th>Bill Callanan, Moderator</th>
<th>“So many diverse views. There is a hierarchy. First food has to be available, sustainability is less important, second it has to be safe, and third, health issues are important. How, Carlos, will GASL deal with all these issues?”</th>
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<tr>
<td>Carlos Cherniak,</td>
<td>“A million questions and not many answers. Let me recognize the reason to organize this meeting. It will be important to share the results of this meeting with the next meeting of the bureau of the SCL. I like to share with you an episode during one FAO side event, about one person from a developing country. His country is working hard towards sustainable livestock. What do they do: Reduce production and modify diets. Some participants agreed. A member from a Sahel country responded, that they need more production. They are suffering from hunger and food insecurity. People from developed countries need more empathy for countries needing more food. According to FAO, we have the same number of hungry people in 2022 as we had in 2015 when the Agenda 2030 with the SDGs was discussed and decided. GASL’s advantage is its plurality. What is happening in some parts of the world is not the same as in other parts of the world. What about capacity, technology, and resources? If we do not ask these questions and answer them, we leave developing countries behind. All we need is to develop strategies taking into account the regional and local contexts.”</td>
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<td>Bill Callanan, Moderator</td>
<td>“To bring this down to a country level, Paraguay, Marcelo. You face your people daily. What is the balance in terms of food security as against the environmental footprint of livestock: how do you deal with this?”</td>
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<td>Marcelo Gonzalez</td>
<td>“Equilibrium is important in daily life, also for government. This is good for our economy and our farmers. If we can align all three dimensions of sustainability, we achieve an equilibrium. For example, since the 90ties we practise zero tilling. We interact and exchange with other South American countries in terms of research and science. Furthermore, our contribution to GHG emissions is 0.005 %. It is not very important. Nevertheless, we include farmers, processors and consumers in our discussions regarding policies for sustainable production. “</td>
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<td>Bill Callanan, Moderator</td>
<td>I now will take some questions and comments from the floor.</td>
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<td>Tumur Uya Jambaltseren, State Secretary Mongolia</td>
<td>“Thank you for the invitation. Mongolia’s Government has been working hard towards sustainable livestock. The Mongolian government is developing a policy for food safety and food security. At the same time, Mongolia is also meeting the standards for food exports.”</td>
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<td>Cara Augustenborg, Assistant Professor UCD, Ireland</td>
<td>“As an environmental scientist, it is good to agree on emission reduction and climate change mitigation. It is, however, unfortunate that the emissions increase by 10 % during the last 10 years. 37 % of this increase is due to livestock. It is nice to hear that due to technology and efficiency gains, emissions per Kg of products are declining. What is the gain if total emissions increase? As long as total emissions increase, we cannot claim any sustainability gains. Furthermore, the challenge is to increase food production over the coming decades by 50 %. The solution is to diversify food production. It is not only to reduce emissions but also to adapt to climate change. Diversification is key for mitigation and adaptation. The present situation is not the fault of family farms. We need a positive transition for farmers. E.g.: carbon farming, water farming, etc. My concern also is that the sector will suffer reputational damage. A missed opportunity if we do not act quickly. I make an urgent call for the use and implementation of available technology. Implementation is not easy, but we need to do this on a massive scale.”</td>
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<td>Name</td>
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<td>Pablo Frere</td>
<td>Redes Chaco, Argentina</td>
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<td>Frank O’Mara</td>
<td>Director, TEAGASC</td>
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<td>Zoe Kavanagh, National Dairy Council, Ireland</td>
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<td>Bill Callanan, Moderator</td>
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<td>Shirley Tarawali</td>
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GASL Action Networks, Actions to Overcome Challenges

GLOBAL NETWORK ON SILVOPASTORAL SYSTEMS (GNSPS)

Objectives

Promote the strengthening and scaling up of SPS, wherever there are technical, economic, environmental, and cultural options for supporting livelihoods and business activities with sustainable livestock farming, specifically through the generation, exchange and dissemination of knowledge, the documentation of public policies in countries and/or sub-regions, and the facilitation of dialogue to address the challenges associated with Sustainable Development Goals.

Intentional Integration of trees, shrubs, pasture and livestock with Intensive management of Interaction (Jose, 2017) (The four “I”).

2022 Activities

- Participation in the GASL Latin American chapter.
- II Global Silvopastoral Congress. Portugal.
- Exchange of SPS experience between Colombia and United Kingdom. Rothamsted Research Institute.
**Action Network: Restoring Value to Grassland**

**Key Livestock Sector Challenges in the Action Network Theme Domain**

- Workstream 1: Communicate on multifunctionality and Grow AN2 network.
- Events; Social network; Webpages; Networking; Paper; Guidelines.
- Workstream 2: Processes to enhance the use of multi-functionality dialogues in envisioning the future of livestock grazing systems through change.
- Case studies; Methodological framework (APA); Stakeholder dialogue and action.
- Workstream 3: Tools to enhance the use of multi-functionality dialogues.
- Toy model; Applied models; Parameters and Indicators; Guidelines.
- Workstream 4: Documenting on the ground practice that restores value to grasslands and builds the resilience of grassland systems and contribution to SFS.
- Document practice and policy change; APA process; Compile and synthesis of ground activities.

**Key Livestock Sector Achievement: 6 Key Studies**

1. Silvopastoral system for beef cattle production in Brazil.
2. Puna (North-West Argentina) for mountainous zone development.
3. Quài Nưa, a mountainous commune of Điện Biên province, in the North-West of Vietnam with crop-livestock systems.
4. Northern Mongolia’s mountain forest-steppe region.
5. Pastoral Senegalese systems with dairy activities.
6. French pastoral mountainous region for local development.

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**Argentina**

The Puna high altitude, dry pastoralism sustainability

**Brazil**

Maranhao Silvo-pastoral Farming systems

**Senegal**

Ferlo Pastoral dryland dairy development

**Mongolia**

Bulgan forest steppes conservation

**Vietnam**

Diên Bien mountain beef systems development

**China**

Qinghai plateau conservation with livestock systems

**France**

PACA agro pastoral systems in multiusers mountain area

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**2021 -2022 Highlights**

- AN2 recruitment: Tibet/Li (Jiaotong-Liverpool Univ), Colombia/Geneva (Cornell Univ.), NZ, Burkina Faso.
**Documents/Tools/Practices**

- Grazing Systems project cases = AN2 Database on AN2 GASL Website.
- Development of a Toymodel and simulation models to explore the impact of practice change.

**Communications**

- Contribution to XIth International Rangeland Congress (Kenya Oct 2021, Virtual).

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**Brief commentary**

Tim Robinson  
Diana Onyango

- Quantification of benefits.
- System's approach, multidimensional aspect.
- Diverse regions of the world.
- Overlap between GNSPS and Closing the efficiency gap.
- Keeping the TOC approach.
- Biodiversity aspect.
- Community-led interventions.

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**Dairy Asia Action Network**

Dairy Asia is a multi-stakeholder partnership with a vision to build a sustainable dairy sector in Asia and the Pacific.


The Dairy Asia secretariat office is located in Ulaanbaatar, Mongolia, jointly established by the Government of Mongolia and UN FAO (GASL).

Dairy Asia is an action network of the Global Agenda for Sustainable Livestock, and collaborates with APHCA, IDF, ILRI, IFCN, and DSF as a knowledge partner.

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**Main Activities**

- Dairy Asia webinar: School milk program.
- Dairy Asia perspective consultative meeting.
- Dairy Asia dialogue: Yak milk production.
- Dairy Asia dialogue: Camel milk production.
- Dairy Asia: bilateral meeting (India & Mongolia).
- Dairy Asia: Milk Walk.
- Dairy Asia: Milk Talk.

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**Further Actions and Suggestions**

- Strengthen Dairy Asia in the region and cooperation & partnership of knowledge partners.
- Expand the membership to North-East Asia, Central Asia, West Asia and the Middle East.
- Increase public awareness of milk production and consumption (World Milk Day, World School Milk Day...).
- Promote/support the cow milk & non-cow milk production /“Low volume – High Value” strategy.
- Strengthen the network for yak husbandry countries/Establishment for World Yak Association.

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**Membership expansion:**

- Northeast Asia: Japan, Republic of Korea, DPR of Korea.
- Central Asia: Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Turkmenistan.
- South Asia, Southeast Asia: Laos, Pakistan, Cambodia, Malaysia.
- West Asia, Middle East: Iran, Kuwait, UAE, Turkey.
Livestock Environmental Assessment Partnership (FAO LEAP)

FAO LEAP in a Nutshell

FAO LEAP is a multi-stakeholder initiative launched by FAO in 2012 to accelerate the sustainable development of livestock systems, while ensuring social and economic viability.

• Harmonization of methods and metrics.
• Consensus building.
• Information and data.
• Catalogue of application.
• Awareness raising.

FAO LEAP Partnership is focusing on:

• Guidelines development.
• Dissemination of existing guidelines via LEAP navigator.
• Regional workshop and training.

Commitments and next steps

FAO LEAP will continue to help countries and livestock stakeholders to:

• Achieve the Paris Agreement targets by providing evidence on sustainability of livestock.
• Meet the ambitions of the Global Methane Pledge.
• Support the UNFCCC’s Koronivia Joint Work Programme on Agriculture.
• Advise FAO Committee on Agriculture, sub-committee on livestock.

Key Challenges

• Inconsistency in methods and metrics to assessment the environmental performance of livestock.
• High cost of developing new methods and metrics.
• Enhancement of accuracy, transparency, consistency, comparability, and completeness of GHG inventory reporting under the UNFCCC and Paris Agreement, and to provide greater transparency in key sectors.

Key Achievements

Brief Commentary

Margret Jewell, LMA
Diana Onyango

• Importance of yaks to contribute to food and nutrition security of indigenous communities.
• Diversity of "milks" (oat, coconut, almond etc.) would be nice to see the same diversity from livestock in supermarkets.
• LEAP: challenges of inconsistencies of metrics.
• Multistakeholder approach.
Key livestock sector challenges related to antimicrobial resistance

- Balanced and common views among sectors (One health).
- Balanced consensus among multiple stakeholders within the livestock sector.
- Insights about different conditions in the world Implementation.

Key livestock sector policy achievements relating to antimicrobials

- Increasing number of countries phasing out the use of antimicrobials as growth promotors (currently about 75% of WOAHs member countries).
- Several large livestock producing countries (e.g. the USA and China) are banning the use of some antimicrobials that are critically important for humans ("the WHO-list").
- EU regulation 2019/6 is stopping the use of antimicrobials for regular prophylaxis.

A solution for the world
Converging policies among countries and sectors (One health). To be implemented....

Commitments and next steps
Merging insights from the policy world with those from the farmers'/producers’ world in different regions of the world.
Improve dialogue by
- Public round table discussions?
- Synthesis/opinion papers?

Highlights
Animal Welfare Action Network (AWAN)

**Key livestock sector challenges in AWAN**
- Knowledge transfer and exchange on animal welfare.
- Transport.
- Legal and societal enforcement of legislation and best practice.
- Lack of Objective Lifetime Wellness Measures (labeling, trustworthiness + rewarding to the producers/organizations that are responsive).
- Need for better recognition of the role of working animals in sustainable livestock –Grace et al. (2022)

**Key livestock sector achievements in your AN theme domain**
- UNEA resolution on animal welfare; 2019 Global Sustainable Development Report (GSDR) mentions animal welfare.
- Public awareness increasing and driving momentum.
- Approaches for grassroots engagement and action on animal welfare. (Lemma et al (2022)).

**Key livestock sector outcomes we want to deliver**
- Provide tools and methodological approaches for measuring animal welfare, and support the implementation.
- Share case studies where animal welfare has demonstrable benefits to the four sustainability domains.
- Facilitate the exchange between different stakeholders (science and industry for example, NGOs development partners) – include work in various, diverse settings, increasing implementation and exchange of best practices.
- Create a policy brief on the importance of animal welfare and its contribution to sustainable livestock.
Brief commentary on LAMP & Animal welfare

- How can LAMP promote advocacy?
- AMR resistance & GHG emissions, polarized debate, global nature of the challenge, the need for robust evidence.
- Both ANs are crucial to address burning issues (brought on day 1). They can be used as leverage to advertise. Both ANs already work together!
- Final step: to have the sector acknowledge that antibiotics are necessary but need to be used prudently also in the public sector.
- Access to good quality antibiotics and use is still a challenge in many countries.

Action Network Closing the Efficiency Gap

Elements of the current Action Plan to be implemented (2020-2023)

- AN operational management.
- Efficiency matrix exercise (EM).
- Piloting, projects, and evidence.
- Communication strategy.

Efficiency matrix exercise

Phase 1 was mainly dealing with animal and land use productivity and their economic performance. Some elements of emissions were introduced.

- Resilience aspects?

Phase 2 is planned for identifying and selecting methodologies involving water use.

- Dairy Sustainability Framework?

Phases 1 and 2 were part of our activities at Thünen Institut - (Germany, 6 months)

- Social aspects (family labor, income, social security).
- Action Networks: Synergies in measuring sustainability in Sustainable Food Systems.
- CEG, GSPSN and Livestock for Social Development.

Communication strategy

The first attempt to develop a set of indicators of resilience that could apply across livestock systems based on 5 cases studies representing a range of systems around the world, from subsistence to commercial.
A SFS is a food system that delivers food security and nutrition for all. Where the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised.

(Source: https://www.fao.org/3/ca2079en/CA2079EN.pdf)
Reflections on action network agendas

“Thank you all for these very interesting Action Network reports. GASL has various layers. **First**, the clusters, represent the multi-stakeholder dimension of GASL. **Second**, the Action Networks, where the action of GASL is, as we have heard, making use of an extensive network of scientific institutions, focusing on establishing scientific evidence on a broad array of livestock issues at stake. **Third**, much developed during the last three years, the regional dimension, leading in some parts to regional chapters of GASL.

GASL is challenged to bring these three layers together and to develop consistent messages on the one hand context-specific and on the other hand valid for the global livestock sector on its way to more sustainability.

Before I focus on the Action Networks, kindly allow me two subjective observations of this week:

The very interesting contribution of Professor Alice Stanton illustrates the urgent and important need for evidence-based decision-making. Her contribution clearly shows that on its road to sustainable livestock systems or even better to sustainable food systems, GASL has to join forces to demand scientific evidence from all voices blaming livestock based on often fictitious evidence or no evidence at all. We must meet the negative global narrative with positive facts and messages.

My second and subjective observation. We, representing the livestock sector here in the GASL MSP meeting are still defending the sector too much, instead of positively and efficiently communicating the merits of the sector and efficiently communicating how we are tackling the challenges the sector without any doubt is facing and efficiently communicating our progress based on scientific evidence.

Now back to the Action Networks. As we have heard this afternoon, the Action Networks are the GASL structures with a wide array of activities. The Action Networks are:

- Extending the reach of GASL to research institutions and applied projects
- In a position to go deep into a subject, that GASL as an MSP otherwise could not do
- Are often publishing (e.g.: Action Network LAMP and Action Network CEG, examples shown today).

The Action Networks will continue to be crucial to implement the GASL 2022-2024 Action Plan which is based around the GASL Theory of Change, so to speak the heart of the Action Plan. The Action Networks thus are amplifying the effort of GASL. The Action Networks will also contribute to ensuring that GASL can focus on its mission and achieve its objectives as stated in the Action Plan 2022-2024.

All Action networks are welcoming new members.”
“Good evening, Ladies and Gentlemen.

We focus on nutrition, principally animal nutrition. Virtually everything we do is dedicated to making the businesses we serve and the products they produce more sustainable, including financially more sustainable.

We do this by improving the production efficiencies and value of these principally food items. This is apparent in improved growth rates, productivity, health, food conversion, production systems, and the nutrient density of these food products.

We base our product specifications, advice, and ultimately our IP on a foundation of good science. We use and develop this good science to help our clients get to the facts in every area of interest to their business. This investment in science is very large but critical to the value of the outcomes achieved.

In business as in life, the strategy should always come before tactics. We describe our strategy as ‘One Health’ and our strategic focus as being from Soil to Society.

One Health points to a health-focused whole systems approach and Soil to Society denotes the pillars of this focus. These are soil, all soil biology both plant and animal, livestock producing from this biology, people consuming livestock products, and the environment surrounding all of that.

One Health is an optimization of the important production and other factors leading to sustainable outcomes. Considered in this way it helps to avoid unintended adverse consequences. Health is the pivotal measure we believe to deliver value in the whole food production system. This recognizes how interconnected each element of the supply chain is with every other.

We regard Soil and Society as being the two major elements of these five critical pillars. Soil, because of its foundational role in virtually every aspect of human and planetary life and well-being. Over 90% of the food we depend on, on our planet ultimately tracks back to the soil.

Soil is an enormous store of carbon. Indeed, farming is one of only two industries in the world with the ability to store carbon as well as create emissions. That fact alone makes the farming sound very important, and it is already very important in so many ways. Not least of these is the very large and growing demand for sustainable food production.

Our planet was required to produce food for two and a half billion people in 1950 and will be required to produce food for more than 10 billion in 2050. The enormity of this food security task is constantly underestimated and taken for granted. We need to change that.

As producers of food, we serve society. The greatest asset of any society and every human being is good health. Food is fundamental to good human health outcomes. It is not just the provision of food that determines these. It is also how this food is provided, the quantity, the quality, and the degree of further processing.

What then is the sustainable position for human health? Surely, it is that prevention is always better than cure? In society, almost all of our health resourcing is directed at curing sick people rather than the prevention of illness.

Food in the correct form and quantity has a very large role to play in preventing human ill health and promoting good health. This value is largely underestimated and taken for granted. We must also change this.

You will have heard from Professor Alice Stanton who is my wife, Director of Human Health at Devenish, and Professor at the Royal College of Surgeon Dublin. Alice spoke of the challenge she and five colleagues are leading to many of the published health metrics of the Global Burden of Disease collaborators based out of the University of Washington, Seattle. We believe many of these metrics to be ill-founded, unsupported by published evidence, and grossly misleading. We believe their publication in The Lancet is without the application of the normal and very important rules of publication and is against the public interest.
In particular, it is against the interests of women, children, older people, and those on lower incomes. The adverse consequences of policy and other interventions based on this bad science are very material and damaging to many people with lifelong adverse consequences.

We ask you to support the challenge to the GBD authors and The Lancet editorial team, on grounds of the global importance of this challenge to our food supply health outcomes, particularly in the sustainable food supply.

Many of you will have visited our Global Innovation Centre at Dowth in County Meath. You will have seen some of the scientific work led by Dr Jean Kennedy, Professor John Gilliland, and their team. This work has been designed to deliver globally important sustainability outcomes. These include the restoration of abundant biodiversity, in conjunction with highly productive food outcomes from farming. It also shows the path to net zero food production and indeed, carbon farming more generally where farms accelerate the sequestration of carbon and carbon analogs. Soils in these systems are large reservoirs of high-quality water also, resilient in periods of water stress. Productivity of both soils and livestock improves and food quality is enhanced. A whole system’s approach.

As those of you who have visited Dowth will know it is situated entirely on a UNESCO World Heritage site. This important designation is because of the Neolithic heritage of the site and its global importance.

Given how small Ireland is in global terms and how small a part of Ireland is represented in the Boyne Valley it surprises many people to know that in this location is found 30-40% of the Neolithic art in Europe. These art treasures were produced 4,6000 years ago and are part of the archaeological record bestowed by our Neolithic forefathers. As many of you will know Neolithic people were the people who began to farm in the world between 5,15000 years ago (Stone Age people).

This major change in human behavior was global and without it, human progress as we know it, imperfect as that may be, would be impossible.

This week we have seen a further testament to the global nature of these Neolithic remains with artifacts from Japan’s Oyu stone circles on show in Stonehenge until August 2023. Many of the images found in Oyu in Japan are identical to those found in Ireland’s Boyne Valley. This shows that even at this early period of prehistory just how much of humanity was held in common.

In 2022 Ireland’s pasture-based food production system is increasingly calling out the potential of, and global importance of high-quality animal products to sustainable food supply chains and human health outcomes. These milk, meat, egg, and aqua products are sustainably produced to promote human health, and biodiversity improved water and air quality, and remediation of a carbon-enriched atmosphere. Soils are mobilized to store increased volumes of carbon through biological means. The potential of this for the globally critical outcome of food security, simultaneously delivering all of the outcomes just mentioned and encompassing sustainable energy production is very considerable. This is a very important sustainability outcome, but also a very positive economic outcome.

In 2016 Dr Sinclair Mayne of the AgriFood and Bioscience Institute calculated that every extra tonne of high-energy forage utilized was worth in Beef output value, of £234 per ha per year and in Dairy output value of £334 per ha per year, pre-farm gate.

In Dowth from 2013 to 2022, we have taken forage utilization from just over 4 tonnes of dry matter per ha per year to 13.5 tonnes of dry matter per ha per year. This increase of over 9 T of high-quality forage dry matter has been achieved using 30 kg of chemical N. This delivers a 26% reduction in GHG emissions per kg of output. It also delivered a threefold uplift in soil earthworm population not to mention the increased potential for improved human health outcomes.

We use earthworms in soils as an indicator species for soil biological health. More earthworms mean more healthy soils.

We believe a sustainable pasture-based food production systems approach is and better business for farmers, the food industry, and society generally.”
Day 5

Recap and synthesis

Synthesis of the 12th GASL MSP meeting, Ireland

Rapporteur: Nancy Bourgeois, Academia and Research Cluster
Note taking in parallel sessions: Rogerio Mauricio, Michael Victor, Nitya Ghotge, Walter Oyhantcabal, Alejandro Acosta

Nancy Bourgeois Lüthi
Academia Research Cluster GASL

GASL Principles

• Open and voluntary, with no fees.
• Inclusive and consensual.
• Change oriented.
• Evidence and knowledge-based.
• Respect the diversity of views.
• Aligned with the SDGs, under the umbrella of 4 sustainability domains.

Day 1: Setting the scene: official opening

• Shirley Tarawali - GASL Chair
• Thanawat Tiensin - Animal Production and Health Division, FAO
• Brendan Gleeson - Ireland Department of Agriculture, Food and the Marine
• Tom Arnold - Ireland’s Special Envoy on Food Systems
• David Kennedy - Bord Bia
• Alice Stanton - Royal College of Surgeons
Multi-stakeholder partnerships are crucial to work across the complex food system. Political priority given to food and nutrition security must increase at the national, regional, and international level. Gaps between suppliers and buyers to meet sustainability goals = huge opportunity! Need to share best practices globally. Crucial need for facts, evidence-based, unbiased information/results. Ways to communicate better fact-based information.

Session 2 Challenging livestock: global actions for sustainable food systems

Jessica Fanzo, John Hopkins University

- EAT Lancet report shed light on inequities.
- Some countries need to take more action than others.

<table>
<thead>
<tr>
<th>4 Challengers</th>
<th>4 Respondents</th>
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<tbody>
<tr>
<td>Food system governance and agency (e.g. meat grown lab).</td>
<td>Always consider three dimensions of sustainability.</td>
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<tr>
<td>Gender lens: no binary approach, focus on relationships in actions, agency, responsibilities, etc.</td>
<td>Tackle food waste issue more thoroughly.</td>
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<td>Big challenges for developing countries to cope with challenges, e.g.: double/triple burdens of malnutrition.</td>
<td>Efficiency increase needed.</td>
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<td>Work together across the sector.</td>
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<td>Inclusiveness, equity, supply chain governance.</td>
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<td>Upscale best practices.</td>
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<td>Solutions need to be differentiated, no fit for all.</td>
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Livestock can be the solution:
- Passion
- Voicing platforms
- Respect
- Financial instruments
- Policies for Youth

Day 2: Reports on Regional consultations

<table>
<thead>
<tr>
<th>Region</th>
<th>Approach</th>
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<tbody>
<tr>
<td>Oceania</td>
<td>Technology <em>(is beer the solution?)</em></td>
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<tr>
<td>North America</td>
<td>Sector-wide programs, knowledge and technologies, encourage and incentivize enterprising young people.</td>
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<tr>
<td>Latin America and the Caribbean</td>
<td>Scientific sound decisions, silvopastoral systems and better grasslands management.</td>
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<tr>
<td>East and Southeast Asia</td>
<td>Build up and adopt “Greater Food” approach (precisely deliver food to consumers, optimize use of natural resources, curbing food waste).</td>
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<td>South Asia</td>
<td>Youth groups of pastoralists are trying to find local answers to problems. Young entrepreneurs promote animal welfare products.</td>
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<td>Africa</td>
<td>Dairy value chain supporting smallholder pastoral systems <em>(e.g. laiterie du berger)</em>.</td>
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<tr>
<td>Eastern Europe and Central Asia</td>
<td>Find the right balance between Efficient &amp; Resilient, Traditional &amp; Modern, Profitable &amp; Environment-friendly.</td>
</tr>
<tr>
<td>Western Europe</td>
<td>Solutions for farmers need to be regionally anchored, economically viable, simple, efficient, and operational. No blue-print approach.</td>
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</table>
Regional Consultations Conclusions

- Opportunity to scale out GASL’s activities & expand its reach.
- Every region has its specific challenges: food safety, food security, animal welfare, AMR issues, livestock numbers, production costs, and emerging diseases BUT the same stressors, climate change & the environmental crisis.
- Every region has its tailor-made solutions: locally adapted technologies, new technologies, global sustainability programs, etc.
- Need to give more space, voice, trust and means to the next generation.
- No fit-all solution.

Day 3: Field Visits

- Different pathways of adoption of technologies and innovations.
- A technology can be mainstreamed in one country and new in another one (e.g. inclusion of clover, EBI, protected urea, slurry spreaders, GreenFeed, etc.).
- Technologies, systems adapted to the local context: (e.g. Spring calving).

Day 1, 2, 4: Parallel Sessions

Livestock Sector Actions Towards More Sustainable Food Systems

Three series of parallel technical sessions, 16 in total

- International Finance Corporation (IFC): practices for sustainable investment in livestock areas
- Building a social platform for livestock
- Foods of pastoral communities
- Pastoralism as sustainable food system: examples from Europe
- Dairy Asia: action network of GASL to the dairy sector in the Asia and Pacific
- The case for investment in animal health towards One health
- One health investment in livestock
- Understanding the prevalence and impacts of zoonotic disease among small scale dairy holdings; the journey towards a reliable dairy supply chain while mitigating risks to public health in Malawi
- Global Livestock Environmental Assessment (GLEAM) Dashboard
- Boosting carbon initiatives in livestock farm
- Addressing the supply and demand of environmental impact data to empower livestock development
Day 4: Policy Forum and Action Network Presentations

**Policy Forum**

**Introduction**
- Shirley Tarawali – GASL Chair
- Thanawat Tiensin – Animal Production and Health Division, FAO

**Keynote speeches**
- Martin Heydon: Minister of State, Ireland’s Department of Agriculture, Food and the Marine
- Carlos Cherniak: Permanent Representative of Argentina to the UN FAO and Chair of the Sub-Committee on Livestock, COAG
- Laurence Shalloo: Head Animal and Grassland Research and Innovation Programme, Teagasc

**The Panel, moderated by Bill Callanan, Chief Inspector, Ireland’s Department of Agriculture, Food and the Marine**
- Carlos Cherniak: Permanent Representative of Argentina to the UN FAO and Chair of the Sub-Committee on Livestock, COAG
- Marcelo Gonzales: Deputy Minister for Livestock, Paraguay
- Frank O’Mara: Director Teagasc
- Zoe Kavanagh: National Dairy Council, Ireland

**Key messages of the Policy Forum**
- Take control of the narrative.
- Livestock is part of the solution.
- Farmers are doers and have always adapted their practices!
- Need to highlight research & technologies used by farmers towards sustainability: huge progress done, still much to come (e.g. C-soil measurement).
- Data and metrics are crucial to moving forward.
- Opportunity to learn from other sectors (e.g. energy industry).
- Opportunity and need for a robust articulation between FAO COAG sub-committee on livestock & GASL.

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**Technical parallel solutions with crosscutting or overarching themes**

- Assess and recognise multi-functionality of grazing systems for practice change and public action towards contribution of livestock sector to sustainable systems
- Farming the future how Swedish beef and dairy farming can meet climate targets and contribute to a sustainable food and energy system towards 2050
- Global Roundtable for Sustainable beef sustainability goals in action
- The role of science based advocacy to grow financial and policy support for sustainable livestock systems in LMCs
- The wider economic, social and environmental effects of reducing emissions in the dairy sector under different policy scenarios
Key messages of the panel discussion

- Consumers’ behavior: in Ireland, there is a readiness to pay for more sustainability if it is shown.
- Earn concerned citizens’ trust.
- Technology:
  - Some technologies available and under adoption (breeding, methane measurement, etc.).
  - Some technologies are still under research and testing (e.g.: soil C-sequestration, genetics for low methane animals).
  - Transfer of technologies to other countries: capacities and resources are needed!
- A balanced approach to the problem: whatever is done, all three pillars of sustainability need to be taken into consideration!

Action Network Presentations

- Diversity of contexts, species, agro-ecological zones
- All steps from research to actions/implementation: investigations -> case studies -> models -> validation -> publications -> restitution to beneficiaries -> initiatives (e.g.: Yak association)
- Enhancement of accuracy transparency, comparability, and consistency of methods
- Collaboration across action networks (e.g.: Animal welfare & LAMP)
- Collaboration with Clusters (e.g.: A&R through editorial board committee)
- Some overlap between Silvopastoral systems and Closing the Efficiency gap
- Lack of diversity of livestock systems represented (-> invisibility of some livestock keepers & species)

Conclusions: where are we good, where can we be better?

- GASL acknowledged and respected
- Wide range of activities (e.g. AN’s activities, regional consultations, clusters’ support).
- Great progress in being more inclusive & representative (e.g young generation, farmers), but efforts need to be continued (gender, consumers, systems, livestock species).
- So far, defensive stance in face of “adverse weather”.
- Too much focus on the environmental pillar of the sustainability.
- Not enough focus on the impact of climate change on livestock.

Next Steps

- Move from defensive to offensive: take control of the narrative!
- Bring balance into the polarized debate, also highlight positive facts!
- Communicate progress based on scientific evidence.
- Continue providing robust evidence.
- Bring better balance between the three sustainability pillars.
- Make invisible livestock keepers and “neglected” species visible.
- Better show synergies between livestock and crops in the food system.
- Consider involving more stakeholders in the future (e.g.: Agtech, consumers).
- Strengthen synergies with other stakeholders, such as the COAG sub-committee on livestock.
Youth report

Highlights

• Opportunity to see concrete data on emissions reduction with very evident progress shown in the research centers
  o Youth were evidently very involved in research.

HOW TO SCALE UP? Our suggestion:

<table>
<thead>
<tr>
<th>Systematic mapping</th>
<th>Regional events</th>
<th>Partnership</th>
<th>Example</th>
<th>Find new gaps</th>
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<tbody>
<tr>
<td>Find “potential” areas according to the regional issues/necessities</td>
<td>Create networking between farmers</td>
<td>Find interested producers</td>
<td>Show the example to others</td>
<td>Discover new potential problems and gaps to be filled</td>
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<tr>
<td>Experience exchanges</td>
<td>Applying sustainable techniques at their farm</td>
<td>“Neighbor’s wisdom”</td>
<td>More academic/scientific researches</td>
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<tr>
<td>Share information about sustainable livestock</td>
<td>Build trust</td>
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3 – 7 October 2022 Dublin Ireland | 12th GASL MSP Meeting (Hybrid) #LivestockAgenda
Report 12th GASL MSP Meeting, Dublin, Ireland, 3 to 7 October 2022

- Gained insight into policy from a global perspective.
- Opportunity to network and communicate shared learnings and challenges from a global perspective, in order to make impactful, long-lasting connections.

**Communication**

- Balanced narrative! Tell the real story.
- Combat the extremism and bad vision of the farmers in the society.
- Bring good, neutral, and scientific information to the population!
- Show GASL to the world!!
- Improve GASL website! Use to demonstrate actions and plans in a clearer way, share the regional events that are happening related to the agenda.
- Conscious consumption is an important and strong tool to help to change the system. Educating people about the importance of sustainability will increase the demand for this kind of product and, eventually, increase the supply (more producers and companies interested). Also create pressure to change in the market!
- Create social media to share information about livestock - most part of people do not read newspapers or scientific papers! We need simple and easy sources of information!
- More visibility = more engagement = more participation (farmers, youths, researchers, and companies).

**Post Conference Recommendations**

- Maintain open communication lines on actions put into place as a result of the conference.
- Expand and develop a framework for Youth involvement in GASL (e.g.: implement a youth advisory council).
- Expand country representation within GASL regions (e.g.: Broader representation of Southeast Asia).

**Youth investment – Call for Action**

Investing in the next generation through youth development is investing in the long-term sustainability of leadership within our industry. This has been shown clearly in the caliber of the group here this week - many have been supported by youth programming in their respective regions. It is crucial to continue investment in the existing programming that is working well (4-H, FFA, CYL). GASL has the capability and the network to facilitate discussion between countries that have existing models, so they are able to learn from each other. By taking action, and investing, you are preparing youth to confidentially voice an opinion when asked and to fully utilize opportunities they are presented with.

**Commitments to Action – Interactive Plenary Session**

**Take-away insights, lessons, commitments**

- Do not threaten food security!
- Communication, based on scientific evidence. Improve communications on the quality and benefits of animal source foods.
- More science and funds to capture data on GHG in Africa and LMICs.
- Link evidence to policy and action. Link GHG emissions to impacts on farmers. Link with more income and fewer emissions.
- Solutions must be compared with other impacts. We need climate justice - who will reduce it?
- More research on simple solutions that smallholders can use to reduce GHG emissions.
- Clear strategy from governments that reducing red meat is not a strategy for climate change mitigation
- Equitable methods for measuring emissions globally, we are one planet.
- Make sure that reduction efforts account for impacts on nutritional security in export markets and ‘leakage’ issues of emissions in other countries that increase production as a result of reductions elsewhere.
- Communication in the local language; south-south between and for smallholders. Inclusiveness, consider small, medium, and large farms.
- Research to build a more consistent narrative about negative and positive aspects of animal-sourced foods
- Roles of animal source foods to provide macro- and micro-nutrients, the role of nutrient-dense animal protein as sources of amino acids and energy.
- Economic sustainability cannot be measured only in terms of profitability - adopt a wider approach.
- Address livestock trade non-tariff barriers.
- Include the private sector with other actors - governments, NGOs, farmers.
- Give more visibility to good practices in health implementation.
The Dublin Communiqué
Livestock sector actions towards more sustainable food systems.
The Global Agenda for Sustainable Livestock, 7 October 2022

1. We, participants in the 12th Multi-Stakeholder Partnership meeting of the Global Agenda for Sustainable Livestock, gathered in Dublin at the invitation of the Government of Ireland, reaffirm our shared commitment to sustainable development of the livestock sector as an essential element of sustainable and resilient food systems.

2. We recognize the multiple ways that sustainable livestock enhances the lives of at least 20% of the world’s population who derive livelihoods and food and nutrition security from livestock; provides affordable and often essential nutrition, offers pathways for women, men, and young people to take advantage of economic and social opportunities; and brings solutions to help tackle environmental and public health challenges.

3. We recognize the valuable contribution of the Global Agenda for Sustainable Livestock to continuous and open dialogue between local, national, regional and global stakeholders. This supports innovative policy and practice change towards sustainable livestock development—centered around four livestock sustainability domains: food and nutrition security, animal health and animal welfare, livelihoods and economic growth, and climate and natural resource use.

4. We reaffirm commitments of the Global Agenda for Sustainable Livestock to the United Nations Agenda 2030 for Sustainable Development and engagement in global development processes, such as the United Nations Food Systems Summit, Committees of Parties highlighting the special role that livestock can play for people, planet and prosperity.

5. We recognize the immense contribution of the 1 billion smallholder livestock farmers, pastoralists and agro-pastoralists to sustainable food systems globally, benefits to biodiversity, socio-economic development.

6. We recognize that this is the momentous occasion to work with and for small livestock farmers, as the General Assembly of the United Nations has declared 2026 the International Year of Rangelands and Pastoralists (IYRP). This presents a great opportunity to join efforts, build networks and raise awareness on the all-embracing contribution of smallholders, pastoralists and rangelands.

Based on deliberations at the 12th Multi-Stakeholder Partnership meeting of the Global Agenda for Sustainable Livestock stakeholders commit to:

7. Highlighting evidence and practice changes that result in balanced, nutritious and sustainable diets including the choice of healthy livestock-derived foods and contribute to food and nutrition security.

8. Promoting the application of fair, inclusive, and equitable livestock business models and opportunities that contribute to economic growth, sustain livelihoods, and grow employment for women, men, and youth, leaving no-one behind.

9. Fostering production, management and stewardship of livestock and their products to reduce GHG emissions, enhance land, soil and nature biodiversity, improve sustainable water use and deliver climate adaptation co-benefits for a healthier planet.

10. Promoting the “One Health” approach at all levels, including in the field

11. Supporting implementation of the WOAH standards on animal health and welfare.

12. Working collaboratively in partnership with GASL stakeholder clusters and other stakeholders to achieve our common food system goals, including with the recently established Sub-Committee on Livestock of the FAO Committee on Agriculture, and taking an active role in the road to the International Year of Rangeland and Pastoralism 2026.

13. Contributing to a nuanced and science-based debate that recognizes the importance and diversity of livestock-based solutions required for sustainable development, taking into account traditional knowledge.
Closing

Dale Crammond
Agricultural Inspector, Ireland’s Department of Agriculture, Food and the Marine

“We are near the end of a long successful week. First, I will thank the hotel. The staff has been very good to us, and the food was good. I got to know GASL when I came back from Washington in 2020. In May this year, Shirley approached me for this meeting. I didn’t hesitate to say yes, knowing what a great group GASL is. It has been a busy few months, but the feedback this week has been very nice and enjoyable. It has been great to work with Shirley, Eduardo, and Lavinia. I also want to thank the delegates for coming to Dublin and for taking time out of your busy schedules. After two years online we all want to go out and meet people and network again. We all have been healthy, and I hope you will get home safely. Just one final comment: We all know the importance of livestock for so many people around the world, at least 20% of the global population relies on livestock for their livelihoods, that is about 1.7 billion people. Everyone in this room has a role to play and has some connection with the industry, government, or research community.

As you go back to your capitals next week, how are you going to show up for yourself, or more importantly, how are you going to show up for the livestock sector? Thank you.”

Thanawat Tiensin,
Director, Animal Production and Health Division, FAO

“We know we come to the end of our talk. Thank you, Shirley, chair of the Global Agenda for Sustainable Livestock, the team, Eduardo, and others joining us this week, and especially to all of you, the technical staff, and interpreters for supporting us. We need to build a positive and balanced narrative. Especially the next generation persons. We are the ones to tell our story. We need to write our stories and inform others. We do not need other communicators to tell our story, we need to communicate ourselves. We need to make better use of social media. This is in addition to professional and scientific communication.

We need positive action from all livestock sector stakeholders. We need to make use of our positive energy to transform our sector because the survival of the sector is up to us. We all need to work on a positive balanced narrative for the transmission of livestock into a sustainable sector. Thank you very much.”

Shirley Tarawali,
Chair, GASL

“It seems I get the last word. It has been a tremendous week and I hope every one of us has found it rich and rewarding. I hope also this is a starting point for the next strides for the livestock sector, and sustainability in all its diverse manifestations and that each one of us is inspired to return to our workplaces, our colleagues, our constituencies and our families to build on the momentum I believe we have achieved this week. I am really thrilled we changed the demographics and deliberately involved the next-generation folks and would like to thank especially Liz Wedderburn who is not here but might be online, Rogerio, Nancy and Nitya who were instrumental in getting that going. As we heard earlier this morning, we must continue to build on this, and I think we should have a special slot at our next GASL Guiding Group Meeting in December 2022 and think about the concrete things we must do. In that regard, my task now is to say thank you. Probably the most dangerous part of all the interventions I have made, because the risk of forgetting somebody is enormous. But nevertheless, I must call out a number of folks and recognize their huge contributions:

- The Department of Agriculture, Food and the Marine have made immense contributions. We had the minister, the minister of state, the chief inspector, the secretary general all participating in different parts of our meeting. Let me recognize, Edwina Love and Dale Crammond, Carrie Nicholls and Joan McDougall who have done
a huge amount of the logistics support. Andrew Castle who supported the communication.

- We have sponsors and supporters. Board Bia, Devenish, Teagasc, as well as of course our donors whose resources have enabled us to bring people from all the regions to this meeting. This has been important, and I know that our donors wanted that their resources contributed to this richness and over forty countries and diversity we have been able to achieve here. And as Dale said, huge thanks to the staff of the hotel, they have done a wonderful job. They were led by Neef Willen, Said, and Gavin and their different teams. Thanks to our interpreters and the IT support team led by Martin. We had online about 50 people. This has been managed by our ILRI people in Addis Abbaba led by Sahigh Gesao.

- We have had support from FAO in many ways. Thanawat, we have been privileged to have you here the whole week along with many of your team, but I know that people back in FAO have also been really important to get all these administrative things working really well

- Ambassador Cherniak, and Badi Besbes have been here with us and the Subcommittee supporting us superbly as well.

- We have had a team of young people who have been helping us throughout the week. We had two groups from UCD, three persons, Aimy, Lucy and Marie have been with us throughout the week. Thank you so much.

- And of course, Eduardo, Lavinia, who have done a large part of the work, Juliana from the FAO office Panama, Fritz, for poster, parallel session and regions, and Peter for steering us through the week.

- And every single one of you for all your contributions. Thank you very much.

Thank you again, you will get a report. Safe travels back home. Goodbye.”
Annex 1: Agenda
Livestock sector actions towards more sustainable food systems
12th GASL MSP meeting, Castleknock Hotel, Dublin, Ireland, 3-7 October 2022

MONDAY, 3 OCTOBER

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<thead>
<tr>
<th>time</th>
<th>session</th>
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<tbody>
<tr>
<td>0900</td>
<td>SESSION 1 Official opening</td>
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<tr>
<td>0900</td>
<td>Welcomes</td>
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<tr>
<td></td>
<td>• Shirley Tarawali, Chair, Global Agenda on Sustainable Livestock</td>
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<td></td>
<td>• Thanawat Tiensin, Director, Animal Production and Health Division, Food and Agriculture Organization of the United Nations</td>
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<td></td>
<td>• Brendan Gleeson, Secretary General – Ireland’s Department of Agriculture, Food and the Marine</td>
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<tr>
<td>0925</td>
<td>Framing presentations</td>
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<tr>
<td></td>
<td>• Importance of Livestock in Global Food Security: Tom Arnold, Government of Ireland’s Special Envoy on Food Systems</td>
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<td>• Origin Green - Making farm to fork sustainable, David Kennedy, Head of Dairy, Bord Bia (Irish Food Board)</td>
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<td></td>
<td>• Nutritional benefits of animal source foods: Alice Stanton, Professor at Royal College of Surgeons in Ireland and Director of Human Health at Devenish Nutrition</td>
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<tr>
<td>1025</td>
<td>GASL in a nutshell – Shirley Tarawali</td>
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<td>1030</td>
<td>COFFEE BREAK</td>
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<tr>
<td>1100</td>
<td>Short agenda and process introduction – Peter Ballentine, Facilitator</td>
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<tr>
<td>1115</td>
<td>SESSION 2 Challenging livestock; global actions for sustainable food systems</td>
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<td>1115</td>
<td>Session introduction: Shirley Tarawali</td>
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<td>1120</td>
<td>Challenge keynote: Food system ambitions and challenges for the livestock sector - Jessica Fanzo, Johns Hopkins University, USA (virtual)</td>
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<td>1140</td>
<td>Livestock in food systems debate moderated by Shirley Tarawali</td>
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<td>Challengers:</td>
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<td></td>
<td>1. Phil Howard, Michigan State University, USA (virtual)</td>
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<td>2. Ermias Kebreab, University of California, Davis, USA, (virtual)</td>
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<td>3. Nitya Rao, University of East Anglia, UK, (virtual)</td>
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<td>4. Truong Tuyet Mai, Vietnam National Institute of Nutrition</td>
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<td>Responders:</td>
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<td>5. Bernard Kimoro, State Department for Livestock, Kenya</td>
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<td>6. Julián Chará, Centre for Research on Sustainable Agriculture, Colombia</td>
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<td>7. Nitya Ghotge, ANTHRA, India</td>
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<td>8. Mitch Kanter. Global Dairy Platform, USA</td>
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<td>1300</td>
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<td>1400</td>
<td>SESSION 3 Opportune livestock; Next generation perspectives on food system opportunities through sustainable livestock – Interactive plenary session</td>
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<td>1515</td>
<td>TEA BREAK</td>
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<tr>
<td>1545</td>
<td>SESSION 4 Livestock sector actions for sustainable food systems – Interactive plenary session</td>
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<td>1630</td>
<td>SESSION 5 Plans for day 2 and the next session - Peter Ballantyne, facilitator</td>
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<td>BREAK</td>
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<td>1700</td>
<td>SESSION 6 Parallel session technical presentations</td>
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<td></td>
<td>- Plenary room: session 1 - IFC practices for sustainable investment in livestock operations</td>
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<td></td>
<td>- Castleknock Suite: session 2 - The GLEAM dashboard for livestock GHG emission data</td>
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<td>- Knockmaroon Suite: session 3 - Deconstruction of ligno-cellulose biomass for improving sustainability of dairy animal production</td>
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<td>- Ashtown Suite: session 4 - Foods of pastoral communities</td>
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<td>1730</td>
<td>BREAK</td>
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<tr>
<td>1735</td>
<td>SESSION 7 Parallel session technical presentations</td>
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<tr>
<td></td>
<td>- Plenary room: session 1 (continued) - IFC practices for sustainable investment in livestock operations</td>
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<td>- Castleknock Suite: session 5 - Boosting carbon initiatives in livestock farms</td>
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<td>- Ashtown Suite: session 6 - Pastoralism as a sustainable food system: Examples from Europe</td>
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<td>1805</td>
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<tr>
<td>1830</td>
<td>DEPART HOTEL FOR EVENING PROGRAM</td>
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**TUESDAY, 4 OCTOBER**

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>0900</td>
<td>SESSION 8 Plans for the day - Peter Ballantyne, facilitator</td>
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<tr>
<td>0915</td>
<td>SESSION 9 Day 1 reflections – synthesis team</td>
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<td>0930</td>
<td>SESSION 10 Regional Agendas for Sustainable Livestock – 1</td>
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<td></td>
<td>Short presentations and commentary</td>
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<td></td>
<td>- Oceania - Jacob Betros</td>
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<td>- North America – Mitch Kanter</td>
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<td>- Latin America and the Caribbean – Rogerio Mauricio</td>
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<td>- Brief commentary</td>
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<td>1030</td>
<td>COFFEE BREAK</td>
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<tr>
<td>1100</td>
<td>SESSION 11 Regional Agendas for Sustainable Livestock – 2</td>
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<td></td>
<td>Short presentations and commentary</td>
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<td></td>
<td>- East and Southeast Asia – Bu Dengpan (virtual)</td>
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<td>- Africa - Simplice Nouala</td>
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<td>- South Asia - Nitya Ghotge</td>
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<td>- Brief commentary</td>
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<td>- Eastern Europe and Central Asia – Yuriy Nesterov</td>
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<td>- Western Europe - Nancy Bourgeois</td>
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<td>- Brief commentary</td>
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<td>- Reflections on region agenda’s – Jimmy Smith, Director General, ILRI</td>
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<tr>
<td>1245</td>
<td>LUNCH</td>
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<tr>
<td>1400</td>
<td>SESSION 12 Regional Agendas for Sustainable Livestock – 3: Interactive plenary session</td>
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<tr>
<td>1510</td>
<td>SESSION 13 Plans for day 3 and the next session - Peter Ballantyne, facilitator</td>
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<tr>
<td>1515</td>
<td>Ministerial remarks - Charlie McConalogue, Minister for Agriculture, Food and the Marine, Ireland</td>
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<td>1530</td>
<td>TEA BREAK</td>
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<td>Time</td>
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<tr>
<td>1600</td>
<td><strong>SESSION 14 GASL action network meetings</strong></td>
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<tr>
<td>1700</td>
<td><strong>SESSION 15 Parallel session technical presentations</strong></td>
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<td>1715</td>
<td><strong>SESSION 15 Parallel session technical presentations</strong></td>
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<td>• Castleknock Suite: session 7 - Assess and recognize multifunctionality of grazing systems for practice change and public action towards contribution of livestock sector to sustainable food systems</td>
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<td>• Knockmaroon Suite: session 8 - Understanding the prevalence and impacts of zoonotic disease among small scale dairy holdings; the journey towards a reliable dairy supply chain while mitigating risks to public health, in Malawi.</td>
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<td>• Ashtown Suite: session 9 - Farming of the future - How Swedish beef and dairy farming can meet climate targets and contribute to a sustainable food and energy system towards 2050 (virtual)</td>
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<tr>
<td>1745</td>
<td><strong>SESSION 16 Parallel session technical presentations</strong></td>
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<tr>
<td>1750</td>
<td><strong>SESSION 16 Parallel session technical presentations</strong></td>
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<td></td>
<td>Castlknock Suite: session 10 - Global Roundtable for Sustainable Beef sustainability goals in action</td>
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<td>Knockmaroon Suite: session 11 - A call to action for animal health</td>
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<td>Ashtown Suite: Action session 12 - The role of science-based advocacy to grow financial and policy support for sustainable livestock systems in LMICs</td>
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<td>1820</td>
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<td>1845</td>
<td><strong>DEPART HOTEL FOR EVENING PROGRAM</strong></td>
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<td></td>
<td>Guinness Storehouse tour and dinner: Sponsored by Bord Bia (Irish Food Board) and Ireland’s Department of Agriculture, Food and the Marine</td>
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<td>Buses return at 2230</td>
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**WEDNESDAY, 5 OCTOBER**

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<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>0830 - 1615</td>
<td><strong>SESSION 17 Field trips depart</strong></td>
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<td></td>
<td>Groups 1,2, and 3: TEAGASC Grange Animal and Grassland Research Centre</td>
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<td>Group 1: Dermot Heaney commercial dairy farm</td>
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<td>Groups 2 and 3: Devenish Lands at Dowth research farm</td>
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<td>Lunch included</td>
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<tr>
<td>1630 - 1730</td>
<td><strong>SESSION 18 GASL stakeholder cluster interest group meetings</strong></td>
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### THURSDAY, 6 OCTOBER

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<th>Time</th>
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<tr>
<td>0900</td>
<td><strong>SESSION 19 Plans for the day</strong> - Peter Ballantyne, facilitator</td>
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<tr>
<td>0910</td>
<td><strong>SESSION 20 Insights for action</strong> - Feedback from field visits</td>
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<tr>
<td>0945</td>
<td><strong>COFFEE BREAK</strong></td>
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<tr>
<td>1015</td>
<td><strong>SESSION 21 Policy Forum</strong></td>
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<tr>
<td></td>
<td>Welcome: Shirley Tarawali</td>
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<td></td>
<td>• Research agenda for sustainable livestock: Martin Heydon, Minister of</td>
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<td>State, Ireland’s Department of Agriculture, Food and the Marine</td>
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<td></td>
<td>• Importance of policy support for sustainable livestock: Carlos</td>
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<td>Cherniak, Permanent Representative of Argentina to the UN Agencies</td>
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<td>for Food and Agriculture and Chair of the Sub-Committee on Livestock,</td>
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<td>FAO Committee on Agriculture (COAG)</td>
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<td></td>
<td>• Introduction to the Policy Forum: Thanawat Tiensin, Director, Animal</td>
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<td>Production and Health Division, FAO</td>
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<td>Scene setting presentation:</td>
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<td>• Importance of pasture-based livestock systems: Laurence Shalloo, Head</td>
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<td>Animal and Grassland Research and Innovation Programme, TEAGASC.</td>
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<td>Panel discussion – research and policy priorities for sustainable</td>
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<td>livestock: Moderated by Bill Callanan, Chief Inspector, Ireland’s</td>
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<td>Department of Agriculture, Food and the Marine.</td>
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<td>Panelists:</td>
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<td>• Ambassador Cherniak, Chair of the Sub-Committee on Livestock, FAO</td>
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<td>Committee on Agriculture</td>
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<td>• Marcelo Gonzalez, Deputy Minister for Livestock, Ministry of</td>
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<td>Agriculture and Livestock, Paraguay</td>
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<td></td>
<td>• Frank O’Mara, Director, TEAGASC</td>
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<td>• Zoe Kavanagh, National Dairy Council, Ireland</td>
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<tr>
<td>1230</td>
<td><strong>LUNCH</strong></td>
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<tr>
<td>1400</td>
<td><strong>SESSION 22 GASL action networks: actions to overcome challenges</strong></td>
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<td></td>
<td>Short presentations and commentary</td>
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<td></td>
<td>• Global Network on Silvopastoral Systems – Julián Chará</td>
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<td>• Restoring Value to Grasslands – Alexandre Ickowicz</td>
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<td>• Brief commentary</td>
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<td>• Dairy Asia – Batbaatar Bayarmagnai</td>
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<td>• Livestock Environmental Assessment and Performance Partnership –</td>
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<td>• Brief commentary</td>
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<td>1530</td>
<td><strong>COFFEE BREAK</strong></td>
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### SESSION 23 GASL action networks: actions to overcome challenges

Short presentations and commentary
- Livestock Antimicrobial Partnership – Ulf Magnusson (virtual)
- Animal Welfare – Rebecca Doyle (virtual)
- Brief commentary
- Livestock for Social Development - Ernesto Reyes
- Closing the Efficiency Gap – Rogerio Mauricio
- Brief commentary
- Reflections on action network agenda’s – Fritz Schneider, Past Chair, GASL

### SESSION 24 Plans for day 5 and the next session – Peter Ballentine, facilitator

### BREAK

### SESSION 25 Parallel session technical presentations

- Castleknock Suite: session 13 - One health investments in livestock
- Knockmaroon Suite: session 14 - Dairy Asia: action network of GASL to the dairy sector in the Asia and the Pacific
- Ashtown Suite: session 15 - The wider economic, social, and environmental effects of reducing emissions in the dairy sector under different policy scenarios

### BREAK

### SESSION 26 Parallel session technical presentations

- Castleknock Suite: session 13 (continued) - One health investments in livestock
- Knockmaroon Suite: session 16 - Building a social platform for livestock
- Ashtown Suite: session 17 - Addressing the supply and demand of environmental impact data to empower livestock development

### BREAK

### EVENING PROGRAM – DINNER AT HOTEL

After dinner speaker: Sustainability agenda for livestock systems - Owen Brennan, Executive Chairman, Devenish Nutrition

### FRIDAY, 7 OCTOBER

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<tr>
<td>0900</td>
<td>SESSION 27 Plans for the day - Peter Ballantyne, facilitator</td>
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<tr>
<td>0910</td>
<td>SESSION 28 Recap and synthesis</td>
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<td>1015</td>
<td>COFFEE BREAK</td>
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<tr>
<td>1045</td>
<td>SESSION 29 Commitments to action – Interactive plenary session</td>
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<tr>
<td>1130</td>
<td>SESSION 30 Dublin communiqué</td>
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| 1200   | SESSION 31 CLOSING
  - Dale Crammond, Agricultural Inspector, Ireland’s Department of Agriculture, Food and the Marine.
  - Thanawat Tiensin, Director, Animal Production and Health Division, FAO
  - Shirley Tarawali, Chair, Global Agenda for Sustainable Livestock
| 1230   | LUNCH                                                                   |
| 1400   | GASL Guiding group meeting [members and official observers]              |
| 1530   | CLOSE                                                                   |
Annex 2: Poster Abstracts
Livestock sector actions towards more sustainable food systems

12th GASL MSP meeting, Castleknock Hotel, Dublin, Ireland, 3-7 October 2022

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<tr>
<th>Theme</th>
<th>Title / Main Author / Institution</th>
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<tr>
<td>Health</td>
<td>One Health implementation with communities and local service providers. Margherita Gomarasca VSF International</td>
<td>The poster will present the vision of the VSF International network on the implementation of the One Health approach, highlighting the importance of bottom-up participatory approaches that involve local communities and service providers. The One Health approach is central to the mission of the VSF International network to create resilient and sustainable livelihoods at the interface of human, animal and environmental health. To achieve this, VSF International and its members strive to break down silos between sectors through the implementation of transdisciplinary and multi-sectoral collaborations with a multiplicity of actors from civil society, the private sector, the public sector, research, and aiming to systematically include local communities as primary stakeholders in One Health. In remote rural areas where public and private health service delivery is fragile or absent, as it is the case in several regions in the Global South, the implementation of One Health remains challenging. Local civil society and services, farmers' and livestock keepers’ organizations have a pivotal role at the interface of the three pillars of health: human-animal-environment. Rather than being considered solely as the beneficiaries of OH interventions, they should have a more central role in co-identification of public health threats and finding locally adapted responses. In the poster we will present examples of development and humanitarian interventions on how local communities may be involved at different stages of the project cycle and how to bring these lessons to a next higher level to harmonise schedules between sectors.</td>
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| Health  | Supporting local communities around protected areas with a One Health approach: VSF International’s actions to integrate sustainable livelihoods and conservation goals Margherita Gomarasca VSF International | The poster will present some of the main challenges faced by poor communities surrounding biodiversity hotspots such as protected areas and reserves, and provide examples from Togo, South Sudan, RDC and Zambia, where the One Health approach is used to integrate sustainable livelihoods goals and conservation goals. In the four countries, the areas under analysis present an increasing human, agricultural and animal pressure on a limited territory, leading to habitat fragmentation and loss. This in turns causes a loss of biodiversity and increases the risk of spillover of zoonotic diseases. VSF International members and their partners implement bottom-up strategies to develop sustainable livelihoods opportunities for local communities, reconciling biodiversity conservation goals with social and economic goals. Through multisectoral interventions and partnerships, the projects tackle:  
• Economic factors: income generation and diversification (including through livestock interventions), to avoid negative coping strategies such as poaching  
• Food security: promoting sustainable livestock and crop production to access nutritious and diversified diets  
• Health: integrated animal/human health services deliver  
• Land access: securing land tenure and governance for the benefit of local population  
• Awareness raising: on natural resource and biodiversity conservation |
| Health  | Natural Livestock Farming: evidence of an effective One Health approach towards improved cattle health and milk quality Katrien van’t Hooft Natural Livestock Farming Found. | We now know that through the NLF 3-layer approach it is possible to improve cattle health, improve milk quality, while at the same time improving productivity and farm income! This poster provides an overview of natural livestock farming activities with smallholder dairy farmers in India and Ethiopia. Results in India include 81,4% average cure rate of 24 diseases through ethnovet treatment; 87,9% reduced antibiotic residues in milk; 71,6% reduction of cattle health costs. In Ethiopia the strategy has resulted in 60% reduction of calf mortality, 50% increase in milk quantity and 33% increase in farm income. in 2022 the strategy has become formal government policy in India. |
4 | **Health** | Herbal healing practices for control of Foot and Mouth Diseases  
Vivekanandan Perumal  
Sustainable-agriculture and Environmental Voluntary Action (SEVA)  

Dairy farmers or livestock keepers who keep small ruminants can get affected when an outbreak of Foot and Mouth Disease (FMD) occurs in their region. It usually occurs during rainy season (July to October) and during summer (February to June). The disease cause mortality of young ruminants; general vigour and health of adult animals are affected as well. The consequences of this disease lead to economic loss for the livestock keepers. SEVA has organized herbal health camps for animals for treatment of FMD in selected villages in Tamil Nadu. After the treatment the local farmers gave good feedback of animal recovery from FMD. There was increase in the milk yield and fat content in the milk after the treatment. This method of herbal healing practices was earlier documented from local healers by SEVA in association with Honey Bee Network supported by National Innovation Foundation. Selected best practices are included in our training programme for farmers on the method of preparation and administration of herbal recipes for specific conditions of animals.

5 | **Health** | Territorial Innovation Networks (RITER) as a social strengthening strategy as a mechanism for scaling sustainable livestock and the integrity of "one health"  
Sherie Rae Simms, María Elizabeth Barragán Flores & Seki Cinco Martínez  
The Nature Conservancy  

The main environmental impacts originate from the change of land use and the exploitation of natural resources. The Nature Conservancy (TNC) promotes strategies aimed at the adaptation and mitigation of environmental impacts derived from inappropriate agricultural practices, providing productive models sustainable through the RITER (Territorial Innovation Networks) with which three objectives are met:

6 | **Health** | Natural Livestock Farming: Strategic international collaboration for reducing antibiotic use in dairy farming  
K.E. van’t Hooft  
Natural Livestock Foundation, The Netherlands  

Antibiotic use for common cattle diseases such as mastitis and diarrhea in calves is widespread both in smallholder and largescale dairy farming. This poses a high global risk of resistance against antibiotics. From 2014 to date exchange the strategic collaboration organized by Natural Livestock Farming Foundation (NLF) has strengthened practices that include the use of herbs amongst farmers and veterinarians in India, the Netherlands, Ethiopia and Uganda. This has resulted in a new paradigm in dairy farming, based on the holistic NLF 5-layer approach to effectively reduce the use of antibiotics and other chemical drugs. The collaboration between experts in the field of herbal medicine between India, Ethiopia and the Netherlands has given positive results in reducing the use of antibiotics in these countries. In India, the interest of Dutch dairy experts in Indian herbal medicine has helped to boost acceptance amongst smallholder farmers, milk unions and National Dairy Development Board (NDDB). To the extent that in 2022 it is adopted within the formal dairy strategy of the Indian Government. In Ethiopia and the Netherlands, the encounter with Indian herbal expertise has opened the eyes of the farmers and veterinarians in the sector to this relatively unexplored opportunity to improve cattle health and reduce the use of antibiotics in smallholder dairy farming.

7 | **Dairy and Beef** | Assessment of the National Breeding Objectives and Implementation of Supporting Programs/Initiatives for Dairy Livestock Value Chains  
Ayman Fouad Ashour  
Animal Production Research Institute SaciWATERS/WASSA  

Target extension programs are improving production, adding value in milk value chain, benefits of AI, animals’ genetics improvement and important of balanced diet.
| 8 | Dairy and Beef | Extension of the National Programme for Bovine Breeding and Dairy Development for Draught Purpose Bovine Breeds of India  
Kanna K. Siripurapu  
Consortium for Interdisciplinary Water Resources Studies (SaciWaters), India | India has a total of 50 cattle breeds registered as defined breeds, out of which only a handful (approx. 8%) of breeds are the milch breeds and the majority (approx. 92%) of the defined cattle breeds are draught purpose breeds. About 60 - 65% of the total cultivated area of India consisting of 88 million hectare requires draught animal power. Draught power accounts to 4.65%, of the total farm energy available in the country. It was estimated that animal power earns between INR 750 to 950 million a day to the country. draught power animals are pivotal for saving petroleum worth of INR 215,000 million annually. The 20th Livestock Census report of India suggests a steep decline especially in the population of male cattle, which shows a decline by 30.2%, compared to the previous census. Likewise, the he-buffalo population has declined by 42.35%, compared to the previous census. Such population declining trends is alarming for the gene-pool and survival of the breeds and demands an immediate attention and course correction. However, the National Programme for Bovine Breeding and Dairy Development of India is only focused on the improvement and conservation of milch bovine breeds and completely neglects the draught purpose bovine breeds of the country. |
| 9 | Pastor alism | Recognition of Traditional Grazing Rights of Pastoralists in the Indian State of Telangana - Issues and Challenges  
Shaik Hussain  
CONARE/WASSAN | An estimated 7.1 million pastoralists (17.7 percent of the total state population) inhabit the Indian state of Telangana. Disaggregated data of the pastoralist population of the communities actively engaged in mobile pastoralism is however unavailable for the state. Nationally, Telangana has an estimated 32 million livestock population and ranks 8th in the country in terms of livestock population. Telangana has 4.2 million cattle and 4.2 Buffalos, putting the states at 9th place nationally. The country has a total of 74.26 million sheep in India, out of which Telangana is home to 19 million sheep (26% of the sheep population of the country) making it the top state with the highest number of sheep population. Telangana state has 26,904 sq. km. of forest area which constitutes 24.05 percent of the total geographic area of the state. The forest cover of the state is less than the national average of 21.34 percent. The state has a total of twelve protected areas consisting of eight Wildlife Sanctuaries and three National Parks. Two Wild Life Sanctuaries have been notified as Tiger Reserves - the Amarabad Tiger Reserve (ATR) and the Kawal Tiger Reserve. Of 24,904 sq. km. notified forest area, 5,836.04 sq. km. is included in the protected area network. The demarcation of protected areas and tiger reserves in the state became the bone of contention between the forest dependent tribes, the other traditionally forest dependent communities and the state forest department. Similar to other states of the country the state has lost more than 50 percent of its commons and village pastures to non-pastoralist activities, creating severe fodder deficit in the state. The state has been suffering from 50 % fodder shortage, which compelled the state to approach the Indian Grassland and Fodder Research Institute (IGFRI) at Jhansi to develop a fodder management plan for the state in the year 2015. There is not even a single recorded instance of recognition of pastoralist rights in the state. The high pastoralist and livestock population, decreasing commons and village pastures, ever increasing restrictions on access to the traditional grazing lands located inside the protected areas and forests, escalating conflicts between the livestock keepers and forest department and non-recognition of pastoralist rights in the state makes it a high priority area for implementation of the recognition of pastoralist rights under Forest Rights Act 2006. |
| 10 | Pastor alism | Rangeland and livestock production systems in the Sudan  
Mohammed Abdelkreim  
Sudan University Science and Technology | Aims to present current satiation of livestock production and provide information necessary to that can be included in the program and develop methods to sustainable rangeland management in the Sudan |
<p>| 11 | Pastoralism | When the Sheep Come for Penning - The Economy of Traditional Sheep Penning Practice of the Deccan Plateau Region of India | The main objective is to analyze the economy and interpersonal relationship between farmers and pastoralists of the Deccan plateau region of India. Results of the study suggest that the Indian state of Telangana has 17.4 million sheep, providing about 9 million kgs of manure and about 21 million litres of urine every day. Farmers of the study area reportedly pay an average INR 1.5 - 2 per sheep for penning per night, which generates a revenue of an estimated INR 26 million per day in the state. The average duration of sheep penning in Telangana state is 107 days and the estimated revenue generated from sheep penning alone could be approximately INR 2.7 billion within a span of 3.5 months (107 days). If the revenue generated from the sale of dung of sheep, goat, cattle and buffalo and penning of cattle is calculated then the figure would be even higher. The income from penning and sale of dung accounts to more than a quarter and second most important source of HH income of the pastoralists. However, it is seldom considered as a livelihood and income generation activity, therefore remains grossly neglected by the state mission. Perhaps, the promotion of penning and dung sale should be institutionalized as manure economy and included as a mandate of both the state agriculture and animal husbandry departments. |
| 12 | Pastoralism | Culture, Traditions, and Grassland Management Practices of Nanda Gaoli Pastoralists | Bhaldev (the festival of grazing in the forests) one of the major traditional festivals observed by the Nanda-Gaolis pastoralist communities of the Indian state of Maharashtra is an example of traditional sustainable grassland management and conservation. Bhaldev festival is annually celebrated at the onset of tropical monsoon season. Scientifically speaking, the festival is directly associated with maintaining fodder supplies and breeding livestock. Nanda-Gaolis depend on livestock for their livelihood and livestock depends on forests and grasslands for survival, to be precise. Hence, such reverence for the grass is fundamental for the existence of Nanda-Gaoli community. However, the grass worshipped as Bhaldev has been disappearing locally and lately, it is getting harder to find enough tufts to perform rituals of the festival. The disappearance of Lavhan grass is not only an indication of loss of biodiversity in the forest but also a threat to the legacy of Nanda-Gaolis, which is very unsettling for the community. But how did we get here? The answer may lie in the decades of implementation of the Colonial and the subsequent exclusionary, anti-poor Forest Act and Laws by the then British Empire and the government of Independent India. The Forest Acts of both the Colonial as well as the Independent India bans grazing in the forests. The forest department in the name of different projects and programmes promotes monoculture timber plantations over grasslands destroying the precious and fragile grassland ecosystems. The alienation of Nanda-Gaolis from forests has been detrimental not only for the livestock and environment but also for the socio-economic and cultural sustainability of the community. For information, grasslands are considered as wastelands by polices of India and there is no policy for conservation and management of grasslands in India. |
| 13 | Pastoralism | Calobota sericea as a potential indigenous South African fodder crop in a changing climate: an analysis of the nutritional quality of at different phenological stages | Extensive droughts and irregular rainfall caused by the climatic change phenomena has an enormous negative impact on the fodder flow system of livestock farmers in the arid and semi-arid regions of South Africa. In the winter rainfall regions, the fodder gap in summer was to a certain extent filled by either exotic planted pastures, which require high water utilization, or drought resistant crops which pose a plant invasive risk to the natural environment. In the search for potential indigenous species which could be utilized to fill the summer fodder gap, the Agricultural Research Council identified 25 legume species with some potential to do so. Calobota sericea, an indigenous legume from the winter rainfall semi-arid rangelands of South Africa is one such species which has been prioritised as a fodder resource for water limited agro-ecological areas. The objective of the study was to quantify the nutritional quality of Calobota sericea fodders harvested at five phenological stages. Calobota sericea shows potential as supplementary fodder to fill the summer fodder gap in winter rainfall grazing area. Results indicate that when harvested at the non-reproductive, early flower bud and full flower stages it could provide sufficient energy and protein content to maintain livestock condition and increase pastoralist resilience to adapt to climatic change threats, such as prolonged droughts. |</p>
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<th>Pastoralism</th>
<th>Herders</th>
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<td>15</td>
<td>Socio-economics and economics</td>
<td>Livestock for Livelihoods: Role of goats on improving women’s economic empowerment and nutritional status in pastoralists communities of Ethiopia and Uganda</td>
<td>Diana Lynette Adhiambo Onyango Farm Africa</td>
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The drylands of Ethiopia’s South Omo zone and Uganda’s Karamoja sub region are home to thousands of pastoralists who migrate with their livestock in search of pasture. Livestock is the main source of livelihood for the communities found in these areas. In both locations, disease, drought and degraded grasslands have cut the size of herds, so although livestock rearing is common it is unproductive. Communities living in these regions are faced with other challenges such as high poverty rates and food insecurity, leading to high rates of malnutrition and stunting in children. The heavy reliance on natural resources renders this livestock-based livelihood sensitive to climate dynamics such as recurrent droughts seen in the two regions. Farm Africa through the Livestock for Livelihoods project implemented various activities aimed at improving the socioeconomic status of 10,000 women beneficiaries as well as dietary diversity at the household level. These included:

- Distribution of goats using the revolving goat scheme to improve the socio-economic status of the women beneficiaries, provide a source of income from the sale of milk, goat kids and goat hides; and the milk produced from the goats contributed to improved household nutrition, particularly in children under five.
- Improving nutritional knowledge through the Social Behaviour Change and Communication (SBCC) strategy aimed at increasing awareness and knowledge of dietary diversity. This was done in collaboration with Africa Innovations Institute (AfriI) in Uganda and the Mothers and Children Multisectoral Development Organization (MCMDO) in Ethiopia.
- Supporting women beneficiaries to be more economically empowered through access to finance provided by Village Savings and Loans Associations (VSLAs) and facilitating them to be involved in profitable enterprises in the goat value chain (goat breeding, leather tanning and milk value addition). These activities stimulated livelihood diversification and trade, contributing to reduced levels of poverty and malnutrition.

Improved Infant and Young Child Minimum Dietary Diversity (IYC-MDD) and the Minimum Dietary Diversity Women (MDD-W) scores. In Karamoja, the IYCMD decreased from 61% from 23% and the MDD-W increased from 13% to 42% while in Ethiopia the IYCMD increased to 41% from 35% and the MDD-W increased from 23% to 32% despite the harsh drought and food insecurity in the project areas during the implementation. Strengthened women’s economic empowerment as the women were able to contribute to the household income which also gave them a voice in financial decision-making and resource allocation. The Women Economic Empowerment (WEE) scores in Uganda improved from 54% to 75% while in Ethiopia it was from 37% to 44%.
**Collaboration Is the New Competition: How a Private Sector Alliance Model Can Sustainably Transform Livestock Markets**

*Giselle Aris, Land O'Lakes Venture37*

**Objectives:** The presentation will highlight how the private sector can improve dysfunctional livestock markets through innovative, pre-competitive private sector collaboration a private sector alliance model wherein different private sector actors come together to form an alliance rather than operating as independent actors. The resulting market advancement can and have yielded significant improvements in livestock productivity, which helps communities who may be facing food insecurity have better access to nutritious, local foods produced using climate-smart practices.

**Results:** Through this groundbreaking alliance approach, actors in the livestock market are able to adopt inclusive, accessible climate-smart approaches for different agro-ecological zones. We will be using two initiatives as case studies: the Nourishing Prosperity Alliance (NPA) and Dairy Nourishes Africa (DNA). NPA focuses on advancing the commercial viability of forage markets in East Africa, while DNA is focused on transforming East Africa’s dairy sector via farmer- and consumer-allied dairy processors.

**Significance:** Historically speaking, many development programs have proven difficult to sustain beyond the lifespan of short-term projects, resulting in sub-par economic, nutritional and climatic impacts. This presentation will show how private sector-led, government-enabled solutions can offer long-term commercial viability through sustained farmer demand, built up over time. This gradual, sustainable transformation attracts youth and sets the stage for a climate-resilient, nutritious future, while harnessing market systems that are farmer- and consumer-allied.

**Note:** latest NPA and DNA data to be included in poster (we have numerous quantitative metrics); the above is high level overview (average farmer age, access to grazing land, changes in milk yield, reductions in emissions intensities, climate-resilient inputs and approaches).

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**Strengthening the cooperation and partnership between yak husbandry countries.**

*Batbaatar Bayarmagnai, Dairy Asia*

To introduce the project proposal on “Strengthen the partnership and cooperation between yak husbandry countries” and promote the knowledge and information sharing on the sector.

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**Addressing the supply and demand of environmental impact data to empower livestock development**

*Frances Ryan, SEBI-Livestock @ University of Edinburgh*

The positive and negative impacts of livestock production systems on the environment are well recognised, as are the impacts of changing environments on livestock systems. Stakeholders in livestock development are increasingly challenged to achieve multiple objectives: improve productivity, increase women’s empowerment, reduce poverty and improve nutrition, all whilst recognising environmental impacts. In order to move forward these stakeholders need to have evidence available to them to understand the environmental context of their actions and outputs. This poster will provide insight of the key actors that demand and supply livestock and environment data, information and evidence. These insights have been derived using a network analysis conducted on a series of discussion undertaken at Livestock Data for Decisions (LD4D) September 2022. LD4D is a network of livestock development stakeholders as well as environmental modelers and commentators. Through this poster at GASL, the SEBI-Livestock team, on behalf of LD4D, will draw on ideas from session participants. Outputs from this activity will help to support better decisions and actions by stakeholders as well as supporting global commitments such as the Global Methane Pledge.
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<td>19</td>
<td>Livestock Sustainable Land Use Systems for the Amazons: Lessons learnt from implementation actions in Colombia</td>
<td>Julián Chará, CIPAV, Centre for Research on Sustainable Agriculture</td>
<td>Sustainable Livestock land-use systems (SLUS) include a set of arrangements, good practices and resource management strategies that contribute to improving the environmental, economic and social sustainability of the dairy and/or beef value chains. This poster describes the process of selection, development, testing and promotion of Livestock SLUS in the Amazon Region of Colombia in order to contribute to improve productive and environmental sustainability of cattle ranching in a context of high deforestation risk. The SLUS selected that included, among others, pasture management strategies and silvopastoral systems, contributed to improve plant and bird diversity, reduce GHG emissions, increase carbon storage and improve land productivity and livelihoods. An analysis of the lessons learnt in the implementation and upscaling of the SLUS selected is also presented. It provides key points to take into account to improve sustainability of livestock production in other contexts where food production creates challenges for natural resource conservation and livelihoods.</td>
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<td>20</td>
<td>Mapping of policies, programs, projects and actions aimed at promoting sustainable livestock practices in Latin America and the Caribbean</td>
<td>Rogerio MAURICIO, UFSJ CEG GASL</td>
<td>The objective of this study was to collect actions towards more sustainable, inclusive and resilient production systems in Latin America and Caribe (LAC), as part of the transformation of the world food system. It also aims to contribute significantly to the Sustainable Development Goals (SDG) of the UN 2030. It was identified around 25 projects that aimed at promoting sustainable livestock practices in LAC. This survey demonstrates that in LAC there are clear evidence on sustainable livestock practices that can contribute for the for main domains related to livestock. However, there are still needing to find support for Implementation of national &amp; local policies to improve sustainable livestock production, long term policies, and strategies to scaling up technologies (e.g., Silvopastoral systems).</td>
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<td>21</td>
<td>Natural Livestock Farming. Strategic international collaboration for reducing antibiotic use in dairy farming</td>
<td>K.E. van’t Hooft, Natural Livestock Foundation, The Netherlands</td>
<td>Antibiotic use for common cattle diseases such as mastitis and diarrhoea in calves is widespread both in smallholder and largescale dairy farming. This poses a high global risk of resistance against antibiotics. From 2014 to date exchange the strategic collaboration organized by Natural Livestock Farming Foundation (NLF) has strengthened practices that include the use of herbs amongst farmers and veterinarians in India, the Netherlands, Ethiopia and Uganda. This has resulted in a new paradigm in dairy farming, based on the holistic NLF 5-layer approach to effectively reduce the use of antibiotics and other chemical drugs. The collaboration between experts in the field of herbal medicine between India, Ethiopia and the Netherlands has given positive results in reducing the use of antibiotics in these countries. In India, the interest of Dutch dairy experts in Indian herbal medicine has helped to boost acceptance amongst smallholder farmers, milk unions and National Dairy Development Board (NDDB). To the extent that in 2022 it is adopted withing the formal dairy strategy of the Indian Government. In Ethiopia and the Netherlands, the encounter with Indian herbal expertise has opened the eyes of the farmers and veterinarians in the sector to this relatively unexplored opportunity to improve cattle health and reduce the use of antibiotics in both smallholder and largescale dairy farming.</td>
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## Annex 3: Parallel Session Abstracts

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<th>Nr.</th>
<th>Title, presenter and authors</th>
<th>Abstract</th>
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| 1   | **Presentation & Panel Discussion of IFC Practices Sustainable Investment in Private Sector Livestock Operations**  
Organiser: International Finance Corporation (IFC), part of the World Bank Group  
Collaborators:  
iivanov@ifc.org, Ivan Ivanov; Olivia Elliot, Lara Cornaro, IFC team | Rising incomes, changing diets, and an increasing global population have made the livestock sector one of the fastest-growing agricultural subsectors in middle- and low-income countries. The increase in meat and dairy consumption is leading to significant sustainability challenges—including a rise in greenhouse gas emissions, an increase in land conversion, more risks of deforestation and loss of biodiversity. There are also concerns related to the production of meat and dairy, such as biosecurity, animal welfare, and antimicrobial use.
In response to the growing demand and these sustainability challenges, it is imperative that both the public sector and industry follow a sustainable growth path. There is a critical role for financial institutions in this transition. Through integrating sustainability criteria and screening capacity in their operations, financial institutions can speed up the transition to sustainable livestock production systems.
The International Financial Corporation, part of the World Bank Group, is the largest global development institution focused exclusively on the private sector in developing countries, with over $USD5bn of its investment portfolio committed to agribusiness and forestry. To help livestock companies and investors understand what underpins sustainable investing in livestock operations, IFC is publicly presenting its Practices for Sustainable Investment in Private Sector Livestock Operations. These seven Practices are used by IFC to guide our investments in livestock.
IFC is the first major financial institution globally to come to the market with a clear position on what constitutes a sustainable investment in animal protein production—a sector where financial intermediaries are facilitating an estimated $USD100bn of investment each year. Through its investments, it has proven that sustainability can be a driver for better financial performance and is keen to share its set of practices in investing in livestock operations both with policy makers and with peer financial institutions. |
| 2   | **The GLEAM dashboard for livestock GHG emission data**  
Presenter: Dominik Wisser  
[dominik.wisser@fao.org](mailto:dominik.wisser@fao.org)  
Co-authors: Timothy Robinson, Giuseppina Cinardi | FAO’s Global Environmental Assessment Model (GLEAM) provides a wealth of high-resolution greenhouse gas emission data relating to livestock systems, globally. To communicate these results to various stakeholders and make these data accessible and useful for policy interventions in climate change mitigation (e.g.: NDCs), we have developed the GLEAM dashboard, a highly interactive web platform for data analysis, visualisation, and dissemination. The dashboard provides tools to help multiple stakeholders (e.g.: private sector, livestock keepers, and local and national governments) understand the nature of GHG emissions from livestock systems and uses innovative, web-based technologies that can help design policies to mitigate GHG. |
### Deconstruction of ligno-cellulose biomass for improving sustainability of dairy animal production

**Presenter:** Padmakumar Varijakshapanicker, v.padmakumar@cgiar.org, International Livestock Research Institute (ILRI)

**Authors:** Padmakumar Varijakshapanicker, Chris J., Blummel, M., Samireddypalle, A., Seshukumar, A., Kajjam, R. and Anand, P.

**Objective:** To provide a very nutritious feed source for animals, while creating a value-added product out of crop residues and mitigating the need for burning to be met together.

**Results:** Comparison of two second generation biofuel technologies (Steam Treatment, 2-CCT Treatment) on straw digestibility and sheep performance showed that the 2CCT treatment had the greatest effect on livestock productivity promoting an accumulated live weight gain (LWG) of 7.85 kg which is 3.7 times that of the TMR containing untreated rice straw. While steam treatment was less effective in increasing in vitro digestibility than 2CCT, its positive effect on voluntary feed intake was found to be it dramatic, resulting in an intake of 5.3% of live weight in male sheep! This very high intake promoted accumulating LWG of 6.28 kg.

**Significance:** The findings show that crop residues can be turned into concentrates by 2CCT treatment, which is expected to motivate rice growers to sell straw at a higher price to the feed industry than to burn it in the field. With more intensive use being made of crop residues, less water and arable land would be needed for feed production, and there would also be reduced pollution from straw burning, resulting in a lower environmental footprint for livestock production overall.

### Foods of pastoral communities

**Presenter:** Nitya Ghotge, nitya.ghotge@gmail.com, ANTHRA / LIFE Network

**Author:** Nitya Ghotge, nitya.ghotge@gmail.com, ANTHRA / LIFE Network

Pastoralists especially migratory pastoralists have food cultures which represent their lives and the livestock they rear. They represent the biodiversity, ecological niches, cultural significance, and importance of pastoral systems of different regions. This session will attempt to bring together recipes of livestock products which pastoralists around the world make for self-consumption or as special food items which they sell. The session is to celebrate, recognise and value livestock products which are produced under different pastoral systems. There will also be sharing of some special recipes.

### Boosting Carbon initiatives in livestock farms

**Presenter:** Emmanuel Coste, e.coste@interbev.fr, CNE INTERBEV

**Author:** Emmanuel Coste, e.coste@interbev.fr, CNE INTERBEV

Mitigation practices, the whole farm approach with CAP’2ER, Carbon Agri methodology, examples, number of farmers, projects
| 6 | Pastoralism as a sustainable food system: Examples from Europe | The session will highlight the importance of pastoralism as a sustainable food system in Europe drawing from examples from Ireland, Spain, Italy, Albania and elsewhere. The objective of the session is to raise awareness on pastoralism in Europe, the challenges it faces and innovative solutions to overcome these challenges. It will highlight what government support is needed, and what role platforms such as GASL can play. The session will also present the idea of a building a global coalition on pastoralism as a sustainable food system and the role such a coalition could play. |
| Presenter: Fiona Flintan, f.flintan@cgiar.org ILRI, | Authors: Fiona Flintan, ILRI, Pedro M. Herrera of Entretantos Spain, Brendan Dunford of Burrenlife Ireland and contributions from members of the European International Support Group for the International Year of Rangelands and Pastoralists |
| 7 | Assess and recognize multifunctionality of Grazing Systems for practice change and public action towards contribution of livestock sector to sustainable food systems | Summary of AN2 results on how the assessment of multifunctionality of grazing systems allowed to improve and facilitate dialogue between actors at landscape level for sustainable and integrated livestock development and contribution to sustainable food systems. Presentation of future activities of AN2 Network on how to facilitate (processes, tools) interactions between actors at different scales for identification and operating actions to progress towards contribution of livestock grazing systems to sustainable food systems. All results and perspectives will synthetise outputs from AN2 case studies (Africa, Asia, Europe, Latin America, Oceania, etc.) and try to get interest from potential new AN2 contributors. |
| Presenter: Alexandre Ickowicz, alexandre.ickowicz@cirad.fr, CIRAD | Authors: Alexandre Ickowicz, Liz Wedderburn and all GASL-AN2 members |
| 8 | Understanding the prevalence and impacts of zoonotic disease among small scale dairy holdings; the journey towards a reliable dairy supply chain while mitigating risks to public health, in Malawi. | Abortions or stillbirth in dairy cattle, cannot just be viewed in the context of production parameters losses but rather as a crucial moment in disease transmission at the animal-human-environmental interface. In the Southern Region of Malawi, where the synergy of climatic conditions and inefficient disease control measures facilitates the odds and endemcity of most infectious diseases, assessing small holders’ knowledge, attitudes and practices (KAP’s) when dealing with abortions in their dairy herds is key to understanding the transmission pathways of zoonotic reproductive diseases. Despite underreporting and the scarcity of epidemiologically valid data, the evidence obtained throughout the years shows that brucellosis, a bacterial disease affecting domestic livestock, wildlife, and humans, is a widespread problem in Africa. Across Africa, the agrarian nature of livestock keeping, where livestock live in close proximity to humans, is conducive for the spread of zoonotic disease. VIVA (Volunteers in Irish Veterinary Assistance) is an Irish NGO working with SHMPA (Shire Highlands Milk Producers Association), a dairy co-operative based in Blantyre, in the Southern Region of Malawi. Together, they are working towards understanding the seroprevalence of this zoonotic infection among dairy cows with the aim of assessing the impact not only on milk production, thus impacting on food security and food safety, but also on the health of the farmers, the SHMPA technicians who attend these animals and on public health overall. Reliable diagnostic methods are key to understand disease status among livestock. However, in low and middle income countries like Malawi, the challenge of using livestock diagnostic tests, which yield accurate outcomes, without access to elaborate facilities or laboratories, is problematic. In this project, a cross-sectional study using pen-side lateral flow kits were used together with the traditional Rose Bengal method to detect the presence of Brucella spp. in dairy cows, thus testing the future use of such kits as a reliable diagnostic tool for future surveillance work in resource poor settings. Farmers were interviewed with a KAP questionnaire regarding farming practices, specifically around calving, general husbandry, and biosecurity, as well as knowledge regarding zoonoses and |
| Presenter: Eithne Leahy eithneleahy@hotmail.com | Authors: Eithne Leahy (1), Lisa Banda (2), Mike Burke (1), Brain Lewis (2), Roulex Owino (2)(1) Volunteers in Irish Veterinary Assistance (VIVA), eithneleahy@hotmail.com (2) Shire Highlands Milk Producers Association (SHMPA) |
transmission routes. So far, some 28% of cows sampled have tested positive for Brucella spp. with both the lateral flow kit and Rose Bengal. No farmer has ever heard of the term brucellosis or know about the impact of this disease in either cattle or humans. Knowledge provides the basis for human behaviour and action. This work allows us to not only understand disease prevalence among SHMPA cows, but also allows an insight into the mindset and practices of farmers, therefore highlighting how possible disease transmission pathways could be mitigated. We want to share the findings of the work so far with the wider scientific community, to showcase the results gained to date and to collaborate with those who may be able to help in moving forwards, towards building a sustainable milk supply chain and championing public health.

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<th>9</th>
<th>Farming of the Future - How Swedish beef and dairy farming can meet climate targets and contribute to a sustainable food and energy system towards 2050.</th>
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<tr>
<td>Presenter:</td>
<td>Victoria Thuillier, <a href="mailto:victoria.thuillier@lrf.se">victoria.thuillier@lrf.se</a>, LRF Dairy Sweden</td>
</tr>
<tr>
<td>Authors:</td>
<td>Victoria Thuillier and Representatives of: Arla, Vaxa, LRF Dairy, HKScan Sweden, Lantmännen, Swedish Meat, Yara, DeLaval</td>
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</table>

In early 2020 stakeholders of the Swedish beef and dairy sector began a collaboration to identify and quantify the potentials to reduce climate impact of Swedish beef and dairy production systems by 2050. The collaboration was one of the first of its kind in Sweden and addressed a knowledge gap where an overall approach handling beef and dairy production simultaneously, as part of an overall system, was missing.

The report and its results are a major contribution to describing the role of cattle in a sustainable food and energy production system in Sweden into the future. The projections show that climate impact can be reduced in line with the Paris agreement, without compromising biodiversity, animal health and welfare, while increasing food and bioenergy production. Within the framework of the global methane budget, it is important that a higher proportion of cattle are kept where conditions are most suitable and sustainable, and in all, this can be seen as a growth opportunity for Swedish beef and dairy production in the future.

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<th>10</th>
<th>Global Roundtable for Sustainable Beef Sustainability Goals in Action</th>
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<td>Presenter:</td>
<td>Josefina Eisele, <a href="mailto:josefina.eisele@grsbeef.org">josefina.eisele@grsbeef.org</a>, GRSB</td>
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<tr>
<td>Author:</td>
<td>Josefina Eisele, GRSB</td>
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Objective is to inform about the work that GRSB is doing globally and at regional level in Latin America. I will share results and work done by the GRSB network and activities planned from now till 2030. It will show the joint effort that GRSB community is doing to contribute to more sustainable and resilient livestock systems.
| 11 | **The case for investment in animal health towards One Health**  
**Presenter:** Ellie Parravani, ellie.parravani@thebrooke.org, Action for Animal Health/Brooke Action for Working Horses and Donkeys  
**Authors:** Ellie Parravani (Brooke), Margherita Gomarasca (VSF International), Klara Saville (Brooke), Dorien Braam (University of Cambridge), Alex Tasker (UCL) |
|---|---|
| | We would like to propose a panel discussion with members of the Action for Animal Health coalition (e.g.: VSF International, ILRI, GALVmed, World Veterinary Association and others), to introduce GASL members to the coalition and to communicate the findings of a new report. A4AH is a coalition of 12 organisations who advocate for investment in five areas of animal health systems (community engagement, workforce, surveillance, access to medicines and vaccines, One Health collaboration) to achieve improved animal health and welfare leading to a secure income, food security and improved health and wellbeing of people. To support our advocacy, we commissioned a report on the current state of these five priority areas in LMICs. This included a literature review and 22 key informant interviews with donors, UN representatives, government officials and NGOs. Thematic analysis resulted in four key messages:  
1. Animal health investment drives sustainable development, especially SDG 1 (No Poverty), 2 (Zero Hunger), 3 (Good Health and Wellbeing), 12 (Sustainable Production and Consumption), and 13 (Climate Action)  
2. One Health approaches remain inequitable. There remain policy and implementation gaps attributable to a lack of awareness of the public health and economic benefits of animal and environmental health  
3. Closer attention is required around the regulation and legislation of animal health services to operationalise One Health. Gaps in the workforce, animal health service delivery and accessibility, disease surveillance infrastructure, laboratory capacity and practices, and vaccine availability, safety and accessibility hamper effective animal health systems.  
4. Communication and connection are key - Communication gaps and a lack of data sharing are major challenges for disease surveillance, prevention, and control |
| 12 | **The role of science-based advocacy to grow financial and policy support for sustainable livestock systems in LMICs**  
**Presenter:** Michael Victor, m.victor@cgiar.org, ILRI  
**Authors:** Michael Victor, Cynthia Mugo, ILRI |
| | Since 2016, the International Livestock Research Institute (ILRI) Global Sustainable Livestock Advocacy for Development (GLAD) project has argued that increased funding to the livestock sector in low- and middle-income countries (LMICs) can deliver a wide range of development outcomes such as better nutrition for women and children, better incomes for smallholders, more job opportunities for youth, greater empowerment for women, and enhanced resilience and adaptation to climate change. Despite considerable evidence, today, the sector faces intense global pressure as opposition to livestock is becoming part of climate activism or the mainstream western narrative of an unhealthy diet. This is happening as the demand for meat, milk and eggs is projected to almost double by 2050, driven by population growth, urbanisation, and rising economies in developing countries. With these growing adverse perceptions about animal farming, the challenge for advocates for sustainable livestock is how do we position ourselves to drive a stronger narrative that shows the nuance required for context-specific livestock systems that can deliver multiple benefits for people and the planet. The challenge is how can evidence-based advocacy be a useful tool to anchor insights from the science on nutritional health, climate change and land restoration.  
This session will draw on GASL partners’ sustainable livestock advocacy experience at global platforms like the UN Food System Summit and the three RIO conventions Conference of Parties (COPs) to draw inspiration around lessons of what has worked and explore strategic next steps for coordinated global, regional, and national advocacy as part of the urgent call for global food systems transformation.  
This meeting aims to start a conversation on how we can leverage our collective voices, spaces, and resources. Together, we will look at current challenges and opportunities, draw inspiration from practical experience and identify common ground and priorities for global, regional, and national advocacy for a sustainable livestock development agenda. |
| 13 | **One Health Investments in Livestock** | **Background**: In the COVID era, One Health has been widely endorsed as the best way to sustainably balance and optimize the health of people, animals, and ecosystems. We argue for applying a livestock lens to generating evidence that improves investments in One Health. The technical session brings perspectives from the Principal Investigators of 6 major OH initiatives in Africa which the International Research Institute leads or is engaged in.

**Objectives**: After the session participants will: know the definition of OH; understand that livestock are key to OH; be aware of six major OH initiatives; be able to make an evidence-based argument for a OH livestock investment; have contacts with others interested in OH for follow up. After the session presenters will: have made key stakeholders aware of the OH initiative they lead; networked with other OH initiatives.

**Results**: ILRI has marshalled evidence that livestock-based interventions can reduce risks associated with zoonoses, foodborne disease and antimicrobial resistance specifically through surveillance, vaccines, diagnostics, early signal detection applied in smallholder farms, traditional markets, wildlife interfaces, and policy processes.

**Significance**: this technical session highlights the first report to draw attention to the special role of livestock in One Health.

**Session plan**: One Health will be briefly introduced. Four to six co-Authors will present one slide on a major OH initiative they lead and concrete examples of what it will do different to add value compared to business as usual. Audience members will then be divided into 4 groups, facilitated by a co-author, and each will be allocated an “investment opportunity” from the 18 key livestock OH investments identified by ILRI, along with on-line access to the associated communication assets developed by ILRI. They will have 12 minutes to come up with one to 3 key arguments to invest in their opportunity (because it will......). Each group presents in 90 seconds and the audience votes on the most attractive.

**Media**: We will use a multimedia interactive approach featuring posters, campaign assets developed for ILRI’s report on Livestock Investments to Transform and Scale One Health (cards, video, twitter), and mobile phone voting for audience participation.

<p>| 14 | <strong>Dairy Asia: action network of GASL to the dairy sector in the Asia and the Pacific</strong> | Dairy Asia dialogues, current activities and further actions, enormous biodiversity of livestock sector in Asia, focus on both cow and non-cow milk production, introducing the project proposals on yak and camel husbandry and milk production |</p>
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<th>15</th>
<th>The wider economic, social, and environmental effects of reducing emissions in the dairy sector under different policy scenarios</th>
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<td><strong>Presenter:</strong> Alejandro Acosta, Livestock Economist Policy Officer, FAO</td>
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<td><strong>Email:</strong> <a href="mailto:alejandro.acosta@fao.org">alejandro.acosta@fao.org</a></td>
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<td><strong>Authors:</strong> Alejandro Acosta, Livestock Economist Policy Officer, FAO, Martin Cicowiez, Facultad de Ciencias Economicas, Universidad Nacional de la Plata, Francesco Nicolli, Department of Economics, University of Ferrara, Francisco Rostan, Economist, Uruguay National Dairy Institute (INALE)</td>
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<td>Assuming that productivity changes alone will generate the necessary incentives to induce the transformations required in the dairy sector is a dangerous gamble, since this expectation might deter the design and adoption of further climate policy efforts. Indeed, due to market mechanisms, a productivity improvement can affect producers and consumers behaviour leading to an increase in total emissions. A phenomenon commonly known as emissions rebound effect. Addressing this economic problem requires adopting market-based policy instruments that alter producer’s and consumer’s utility function by generating incentives or constrains. Using the FAO, Livestock Policy Simulation Model (LPSM), we examine the wider economic, social, and environmental effects of reducing emissions in the dairy sector using different market-based policy instruments. The results shows that there are no one-size-fits-all solutions, and a policy mix, which includes a set of policy instruments, can be more effective than a single policy instrument.</td>
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<th>16</th>
<th>Addressing the supply and demand of environmental impact data to empower livestock development</th>
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<td><strong>Presenter:</strong> Frances Ryan, <a href="mailto:frances.ryan@ed.ac.uk">frances.ryan@ed.ac.uk</a>, SEBI-L @ University of Edinburgh</td>
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<td><strong>Authors:</strong> Frances Ryan, Gareth Salmon, Karen Smyth, and Vanessa Meadu, SEBI-L @ University of Edinburgh</td>
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<td>The positive and negative impacts of livestock production systems on the environment are well recognised, as are the impacts of changing environments on livestock systems. Stakeholders in livestock development are increasingly challenged to achieve multiple objectives: improve productivity, increase women’s empowerment, reduce poverty and improve nutrition, all whilst recognising environmental impacts. In order to move forward, these stakeholders need to have evidence available to them to understand the environmental context of their actions and outputs. This session will provide insight of the key actors that demand and supply livestock and environment data, information, and evidence. These insights have been derived using a network analysis approach conducted on a series of discussions undertaken at Livestock Data for Decisions (LD4D) September 2022. LD4D is a network of livestock development stakeholders as well as environmental modellers and commentators. Through this short, facilitated session at GASL, the SEBI-Livestock team, on behalf of LD4D, will draw on participants’ contributions in the session to further enhance this analysis. Outputs from this activity will be shared to help support better decisions and actions by stakeholders as well as supporting global commitments such as the Global Methane Pledge.</td>
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Annex 4: Feedback from Field visits

GASL next Generation Perspective

Teagasc Grange Animal & Grasslands Research Centre:

A windy road to sustainability!
- Signpost farms all across Ireland
- Impressive ability to run large amounts of cattle/hectare
- Large youth involvement was refreshing and exciting to see, particularly in the research sector

Highlights:
- Signpost program was attractive to the farmer
- Trying to increase EBI of farm - selective breeding through ICBF
- N & P conservation practices
  - Application methods
  - Update by plants (red clover)
- Breeds of cows on the farm

Group 1: Dermot Heaney Commercial Dairy Farm

• A true one health approach! (HEARTLAND Project)
• Amazing infrastructure and landscape
• Conservation of biodiversity and ancient buildings

Group 2 & 3: Devenish Lands at Dowth Research Farm

• Innovative research done on alternative sources of omega 3 fatty acids.
• Omega 3 content in Seafish reduced over time due to fish farming when compared to naturally obtained fish
• Omega 3 rich meat and egg products
  - Randomized trial done over a 6 months duration on 141 people with omega 3 enriched chicken and eggs - results showed increased blood omega 3 levels

Highlights:
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- Omega 3 content in Seafish reduced over time due to fish farming when compared to naturally obtained fish
- Omega 3 rich meat and egg products
  - Randomized trial done over a 6 months duration on 141 people with omega 3 enriched chicken and eggs - results showed increased blood omega 3 levels
Report from Nancy Bourgeois Lüthi and Rogeriso Mauricio

- Multispecies Swards to improve feed conversion efficiency
- Interesting fact! “No leguminous bloat so far”

- Multispecies swards for better FCR and better soil health
- Soil microbiome and macrofauna research
- Impressive work done to support goal of achieving Carbon Neutrality by 2024

Teagasc Research farm

Calf-to-beef programme with Holstein & Angus

Clover is the “new grass”…
Heany Dairy Farm, Kilberry, Navan

- Rainfall: 891 mm/year > 280 days of grass
- 113 ha (76 owned, 37 leased)
- 234 Holstein & Jersey cows
- 138 replacement heifers (raised on another farm)
- Male stock sold at 3-4 weeks
- Stocking rate: 2.8 LU/ha

Dermot and Catherine Heany
- 4 children, 1 eighteen year old boy interested in dairy farming
- Dermot: demonstrator farmer for Signpost programme
- Spring calving
- Days at grass: 277
- EBI cows: 196 Euro
- EBI Heifers: 294 Euro
- N fertiliser use: 181 kg/ha
- 483 kg milk solids/cow = 1030 kg milk solids/ha
- All cow data entered in PastureBase Ireland system
- Footprint (LCA method): 0.89 kg CO₂/kg FPCM

Milk sold to Leinster Dairy Co-operative
- Milk recording: 4 times a year, by the farmer
- Samples for fat & protein testing collected by the technician

Use of protected urea, machinery to limit issues to the environment