



## Supporting Global Livestock Advocacy for Development (GLAD) project

Livestock discourse analysis for the UN Food Systems  
Summit process

Marchmont Communications

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## Executive summary

In March 2021, Marchmont Communications carried out a discourse analysis exercise for the International Livestock Research Institute (ILRI), to identify which “discourses” related to the livestock sector are being discussed (or overlooked) in relation to future food systems in the context of the UN Food Systems Summit, and also what sentiment and evidence is associated with these discourses.

The desk-based research included mapping the organisational affiliations of the Special Envoy, Champions, Advisory Committee, and the Scientific Group as well as the main channels of the UNFSS: the website, Action Tracks discussion starters, the social media channels (Twitter, Instagram, Facebook), and the Community.

This document is organised in two parts. Firstly, it offers analysis and insights which emerged in relation to stakeholder groups, themes, spokespeople, assets, regions and sentiments. Secondly, it provides the full initial mapping from which this analysis has been extracted.

### Highlights of insights

#### By stakeholder

The UNFSS direct channels hardly reference livestock at all (either positively or negatively), potentially because the Special Envoy has identified it as a “polarizing issue”.

In contrast, the published work of the five Action Track Discussion Starters refers to livestock issues frequently. The most thorough discussion of livestock themes was in the AT1 discussion starter document. The other four Action Tracks discussed livestock in more siloed ways primarily.

Within the Action Track Synthesis Report documents, the most thorough discussions of livestock themes were in the AT2 and 3 documents. AT1 and AT4 could be considered more siloed and AT5 was consistent with its Discussion Starter document.

#### By theme

The importance of livestock to gender was largely overlooked across the main UNFSS channels. The most prominent themes across all channels were as follows: animal welfare (11) and animal health (10); zoonotic diseases (16); livestock’s negative environmental impact (15), livestock’s GHG emissions (16), and sustainable livestock production (13); livestock’s importance in developing economies (9); livestock and ASF for food security (8) and nutrition (14).

The Action Tracks highlighted most frequently issues related to sustainable livestock production and livestock’s environmental impacts. Underemphasized or absent themes included gender, livestock’s importance to developing economies, and food security.

Importantly, the AT2 synthesis report calls for a “just transition” away from livestock toward more plant-based diets, highlighting only the developed world overconsumption of animal-source foods rather than discussing underconsumption in the developing world.

The FAO and ILRI were frequently mentioned in relation to livestock discourses. The EAT-Lancet Commission report, the IPCC Special report on Land and Climate Change, and the FAO report, “The State of the World’s Biodiversity for Food and Agriculture,” were referenced most frequently. The official UNFSS social media channels more frequently employ positive themes. The platforms allow for the posts to be less formal and more playful by using emojis and images, and there are greater opportunities for audiences to engage. Yet, as social media posts are less likely to be referenced (for example) this could mean the social posts have the freedom to be more positive in sentiment.

UNFSS channels focused on livestock in developing countries, giving prominence to aspects of livestock farming that are more absent in other channels such as the effects of climate change on livestock production and ASF growing demand in developing countries.

### **By region**

In the regional representation of the Summit, developed countries (especially in Europe) are overrepresented.

In a developing country context, Africa is overrepresented when compared to Asia and South America.

### **By sentiment**

The only positive sentiment across the board was in relation to livestock and gender (yet not mentioned frequently).

Within the Action Track Discussion Starter documents, the general sentiment towards livestock was neutral as they employed a more “scientific” approach. AT1 discussed livestock themes most thoroughly, while the other Action Tracks mentioned livestock as it pertains to their central focus. The Action Track synthesis report documents were less “scientific” in sentiment. AT2 was outright negative towards livestock and AT3 was largely positive in its references.

Positive topics were repeated more across Action Track synthesis report documents than the discussion starters. These included women in livestock farming, ASF for nutrition, sustainable livestock production, and biodiversity.

ASF for child nutrition was the only topic addressed in multiple Action Tracks that was positive. Zoonotic diseases and antimicrobial resistance were referenced multiple times across the documents.

Perhaps as predicted, the most negative sentiment was around livestock’s impacts of climate, environment (land and water use) and zoonotic diseases.

## Recommendations

Based on the analysis, the following recommendations can be considered by the GLAD team:

The main UNFSS channels appear to be primarily “political” in nature (and thus reluctant in taking a prominent stand pro- or anti- livestock as a result) whereas the Action Tracks cover issues in more of a “scientific” way. When engaging at the main UNFSS level, perhaps focus on the “easy wins” related to livestock that are least contentious (e.g. child nutrition, gender) whereas focus on the Action Tracks for more substantive, complex advocacy and engagement (e.g. trade-offs, risk mitigation etc).

1. Urgently develop a gender-focused #WhyLivestockMatter campaign as this theme is largely overlooked at the moment yet registered positive sentiment.
2. Leverage potential external channels to promote #WhyLivestockMatter messaging, for instance via the official UNFSS blog, their social media channels or the SDG2 Advocacy Hub.
3. Prioritise UNFSS-related institutions based in Africa, Asia or South America as spokespeople or as advocacy targets of the importance of livestock to food systems.
4. Build on other positive themes associated with livestock and food systems and create broader awareness among stakeholders, including around sustainable production, nutrition (especially for children) and economic contributions to developing countries.
5. Create effective counter-arguments or mitigation pathways on the negative themes frequently mentioned. For instance, there is also room to nuance discussions around meat consumption towards dairy and eggs. There is also room to discuss the importance of livestock to rangelands as an environmental benefit. And there is room to pivot from zoonotic diseases and AMR towards One Health and animal health best practices being implemented.
6. Rapidly mobilise the GLAD network and entire CGIAR network (which was commonly cited) to share the #WhyLivestockMatter website and assets through their networks.

# Analysis and insights

## Methodology

The methodology used was desk-based research. In identifying sources for this analysis, multiple samples were used. The samples were drawn from the Leadership of the UN Food Systems Summit: the Special Envoy, Action Track Champions, Advisory Committee, and the Scientific Group. The formal Action Track discourses were also reviewed, as were the main channels of the UNFSS: the website, the social media channels (Twitter, Instagram, Facebook), and the Community. Associated channels were also considered as part of the review.

Out of this discovery, 56 channels were identified. Of which, six were formal channels and five were formal Action Track documents. Once the dataset had been chosen, a thorough search of discourses related to livestock was carried out. The results are organised in a table based on the direct/indirect mentions, the sentiment, key resources mentioned and opportunities for engagement.

## Stakeholder groups

### UNFSS Secretariat

- There were very few mentions of livestock either pro or con on the main website.
- References to livestock tended to be **ad hoc** and referenced as specific case studies rather than a broadly endorsed general approach for future food systems.
- The UNFSS Special Envoy explicitly noted how “**polarized**” the livestock debate is.
- The majority of references to livestock occur on the UNFSS official **Twitter and Instagram** accounts and more frequently employ positive themes. The presence of livestock themes on social media potentially allows them to support aspects of livestock production without drawing attention as easily as if they were included on the website, where it could be referenced more easily.
- The most common theme is **livestock’s importance in developing economies**. References centre around environment and food most frequently and were mostly positive.
- UNFSS channels focus more on livestock in developing countries, highlighting aspects of livestock farming that are more absent in the indirect channels such as the **effects of climate change on livestock production** and **ASF growing demand in developing countries**.

### Environment:

Pro: livestock’s role in climate change mitigation (1), effects of climate change on livestock production (2), sustainable livestock production (2), grazing (1)

Con: livestock overproduction (1), biodiversity (1)

### Gender:

Pro: livestock for women’s empowerment (2)

Con: (0)

### Prosperity:

Pro: livestock’s importance in developing economies (3)

Con: ASF cost (1)

### Health:

Pro: animal health (2), animal welfare (1)

Con: (0)

### Nutrition:

Pro: livestock as important to food systems (1), animal protein (2), livestock for food security (1), ASF for nutrition (2), ASF growing demand in developing countries (1)

Con: overconsumption of ASF in high-income countries (2)

### **Advisory Committee**

- The Advisory Committee's references to livestock have been collected through indirect channels (i.e. the home organisations of committee members).
- The most frequent themes referenced were **animal health, zoonotic diseases, and alternative protein**. The themes were mixed in their orientation, highlighting both positive and negative topics.
- **Plant and alternative proteins** were referenced through indirect channels (Advisory Committee, Scientific Group, and Champions), while the official documents make no mention of them.
- Sentiment was mixed overall. Negative themes were most present in environmental topics and positive themes were more emphasized in regard to prosperity.

#### **Environment:**

Pro: sustainable livestock production (1)

Con: livestock's GHG emissions (2), livestock's land use (2), livestock's general negative environmental impact (2), livestock's water use (1)

#### **Gender:**

Pro: livestock for women's empowerment (2), support for women in livestock farming (1)

Con: (0)

#### **Prosperity:**

Pro: livestock's importance in developing economies (3), livestock as income for smallholder farms (1), technology (1)

Con: livestock productivity (1)

#### **Health:**

Pro: animal health (4)

Con: zoonotic diseases (3), antimicrobial resistance (1)

#### **Nutrition:**

Pro: livestock as important to food systems (1), ASF for nutrition (2), livestock for food security (2), animal protein (2)

Con: alternative protein (3), plant protein (2)



### **Scientific Group**

- The Scientific Group's references to livestock have been collected through indirect channels (i.e. the home organisations of committee members).
- Themes highlighted most frequently were **sustainable livestock production**, general references to the **livestock industry's negative environmental impact**, and **livestock's GHG emissions**.
- Sentiment was mixed in all categories except gender, which was entirely positive.

#### **Environment:**

Pro: sustainable livestock production (3), effects of climate change on livestock production (1)

Con: livestock's general negative environmental impact (3), livestock's GHG emissions (3), livestock's land use (2), livestock's water use (1)

#### **Gender:**

Pro: women in livestock farming (1), women's struggles in livestock farming (1)

Con: (0)

#### **Prosperity:**

Pro: livestock's importance for developing economies (3)

Con: livestock and globalisation (1)

#### **Health:**

Pro: animal welfare (2), animal health (2)

Con: antimicrobial resistance (2), zoonotic diseases (2), grain feeding (1)

#### **Nutrition:**

Pro: ASF growing demand in developing countries (2), ASF for nutrition (1)

Con: reducing ASF consumption (1), plant protein (1)

## Action Tracks

The official documents of the Action Tracks available on the UNFSS website, as such considered formal discourses.

- Themes highlighted most frequently were **sustainable livestock production**, general references to the **livestock industry's negative environmental impact**, and **livestock's GHG emissions**.
- References to livestock were diplomatic; both negative and positive aspects were mentioned. For instance, more attention was given to negative environmental and health themes and positive prosperity themes. Gender was markedly underemphasized.
- ASF for child nutrition was a topic only addressed within the Action Tracks and was positive in both instances.

| <b>Action Track 1:</b><br><i>Ensure access to safe and nutritious food for all</i>  | <b>Action Track 2:</b> <i>Shift to sustainable consumption patterns</i>   | <b>Action Track 3:</b> <i>Boost nature-positive production</i>  | <b>Action Track 4:</b><br><i>Advance equitable livelihoods</i>  | <b>Action Track 5:</b> <i>Build resilience to vulnerabilities, shocks and stress</i>  |
|---|---|---|---|---|
| <p><b>Environment:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> livestock's general negative environmental impact (4), livestock's GHG emissions (2), livestock's land use (1), livestock's water use (1)</p> <p><b>Gender:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Prosperity:</b><br/> <u>Pro:</u> livestock productivity (1), technology (1), rights of livestock workers (1)<br/> <u>Con:</u> trade-off between higher tolerance and lower yields (1)</p> <p><b>Health:</b><br/> <u>Pro:</u> animal welfare (3)<br/> <u>Con:</u> zoonotic diseases (1), antimicrobial resistance (1), food safety (1)</p> <p><b>Nutrition:</b><br/> <u>Pro:</u> ASF's importance in child nutrition (1)<br/> <u>Con:</u> fish substituting livestock (1)</p> | <p><b>Environment:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> livestock's GHG emissions in high-income countries (1)</p> <p><b>Gender:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Prosperity:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Health:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> food-borne diseases (1), zoonotic diseases (1), antimicrobial resistance (1)</p> <p><b>Nutrition:</b><br/> <u>Pro:</u> ASF's importance in child nutrition (1)<br/> <u>Con:</u> overconsumption of ASF in high-income countries (2)</p> | <p><b>Environment:</b><br/> <u>Pro:</u> animal biodiversity (1)<br/> <u>Con:</u> n/a</p> <p><b>Gender:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Prosperity:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Health:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Nutrition:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> | <p><b>Environment:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Gender:</b><br/> <u>Pro:</u> women's struggles in livestock farming (1)<br/> <u>Con:</u></p> <p><b>Prosperity:</b><br/> <u>Pro:</u> marginalization of poor livestock workers (2), farmer and livestock consumer cooperatives (1), equitable access in agriculture (1)<br/> <u>Con:</u></p> <p><b>Health:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Nutrition:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> | <p><b>Environment:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Gender:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Prosperity:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Health:</b><br/> <u>Pro:</u> animal health (1)<br/> <u>Con:</u> zoonotic diseases (1)</p> <p><b>Nutrition:</b><br/> <u>Pro:</u> livestock and food security (1)<br/> <u>Con:</u> n/a</p> |

## Action Track Synthesis Reports

The official documents of the Action Track Synthesis Reports are available on the UNFSS website, as such considered formal discourses.

- Themes highlighted most frequently were **livestock's general positive environmental impact**, **livestock's general negative environmental impact**, and **zoonotic diseases**.
- References to livestock were mixed, addressing both positive and negative aspects of livestock production across the Action Tracks.
- When compared to the discussion starter documents, references use more opinionated language. This is especially evident in Action Track 2 and 3. While in the discussion starter documents most of the Action Tracks remained siloed (apart from AT1), the synthesis reports are different. AT1 is more limited in scope while AT 2, 3, and 5 broadened their scope when referencing livestock. AT4 is consistent with the discussion starter document.
- The synthesis reports address more topics relating to livestock, and more frequently than the other UNFSS official channels.
- The synthesis reports also introduce general positive impacts of livestock and ASF for anaemia as themes.

| <b>Action Track 1:</b><br><i>Ensure access to safe and nutritious food for all</i>  | <b>Action Track 2:</b> <i>Shift to sustainable consumption patterns</i>   | <b>Action Track 3:</b> <i>Boost nature-positive production</i>  | <b>Action Track 4:</b><br><i>Advance equitable livelihoods</i>   | <b>Action Track 5:</b> <i>Build resilience to vulnerabilities, shocks and stress</i>   |
|---|---|---|--|--|
| <p><b>Environment:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Gender:</b><br/> <u>Pro:</u> women in livestock farming (1)<br/> <u>Con:</u> n/a</p> <p><b>Prosperity:</b><br/> <u>Pro:</u> SME access to markets (2), improving livestock farming productivity (1)<br/> <u>Con:</u> n/a</p> <p><b>Health:</b><br/> <u>Pro:</u> animal health (1), animal vaccines (1)<br/> <u>Con:</u> zoonotic diseases (1), food safety (2), dairy and food safety (1)</p> <p><b>Nutrition:</b><br/> <u>Pro:</u> ASF for anaemia (1), ASF for nutrition (2)<br/> <u>Con:</u> food insecurity (1), food loss (1)</p> | <p><b>Environment:</b><br/> <u>Pro:</u> sustainable livestock production (esp. dairy and eggs) (1), food waste as animal feed (1)<br/> <u>Con:</u> livestock's general negative environmental impact (4), livestock's GHG emissions (3), livestock's land use (1), livestock's water contamination (1), livestock causing soil degradation (1), biodiversity loss (1), climate change (1), industrial livestock production</p> <p><b>Gender:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Prosperity:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> positive economic impacts of from transition away from animal agriculture (3)</p> <p><b>Health:</b><br/> <u>Pro:</u> animal welfare (1)<br/> <u>Con:</u> antimicrobial resistance (1),</p> | <p><b>Environment:</b><br/> <u>Pro:</u> sustainable livestock production (3), biodiversity (1), livestock for soil health (2), livestock's general positive environmental impact (4), livestock for restoring grasslands (3), environmental standards for production (1), grazing (1)<br/> <u>Con:</u> livestock's general negative environmental impact (2), livestock's GHG emissions (2), industrial livestock production (1), food loss in livestock production (1)</p> <p><b>Gender:</b><br/> <u>Pro:</u> women and marginalized people in livestock farming (1), indigenous groups (1)<br/> <u>Con:</u> n/a</p> <p><b>Prosperity:</b><br/> <u>Pro:</u> sustainably produced livestock's benefit to farmers (1), technology (1),</p> | <p><b>Environment:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Gender:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Prosperity:</b><br/> <u>Pro:</u> social protections for livestock agriculture workers (1)<br/> <u>Con:</u> bad working conditions for livestock, poultry and dairy workers (1)</p> <p><b>Health:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> <p><b>Nutrition:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> n/a</p> | <p><b>Environment:</b><br/> <u>Pro:</u> sustainable livestock production (1), livestock's general positive environmental impact (2), nomadic livestock farming (1), environmental reform in livestock (1), biodiversity (2)<br/> <u>Con:</u> livestock's GHG emissions (1)</p> <p><b>Gender:</b><br/> <u>Pro:</u> women in livestock farming (1)<br/> <u>Con:</u> n/a</p> <p><b>Prosperity:</b><br/> <u>Pro:</u> SME access to markets (1), livestock's important role in the economy (1), technology (1)<br/> <u>Con:</u> n/a</p> <p><b>Health:</b><br/> <u>Pro:</u> animal vaccines (1)<br/> <u>Con:</u></p> <p><b>Nutrition:</b><br/> <u>Pro:</u> livestock and food security (2), ASF for nutrition (2)<br/> <u>Con:</u> n/a</p> |

|  |  |  |  |  |
|--|--|--|--|--|
|  | <p>zoonotic diseases (3)</p> <p><b>Nutrition:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u><br/> overconsumption of ASF in high-income countries (2), predicted overconsumption of ASF in low and middle income states, animal protein overconsumption (3), negative health impacts of red/processed meat (2), plant-based diets (2), alternative proteins (1)</p> | <p>livestock's important role in the economy (2)</p> <p><u>Con:</u> n/a</p> <p><b>Health:</b><br/> <u>Pro:</u> n/a<br/> <u>Con:</u> antimicrobial resistance (1), zoonotic diseases (2)</p> <p><b>Nutrition:</b><br/> <u>Pro:</u> ASF for nutrition (2), ASF for developing countries (1)<br/> <u>Con:</u> n/a</p> |  |  |
|--|--|--|--|--|

## Champions

- The Champions are the individuals associated with each of the five Action Tracks. They are indirect sources.
- The official channels, including the Action Track documents, focus on livestock more in a developing world context, and so therefore tend to have a positive sentiment on livestock and food systems.
- Whereas the Champions have a more global outlook and so also consider the negative impacts associated with overconsumption and the environment.
- The official document and champion for AT2 (sustainable consumption patterns) are inherently negative given the discussion around the issues of consumption patterns, this is an example of where the document and champion align.
- Opportunities for champions to promote livestock, e.g. Michelle Nunn (AT4) on widows: “she may lose the right to her home and any land she had under cultivation, or even the livestock for which she was caring” (i.e. livestock as source of nutrition/income) OR Gunhild Stordalen (AT3) in an interview says, “the world will have to eat less meat and more plants”, yet this is at odds with majority of sources that differentiate between eating meat between developed and less developed countries.

### Environment:

Pro: sustainable livestock production (2), herding (1)

Con: livestock and deforestation, livestock’s GHG emissions (2)

### Gender:

Pro: women in livestock farming (1), support for women in livestock (2)

Con: n/a

### Prosperity:

Pro: livestock for smallholder farms (4), dairy industry resilience in Covid-affected economy (1), livestock’s important role in the economy (2), technology (1)

Con: livestock productivity (1)

### Health:

Pro: animal welfare (4)

Con: industrial livestock production (4), zoonotic diseases (2)

### Nutrition:

Pro: protein (1), animal protein (2), livestock and food security (3) , ASF for nutrition (1)

Con: plant protein (1)

## Themes

- Official channels were careful in their usage of livestock-related themes. They also focused more on the positive aspects of livestock in developing countries as opposed to more negative themes especially present in more developed countries.
- Gender themes were wholly positive across all channels, focusing on women’s struggles and work in livestock farming.
- Negative health topics (i.e. zoonotic diseases (16), antimicrobial resistance (7)) were consistently mentioned in both official and indirect channels, except for the UNFSS official channels.
- Environment-related themes were consistent throughout all channels. Themes skewed negative in sentiment, but not entirely. Livestock’s negative environmental impact (15) and GHG emissions (16) were some of the most used topics, but sustainable livestock production (13) was also frequently mentioned.
- Livestock’s importance for developing economies was the most prominent prosperity-related theme. It was addressed across all channels, except the Action Track discussion starter documents, which mention few prosperity-related themes.

Prominent themes included:

- Animal welfare (11) and animal health (10)
- Zoonotic diseases (16)
- Livestock's negative environmental impact (15), livestock's GHG emissions (16), and sustainable livestock production (13)
- Livestock's importance in developing economies (9)
- Livestock and ASF for food security (8) and nutrition (14)

Underrepresented themes included:

- Women's lack of access to resources/markets, despite women comprising large numbers of low-income livestock keepers
- Child labour is common in the livestock sector
- Meat is by far the main consideration, compared to dairy products, eggs, feathers, hides

### Spokespeople/assets

No single champion emerged from the analysis. However, there were several organisations and publications that garnered attention: Organisations with the most mentions:

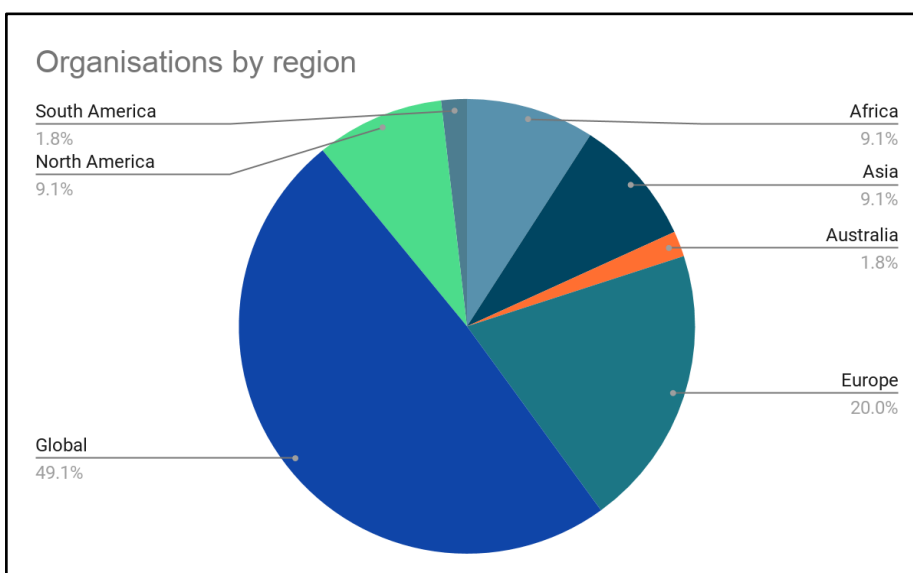
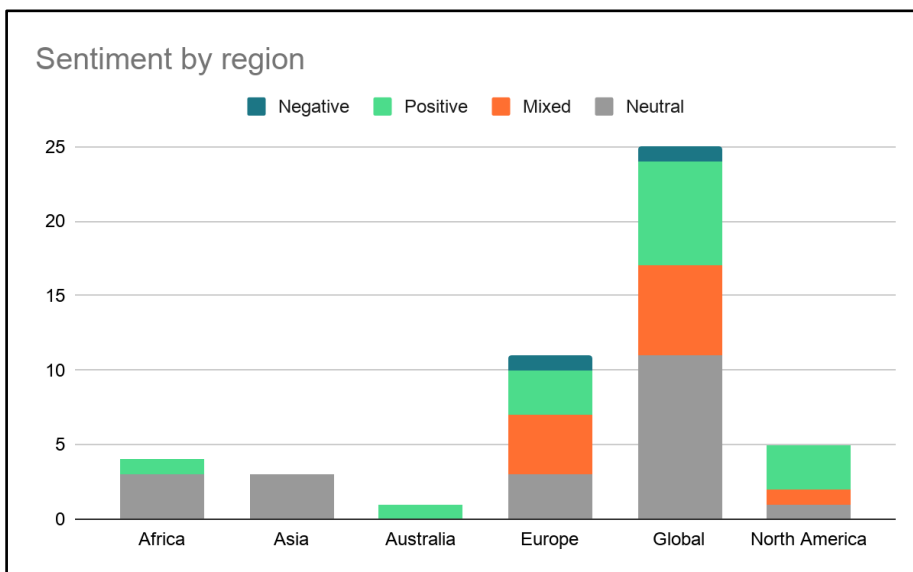
- FAO (18)
- ILRI (15)
- CGIAR (8)
- AGRA (5)
- World Bank (4)
- IFPRI (3)

Publications with the most mentions:

- EAT-Lancet Commission report, Food, Planet, Health ([link](#)) (3)
- IPCC Special report, Land and Climate Change ([link](#)) (3)
- FAO report, The State of the World's Biodiversity for Food and Agriculture ([link](#)) (3)
- Malabo Montpellier Panel report, Meat, Milk & More ([link](#)) (2)

### Regions

- The discourses considered here are disproportionately from Global/European sources.
- The Global, Europe, and North America sources are considerably more nuanced by sentiment; however, a larger data set is needed to make a fairer comparison.
- The discourses reviewed from African and Asian sources had no negative or mixed sentiments, this is mostly due to the themes (livelihoods).



### Sentiment

Sentiment around livestock was mostly positive, especially with reference to developing countries. Here, the main themes were livelihoods and nutrition. Negative connotations centre around excessive consumption of meat in more developed countries, and the associated health and environmental impacts. Neutral references tend to balance the needs across different development contexts, with the need to adopt best practices to reduce its environmental impacts.

| Positive   | Negative   |
|--|--|
| <ul style="list-style-type: none"> <li>● Livestock for livelihoods; income generation; poverty alleviation</li> <li>● Food security; source of protein</li> <li>● Drivers for sustainable development in agriculture</li> <li>● Contribute to economic growth</li> </ul> | <ul style="list-style-type: none"> <li>● Many references are critical of livestock as a significant contributor to global GHG emissions.</li> <li>● Most references offset this by saying that the sector can reduce its environmental impacts and become more efficient in the use of resources.</li> <li>● Websites and publications geared towards Western audiences tend to promote plant-based diets as better for health and the environment.</li> </ul> |

## Initial mapping

| Comms channel, activity, asset (Official UNFSS or indirect “home” organisation) | Livestock4Dev discourse   | Sentiment (positive, neutral, mixed, negative)  | Key livestock-related organisations or resources mentioned |
|---|---|---|--|
| UNFSS website ( <a href="#">link</a> )  | <p>External blog post (Marie Haga, IFAD): Gives an example from Northern Pakistan about how access to more veterinary services for livestock (among other actions) “resulted in communities rejecting extremist influences.” (<a href="#">link</a>)</p> <p>Principles of engagement: Fourth principle recognises that food systems “are complex, and are closely connected to, and significantly impact, human and animal health, land, water, climate, biodiversity, the economy and other systems, and their transformation requires a systemic approach”. (<a href="#">link</a>)</p> | <b>Mixed</b> , often neutral (science-based) but at times positive in specific scenarios. Surprising omission of livestock in food system definition. |  |
| UNFSS Community ( <a href="#">link</a> )  | <p>Forum discussion under AT3: Integrating Livestock on Small Holder Production Systems (<a href="#">link</a>); question posed on how to make “systems more productive and sustainable on small holder farms while helping conserve biodiversity”.</p> <p>Video on protein posted by Paul Newnham, “Protein is important for a healthy diet, but the current production and consumption patterns around the world need to change to improve human 🧑 and planetary 🌍 health”</p>   | <b>Neutral</b> , no official references, external contributions.  |  |
| UNFSS Medium blog ( <a href="#">link</a> )                                      | External blog post (Harry Bignell, Brooke): Working animals “support food security by transporting produce to and from markets, providing access to agricultural inputs and clean water, and fertilising fields with their manure”. Calls for policies and programmes to safeguard their health. ( <a href="#">link</a> )   | <b>Positive</b> , lists various practical uses of livestock.  |  |
| UNFSS Instagram ( <a href="#">link</a> )  | Four posts specifically look at “livestock”. Images show livestock (cattle, goats, sheep), and farmers with livestock (cattle).   | <b>Positive</b> , the posts make the connection between livestock farming and livelihoods, as well as climate change adaptation.                      | CGIAR<br>ILRI<br>SDG2                                      |



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|  | <p>“What do you know about livestock?” (<a href="#">link</a>), shares 5 facts:</p> <ul style="list-style-type: none"> <li>👉 More than half a billion people in developing countries depend on 🐄 farm animals for their livelihoods.</li> <li>👉 2/3 of the world's poor livestock keepers are 👤 women, who do most of the daily farm animal management, processing and selling of milk and eggs.</li> <li>👉 Livestock can be part of climate change adaptation and mitigation.</li> <li>👉 As one of the few socially acceptable sources of income, livestock are a key asset for 👩 female producers in low and middle-income countries.</li> <li>👉 While energy-dense and packed with protein, 🥛 animal-source foods are often more expensive and thus unavailable for the poorest in society.</li> </ul> <p>“What women in Nepal can teach the world about growing food” (<a href="#">link</a>): “With training in 🌱 climate-smart practices and 🍷 improved access to seeds and livestock, vulnerable Nepalese smallholder farmers can sustainably grow, process and store nutritious 🥦 🥔 🥕 food year round.”</p> <p>“Smallholder farmers bear the brunt of climate change and the degradation of natural resources” (<a href="#">link</a>): “🌾 Crop failures and 🐄 livestock deaths are causing economic losses and undermining the food security of rural people.” Programmes and grants that help farmers “adapt to a changing climate and build the resilience of rural communities are key to mitigating the worst impacts of climate shocks.”</p> <p>“Goats and greenhouses” (<a href="#">link</a>): A prolonged drought in 2016 hit many farmers in Kenya hard, including Poline Omondi, a livestock farmer, but “Thanks to support from #OneCGIAR Researchers, like Julie Ojango from @whylivestockmatter (ILRI)”, Poline “adopted more resilient livestock breeds and were introduced to climate-resilient ways of farming.”</p> | <p>All posts receive favourable likes, when compared to other posts (pictures of cooked food have the most likes).</p> |  |
| <p>UNFSS Facebook (<a href="#">link</a>)</p> | <p>Majority of chef-takeovers focus on plant-based diets.</p> <p>No mentions of livestock or related terms, nor photos.</p>   | <p><b>Neutral</b>, not enough sources to consider.</p>   |  |

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| <p><b>UNFSS Twitter</b> (<a href="#">link</a>)</p> | <p>David Gelb Twitter Q&amp;A, 17 Oct 2020: “People are making choices to eat ethically. There is a revolution happening. #Youth are thinking about what they are eating - more sustainable dining &amp; livestock consumption. I hope this trend continues. I think this is what our Earth needs.” (<a href="#">link</a>)</p> <p>16 Sept 2020: “Biodiversity in agriculture – from crops to livestock – helps make #FoodSystems stronger &amp; more resilient. Learn more about #BiodiversityForResilience with this video from @CropTrust” (<a href="#">link</a>)</p> <p>15 July 2020: “11 recommendations for transforming #Africa’s livestock sector to meet growing demand by 2050 in @MamoPanel report out today #FoodSystems #MeatMilkMore” (<a href="#">link</a>)</p> <p>28 Aug 2020: “Cutting down on animal-sourced products is seen by many as a way to improve the health of people &amp; planet. But it isn’t so simple for the millions of people who depend on livestock. @I_haddad @GAINalliance calls for a more holistic #FoodSystems view.” (<a href="#">link</a>)</p> <p>“Can livestock ranching be part of nature-positive production? WWF Food and @WWFScience will host a seminar next week with Dr Tara Garnett to discuss the role of grazing in sustainable food systems.” (<a href="#">link</a>)</p> <p>“Animal health is a precondition for good animal welfare and for sustainable food production.” @roxanfeller @animalhealthEU speaks to @Parlimag about #OneHealth and the importance of animal health for safer &amp; more sustainable #FoodSystems” (<a href="#">link</a>)</p> <p>Question on how #AT2 will resolve the disparities in #consumption patterns globally: “Great question! One way we are taking this into consideration is by understanding that the largest decreases in excessive animal-source foods consumption must come from high-income countries in the Global North. For vulnerable populations we understand the priority is nutrition!” (<a href="#">link</a>)</p> | <p><b>Mixed</b>, often links to external sources where livestock is mentioned both positively, yet some external sources promote plant-based diets.</p> |   |
| <p><b>GAIN</b> (<a href="#">link</a>)</p>          | <p>Lawrence Haddad, <b>Chair, AT1:</b></p>   | <p><b>Neutral</b>, recognises the balance is likely to be very different across development contexts.</p>   | <p>FAO, The State of Food and Agriculture</p> |

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|  | <p>“COVID-19 has hammered home the fundamental interconnectedness of human, planetary and animal health. If you neglect one you diminish all.” <a href="#">(link)</a></p> <p>GAIN Discussion Paper Series 5 - The role of animal-source foods in healthy, sustainable, and equitable food systems <a href="#">(link)</a>: “Excessive consumption of certain ASF can lead to health problems...Environmental impacts of ASF production include greenhouse gas emissions, land use change, pollution and biodiversity changes... ASF production is integral to livelihoods in many LMICs, and some livestock (particularly ruminants) play important roles in farming systems and societies. When considering ASF, the associated and interlinked health, nutrition, environmental and livelihoods outcomes should be assessed jointly.”</p> <p>ILRI conference: Lawrence Haddad focused on why animal source foods need to be part of the global food security and nutrition agenda: Animal source foods are essential for infant and young child growth; Too many children under 5 have micronutrient deficiencies.</p> |   | <p>2009: Livestock in the balance</p>   |
| <p><b>Discussion Starter</b><br/><b>Action Track 1: Ensure access to safe and nutritious food for all</b><br/><a href="#">(link)</a></p> | <p>“how to increase productivity and embrace efficiency-increasing technologies without alienating the poorer, smaller-scale, and more excluded fishers, farmers, and livestock keepers.”</p> <p>“An example of a synergy lies in a One Health approach that can increase animal-source food production and consumption while reducing environmental impacts per unit, improving animal welfare, and safeguarding animal and human health (including mitigating risk of antimicrobial resistance and preventing zoonotic disease transmission)”</p> <p>“greater (sustainable) use of marine resources could improve nutrition (as fish and seafood are excellent sources of many nutrients) and could reduce impacts from less-sustainable terrestrial animal production”</p> <p>Synergy with AT3: “Improved management of livestock and increased productivity will reduce GHG emissions and other environmental Impacts (at</p>   | <p><b>Neutral</b>, the inclusion of livestock keepers and their livelihoods is key to future food systems. Yet the paper acknowledges that there may be gradients that may not align with those for nutrition or environmental impacts.</p> | <p>- Refers to 2016 CFS report on “<a href="#">what role for livestock?</a>”</p> <p>- Refers to CERES 2030 report recommendations: “8. Improve the quantity and quality of livestock feed, especially for small and medium-scale commercial farms”</p> <p>- Refers to GLOPAN graph/report on animal products’</p> |

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|                              | <p>least per unit), improve animal welfare and make ASF more available and affordable; it could also improve food safety.”</p> <p>Trade-off with AT2: “animal-source food (ASF) consumption needs to be increased for young children in low-income settings but this may risk increasing GHG emissions and other negative environmental impacts, which are high for certain ASF”</p> <p>Addressing hunger in countries that are not fragile and without conflict: “Transformation of food production (including agriculture, cultivation of marine resources, and the raising of terrestrial and marine animals) is likely to be the main action”</p> <p>Trade-off with AT5: “Crops/livestock chosen for higher tolerance/resistance (e.g. to drought, disease) may have lower yields”</p> <p>A table takes the case for animal-source foods and expands the trade-offs beyond associations with the environment. The evidence is drawn mostly from high-income countries, and the authors note that similar evidence is needed from low- and middle-income countries.</p> <p>“all solutions will need to be designed and implemented in a way that is people-focused, prioritising the rights and needs of the farmers, fishers, livestock keepers, and small business owners throughout the food system--as well as those of consumers and other users of natural resources.”</p> |   | <p>impacts on GHGs, land use, water, nitrogen, phosphorus (<a href="#">link</a>); 2nd graph showing ASF more positive around health and livelihood outcomes / more negative on enviro outcomes</p> <p>- Refers to GAIN Health report on “<a href="#">role of animal-source foods</a>”</p> <p>- UN organisations (FAO, WHO, WFP, CFS, UNEP)</p> <p>- CGIAR</p> |
| <p><b>EAT Foundation</b></p> | <p>Gunhild Stordalen, Founder and Executive Chair, EAT Foundation. Chair, AT2:</p> <p>On Twitter: “Yes, livestock plays an important role in sustainable, regenerative farming systems. Meat is not the problem (neither for health nor environment) but today's high intensive production and overconsumption in many parts of the world is.” (<a href="#">link</a>)</p> <p>Op-ed in Daily Telegraph: “Eating less red meat and more fruit and vegetables can reduce food-related consumption-based emissions by 60pc in just 10 years and save 170,000 deaths annually in C40 cities.” (<a href="#">link</a>)</p>   | <p><b>Negative</b>, focuses on dietary impacts.</p> |   |

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|  | <p>Interview: “In general, the world will have to eat less meat and more plants” (<a href="#">link</a>)</p> <p>EAT Foundation/Lancet report: “Foods sourced from animals, especially red meat, have relatively high environmental footprints per serving compared to other food groups. This has an impact on greenhouse gas emissions, land use and biodiversity loss. This is particularly the case for animal source foods from grain fed livestock.” (<a href="#">link</a>)</p> <p>Eat Foundation report, Diets for a better future: “Our dietary choices, especially how much conventionally produced red meat and dairy products we consume, can drive health and environmental outcomes across the entire food system. Simply put, reducing the consumption of some foods, while increasing the consumption of others, could have tremendous benefits to the global environment and to human health.” (<a href="#">link</a>)</p> <p>Main page of the EAT website promotes Gunhild Stordalen’s appointment at the UN Food Systems Summit.</p> |   |   |
| <p><b>Discussion Starter</b><br/> <b>Action Track 2: Shift to sustainable consumption patterns</b><br/> <a href="#">(link)</a></p> | <p>“in many countries overconsumption of animal-sourced foods are common and meals are often served in supersized portions, contributing to negative health outcomes”</p> <p>“Today’s long and complex food value chains, coupled with intensive animal production, can increase the risk of fast transmission of food-borne diseases and the spill over of zoonotic agents (including viruses), as well as other food-related health risks such as anti-microbial resistance.”</p> <p>One outcome of AT2: “At the global level, and particularly with respect to more affluent populations, a reduction of excessive consumption of animal-sourced foods, especially red meat, and an increase in consumption of plant-rich diets”.</p> <p>Trade-off: “the need to increase animal-sourced food intakes for young children in low-income settings, and the generation of greenhouse gases</p>  | <p><b>Neutral</b>, the document recognises that healthy diets in low-income countries may include a need to increase animal-sourced food, while also recognising inherent issues with overconsumption of animal-sources foods in terms of the human health and the environment.</p> | <p>IPBES Workshop report on <a href="#">biodiversity and pandemics</a>, 2020.</p> <p>WHO guidelines on use of medicinally important <a href="#">antimicrobials in food-producing animals</a>, 2017.</p> |

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|   | caused by overconsumption of some animal-sourced foods in high-income countries.”  |  |   |
| <b>WWF</b>  | <p>Joao Campari, Chair, AT3</p> <p>Op-ed: “food system greenhouse gas emissions could be cut by more than half if mainly plant-based diets with modest meat consumption were adopted globally....Take meat as an example, many landscapes would require large-scale conversion to cropland to generate food, but can be used as-is for ranching. By managing such grasslands as pastures and using them to produce meat, we can ease pressures on conversion elsewhere, while livestock will naturally ensure healthy soil with an increased ability to store water, sequester carbon and provide habitat for biodiverse flora and fauna. This somewhat mitigates the climate impact of methane emissions.” (<a href="#">link</a>)</p> <p>Blog: “Not only have we failed to tackle harmful practices which degrade our land and seas, powering the decline of our wild and agrobiodiversity, but we have actively encouraged it — mainly by not assessing the full environmental impacts of direct and indirect subsidies to fisheries, agriculture (including for fertilizers and pesticides) and the livestock industry are associated with inefficient production and waste, over consumption, and overexploitation of nature....what is produced will also require a modification in what we consume and concurrent work on the demand side must be done to raise consumers awareness on the importance of a varied and diverse diet, and incentivise businesses and chefs to incorporate a diversity of ingredients in their offerings.” (<a href="#">link</a>)</p> | <b>Neutral</b> , does not rule out animal-based protein in diets, but does encourage more protection of crops and livestock for food systems                           | FAO’s The State of the World’s Biodiversity for Food and Agriculture, |
| <b>Discussion Starter<br/>Action Track 3: Boost nature-positive production (<a href="#">link</a>)</b> | Nature-positive ways of producing food and meets nutritional needs “that deliver a larger diversity of plants and animals to a growing population, without degrading the functional integrity of ecosystems”.  | <b>Neutral</b> , recognises the impact of current food systems on deforestation and greenhouse gas emissions, but does not make any link to livestock-related animals. | None, the report does not include footnotes/references                |
| <b>CARE USA</b>   | Michelle Nunn, Chair, AT4  | <b>Neutral</b> , livestock/animals tend to be discussed in relation to livestock   |   |

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|   | <p>“Now, in many places, you know, when a woman’s husband dies and she becomes a widow, she may lose the right to her home and any land she had under cultivation, or even the livestock for which she was caring.” (<a href="#">link</a>)</p> <p>CARE blog: “conflict heightens food insecurity and causes the barriers to food production and processing due to violence destroying crops, livestock and essential infrastructure” (<a href="#">link</a>)</p> <p>CARE blog: “Their livestock, on which they depend to survive” (<a href="#">link</a>)</p>   | <p>keepers/livelihoods, not food systems</p>  |  |
| <p><b>Discussion Starter<br/>Action Track 4:<br/>Advance equitable<br/>livelihoods (<a href="#">link</a>)</b></p> | <p>Calls for confronting social structures and norms (e.g. women tend to be one of the most limited groups) that benefit others while marginalizing the poor “who often work in crop and livestock production and food value chains.”</p> <p>“strengthened producer organisations, farmer and livestock consumer cooperatives, and other collectives can effectively address existing inequality, reach economies of scale and minimize elite capture and urban bias.”</p> <p>“The role and potential of the agricultural private sector...also needs to be recognized and leveraged to improve equitable access to livelihoods.”</p> <p>Many of the world’s extremely poor people reside in rural areas and “are involved in food systems as small-scale farmers, fishers, pastoralists”. However, some are underpaid and/or lack access to/ ownership of agricultural assets.</p> | <p><b>Neutral</b>, the paper acknowledges some of the systemic barriers that limit equitable livelihood development for those working with livestock.</p> | <p>FAO, 2019, <a href="#">The State of Food Security and Nutrition in the World</a></p> <p>CFS, 2017, <a href="#">Forum on Women’s Empowerment in the context of Food Security and Nutrition</a></p> |
| <p><b>International Centre<br/>for Climate Change &amp;<br/>Development</b></p>                                   | <p>Saleemul Huq, Chair, AT5</p> <p>Op-ed: “millions of Africans who face disruption to the rainfall on which their crops, livestock, and families depend. For them, climate change can be expected to bring more erratic and uncertain storms, with no guarantee of water in the well, bucket, and field.” (<a href="#">link</a>)</p> <p>Climate change “one of the principal effects will most likely be on food production - on agriculture, fisheries, and livestock” (<a href="#">link</a>)</p>   | <p><b>Neutral</b>, focus is on greener technologies and mitigating impact of climate change on farmer’s livelihoods</p>                                   |  |

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|   | <p>“methane emissions from livestock and rice paddies... The main technology to be deployed here is green and sustainable energy sources such as solar and wind energy in order to replace dependence on fossil fuels over time.” (<a href="#">link</a>)</p> <p>ICCCAD: “In order to achieve food security, the villagers were assisted to grow their own food, raise livestock and survive on their own.” (<a href="#">link</a>)</p>  |   |  |
| <p><b>Discussion Starter</b><br/><b>Action Track 5: Build resilience to vulnerabilities, shocks and stress</b> (<a href="#">link</a>)</p> | <p>Acknowledges the One Health approach which “tackles threats like the ongoing pandemic as it links the health of humans, animals, plants and their shared environment, which act as key levers to controlling and preventing zoonoses, ultimately strengthening health protection and food security.”</p> <p>Different contexts must be considered, “food systems at various phases of development from traditional to modern; vulnerabilities to climate, socio-economic, human-social, cultural, environmental factors and biodiversity loss.”</p> | <p><b>Neutral</b>, the paper recognises the links between animal and human health, does not explicitly link stresses with/to livestock</p>        | <p>One Health</p> <p>UN SDG2</p> <p>Global Commission on Adaptation - increase investment in agricultural research, expand access to farmer advisory services and information.</p> <p>Paris Agreement - the face of climate change, agriculture can help drive solutions by promoting techniques with co-benefits.</p> |
| <p><b>UNFSS Action Track Solutions Synthesis Reports</b></p>  |  |   |  |
| <p><b>Action Track 1: Synthesis Report</b></p>  | <p>“In Ethiopia for example, nearly a quarter of households that are engaged in crop and/or livestock production (about 68% of all households) are food insecure.”</p>   | <p><b>Mixed</b>, references to livestock highlight problems that exist in the industry but also include animal farming in their consideration</p> |  |



“The immediate shared goal would be to ensure that the diverse nutritious food found in small-scale production systems (including livestock and fish) reach markets at lower prices while ensuring decent incomes for producers.”

The document addresses the importance of health “including human and animal vaccines and pandemic response” in their approach towards Community Cooling Hubs (CCH).

“...[CCH] can support farmers and fishers with reducing post-harvest food losses, increasing productivity through animal shelter and access to veterinary vaccines...”

On ending anaemia: “For food systems, this includes staple food fortification... and actions to improve availability and affordability of nutrient-rich foods such as animal source foods and legumes, with particular emphasis on support for women entrepreneurs.”

“...working with SMEs in the nutritious food (e.g., animal- source foods, fruit/vegetables, pulses) sector and ensuring they have access to technical and financial opportunities to grow and optimise processes across the food value chain can substantially increase availability and affordability of nutrient-dense foods. In this regard, women entrepreneurs are of particular focus.”

On food safety: “In the context of rising incidence of zoonotic diseases, (including possible linkages of COVID 19 with wet food markets and avian flu with food animals), the world requires a more robust mechanism for global coordination on food safety... action is needed to improve practices in the production, manufacturing, distribution and preparation of food to more effectively manage food safety risks...”

On providing tools for food safety: “empirical tests for milk safety could range from a simple ‘clot on boiling’ to polymerase chain reaction tests in specialised laboratories.”

“Meals supplied to low-income workers are often staple-heavy and lack important diversity from fruits, vegetables, and proteins.”

**Action Track 2:  
Synthesis Report**

**Solution 15: Enable a Just Transition of livestock production to mitigate**

**climate change, improve health and create jobs,** “77% of global agricultural land is used to grow and feed livestock, while providing just 17% of global calories and 33% of global protein supply. High-income countries are currently consuming double the recommended daily intake of animal products, surpassing nutritional requirements, with many lower/middle income countries predicted to follow the same trend over the coming decades. This trend is detrimental to our planet, ecosystems, resources, human health and animal welfare.”

“Livestock production currently accounts for at least 14.5% of all GHG emissions and is projected to account for up to 81% by 2050 if production continues unabated. There is a deep consensus within the scientific community that industrialised livestock production is driving soil degradation, air pollution, water contamination, and biodiversity loss while also producing high GHG emissions.”

“Meat production accounts for 73% of global antibiotic use. The overuse of these products in animals increases the threat has been linked to drug-resistant infections in animals, as well as humans.”

“About 75% of all emerging infectious diseases are zoonotic in nature. Increasing human demand for animal protein and unsustainable agricultural intensification are considered to be the main drivers of zoonotic diseases globally”

“Over-consumption of animal products is also detrimental to human health (studies vary in recommendations for the amount of animal products deemed healthy for different population groups; including those that suggest diets with few or no animal products at all can be beneficial for certain groups). High consumption of red and processed meat are important diet-related risk factors contributing to substantial early mortality in most regions.”

“Despite the urgent need to transition towards climate-compatible and predominantly plant-based agriculture, there are concerns about the possible negative socioeconomic impacts of the transition... multilateral dialogues and

**Negative,** nearly all references to livestock topics were negative

showcasing pathways for an equitable transition for farmers, growers, processors, and how this can enable job creation and GDP boost.”

“Just transformation of livestock production is not only instrumental to solving the climate crisis, but also brings numerous environmental and socio-economic benefits, such as: Reversing environmental degradation and improving the local environment... Creating better public health; saving millions in health costs; increasing overall resilience to pandemics... Improving the socioeconomics of the farming system including a revitalisation of rural economies. The International Labour Organisation and Inter-American Development Bank estimated that a just transition to plant-based diets would create 19 million jobs in Latin America and The Caribbean... Overall, the jobs created in a plant-based food production are safer, more equitable and lead to an overall GDP boost.”

“Particularly for vulnerable and poor population groups, sufficient quantities of healthy protein and micronutrient sources are needed, including sustainably-produced dairy (for populations which can digest lactose), eggs, blue foods (marine and freshwater fish, shellfish and algae), meat or alternative protein or micronutrient-rich sources.”

“At the global level, and particularly with respect to more affluent populations, a reduction of excessive consumption of animal-sourced foods, especially red meat, and an increase in consumption of plant-rich diets and a switch to animal products from sustainable practices.”

The document also suggests a tax related to carbon footprint via VAT: “Food consumption today is largely decoupled from the carbon footprint (examples are dairy and meat).”

“...research has demonstrated for meat and dairy consumption, those with the most knowledge about adverse environmental impacts were the most likely to have already reduced their consumption, or were most likely to do so in the future”

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|  | <p>“A food system imperative is to reduce commodity losses so we can improve agricultural yields that use finite natural resources. High-emission supply chains such as beef, dairy, and rice contribute at least 70% of agricultural emissions globally.”</p> <p>On reducing food waste: “Incentivizing the use of FLW as a feedstock for added value products such as new processed foods, animal feed, or fertilizer production.”</p>  |   |  |
| <p><b>Action Track 3:<br/>Synthesis Report</b></p> | <p>“But food production systems are currently the single biggest underlying cause of decline in nature, responsible for approximately 80% of deforestation, 70% of freshwater withdrawal, and up to 29% of all greenhouse gas emissions -- while livestock contributes over 14% of all anthropogenic GHG emissions, 44% of which is in the form of methane.”</p> <p>On addressing livestock’s negative environmental impact: “Adopting nature-positive livestock production systems: What is less known is that livestock also holds a great potential in fostering soils health, soil fertility, increased carbon sequestration and biodiversity services, reducing diseases of animal origin and reducing antimicrobial resistance. This solution unlocks the potential of sustainable livestock farming through fostering innovative methods and ensuring economic viability for all categories of farmers.”</p> <p>“...there is a lack of appreciation of extensive livestock- based livelihood and food systems and their potential to provide environmental services such as maintaining or improving biodiversity, carbon storage and sequestration, and preventing duststorms are also often not recognised.”</p> <p>The document calls for “Restoring grasslands, shrublands and savannahs through extensive livestock-based food systems”</p> <p>On indigenous peoples’ land and forests: “Livestock and people will face increasing epidemics of zoonotic disease, both new and long-standing.”</p> <p>The document proposes a ‘Codex Planetarius’ to determine environmental standards in global food: “this approach is better suited for agricultural</p> | <p><b>Positive</b>, references to livestock acknowledge some negative aspects but the document emphasizes the importance of livestock and calls for a more sustainable industry</p> |  |

production than for food production in marine environments (either wild-caught fisheries or aquaculture), though the same thinking could be applied. The approach would be easier for plant-based production than for livestock, especially if the latter require non-farm sources of feed and feed ingredients.”

**Solution 7: Adopting nature-positive livestock production systems**

“The livestock production system is often under the spotlight for being responsible for environmental losses (*e.g.* greenhouse gas emissions, deforestation, water utilization), however, we think that we also have to consider its potential in soils regeneration, fertility, carbon sequestration<sup>8</sup>, biosystem integration and the high nutrition value of animal-sourced foods; and animal by-products good for the soils such as manure and urine. Moreover, there is a need for increasing animal-based protein supply for a more balanced dietary system in most developing areas of the world. In this respect, both women and men farmers are ready to commit to the achievement of a more sustainable livestock sector, based on practices towards sustainable intensification of production with concrete actions and metrics along the value chain of animal source products. Globally, livestock contribute about 40% of agricultural gross domestic product (GDP) and provide livelihoods and incomes for at least 1.3 billion people. It is the livestock economy that we find more women and vulnerable groups owning livestock assets compared to other agricultural sectors.”

“Sustainable livestock farming is based on the three principles: 1. improving resource efficiency, 2. strengthening resilience and 3. securing social equity and responsibility of livestock production systems”

The section on sustainable livestock production also mentions technological innovation in the field, such as Ethiochicken, animal health monitoring programs, innovative grazing methods, feed additives to reduce methane, and the Dairy Sustainability Framework.

“This agave-powered agroforestry and livestock management system is demonstrating that native plants, long overlooked, have the potential to regenerate drylands, provide large amounts of inexpensive but essential forage for grazing animals, and alleviate rural poverty.”

In Solution 10, which focuses on agrobiodiversity, livestock biodiversity is included.

**Solution 18: Restoring grasslands, shrublands and savannahs through extensive livestock-based food systems**

“there is a lack of appreciation of extensive livestock-based livelihood and food systems in terms of feeding local and national populations from land and in a climate that is often not suitable for growing crops... Extensive livestock-based food systems are often ‘bunched together’ with *intensive* livestock systems in discussions about the negative impacts of livestock on the environment etc. This ignores the differences between the two and the environmental benefits of the former over the latter, as well as the fact that millions of people globally directly depend on extensive livestock compared to a more concentrated fewer number directly benefiting from intensive production.”

Some of the elements of the solution include: “Development and documentation of good practices in the restoration of grasslands, shrublands and savannahs through extensive nature-positive livestock production/food systems...working with the current land users including pastoralists/livestock keepers.”, “Awareness raising at global, national and local levels of the value of extensive livestock production/food systems and their role (actual and potential) in protecting and restoring grasslands, shrublands and savannahs”

On food waste: “Reducing food loss is essential for reducing climate impact of food supply, impacts of land use changes, and realizing food and nutrition security, particularly in high-emission supply chains such as beef, dairy, and rice.”

“The continuing expansion of production of agricultural commodities such as beef, soy, cocoa, palm oil and paper/pulp are major drivers of natural ecosystem loss”

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| <p><b>Action Track 4:<br/>Synthesis Report</b></p> | <p>On whose livelihoods need to be improved: “Waged agricultural workers employed on farms and plantations in crop, livestock, dairy, aquacultural and non-food crop production 300-500 million workers. Migrant, women, indigenous, youth, rural/urban,” as well as “Food processing/manufacturing workers... Animal food manufacturing...Dairy product manufacturing... Animal slaughtering &amp; processing; Animal slaughtering; Meat processed from carcasses; Rendering and meat by product processing; Poultry processing including slaughtering”</p> <p>The document also mentions the importance of regulating contractor relationships especially in meat factories.</p> <p>“There is a strong need to expand social protection to effectively reach men and women involved in the overall food systems in coherence with agriculture, fisheries, livestock, pastoralism and forestry or improving food security, nutrition, natural resource management, economic inclusion and resilience.”</p> <p>The document mentions the difficulties facing women and indigenous populations in farming, but does not point specifically to these populations and livestock farming.</p> | <p><b>Positive</b>, the references are minimal and focus on workers’ rights and livelihoods.</p>                                     |  |
| <p><b>Action Track 5:<br/>Synthesis Report</b></p> | <p>On improved food security monitoring and analysis and economic empowerment: “Build women’s assets to deal with the shock... This can range from ensuring women have access to vaccines for their livestock so that they survive and can be used to buy the COVID vaccine...”</p> <p>On access to markets: “Smallholder farmers and small and medium enterprises (SMEs) in food value chains (agriculture, fisheries, forestry, livestock, processing, distribution) are disproportionately affected as their gains do not effectively offset existing transaction costs and the risks of engagement.”</p> <p>On food insecurity in arid and semi-arid areas: “The solution focuses on the impact of sustainable livestock sector to contribute simultaneously to increase food security and health, reduce environmental impact, enhance</p>   | <p><b>Mixed</b>, references acknowledge the importance of livestock but also they note livestock’s negative environmental impact</p> |  |

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|  | <p>communities' livelihoods, especially if combined with sustainable forestry and soil management," "This solution can be a game changer because it contributes to the capacity of food systems to deal with shocks while at the same time increasing food security, contributing to animal, human and environmental health"</p> <p>The document proposes some solutions to universal food access, including "Nomadic Livestock Economies (for self-consumption and trade) that inhabit remote, sparsely populated fringe areas, usually moving in cross-border itineraries," as well as legal regulations resulting in "the private sector would be disincentivized to produce food commodities that are harmful for the environment, meant for livestock feeding or just empty calories, and they would be steered to produce nutritious food needed by human population."</p> <p>The document mentions livestock when discussing biodiversity, agrodiversity and trait/gene mining.</p> <p>On biodiversity and resilience to shocks: "The reliance on a narrow food basket of crops and animals further aggravates the situation"</p> <p>"Livestock production by itself produces 14.5% of global GHGs. One third of land surface and 75% of freshwater use is for crop and livestock production."</p> |  |  |
| <p><b>Agnes Kalibata interviews/ op-eds</b><br/> <a href="#">(Devex)</a> <a href="#">(TIME)</a><br/> <a href="#">(Guardian)</a> <a href="#">(SciDev)</a></p> | <p>AK: "current food and agricultural market systems and power dynamics have not worked for all countries and all communities". <a href="#">(link)</a></p> <p>AK avoids answering the question of whether eating less meat is the way forward for reducing emissions while feeding the population. She continues by saying "The conversation is so polarized that I don't want to add any fire. I want to leave it to the scientists." <a href="#">(link)</a></p> <p>AK calls on governments to learn the lessons of the crisis, including how human actions may have contributed to the risk of zoonotic diseases. "We can't have something like this again," she said. "We need to look at how we as human beings manage the planet." She adds that food is looking more</p>  | <p><b>Neutral</b>, avoids questions on environmental impact.</p> | <p>UN's Food Systems Summit's World Food Day 24-hour Global Relay Conversation</p> <p>CGIAR</p> <p>Food Systems Summit</p> <p>AGRA</p> |



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|  | <p>challenging this year, post-Covid, as “The lockdown has closed markets and that makes it very difficult for farmers”. <a href="#">(link)</a></p> <p>In a Q&amp;A, AK says that one of her main achievements as president of AGRA was “building platforms for scale with the private sector that allow a whole new group of farmers to be reached.” Her background in science enabled her as Rwanda’s minister of agriculture to lead the country to become a “food self-sufficient nation in a period of five years.” <a href="#">(link)</a></p>   |   |  |
| <p><b>Center for Global Commons</b> <a href="#">(link)</a></p> | <p>Naoko Ishij, Vice-Chair, Finance, Champions Network</p> <p>External interview: “The causes of deforestation, particularly for tropical rainforests, are largely associated with the production of global commodities (primary products) such as palm oil, acacia pulp, soybeans, and livestock. In addition to the increasing global population, the pursuit of luxury and plenty, such as greater beef consumption by the middle class, also contributes to deforestation.” <a href="#">(link)</a></p> <p>Event summary: “Overall, agricultural activities dominated the growth in the emissions with the use of Nitrogen fertilizers in agriculture including livestock manure production.” <a href="#">(link)</a></p> | <p><b>Neutral</b>, too few entries to consider.</p>   |  |
| <p><b>Chef’s Manifesto</b> <a href="#">(link)</a></p>          | <p>Paul Newnham, Vice-Chair, Consumption, Champions Network:<br/>On Twitter:<br/>“With training in 🌱 climate-smart practices &amp; 🍄 improved access to seeds and livestock, Nepalese smallholder #farmers can sustainably grow, process &amp; store nutritious 🥕🥔 year round. What women inNPCan teach 🌍 about growing food 📌 <a href="https://bit.ly/3d9h0ze">https://bit.ly/3d9h0ze</a> #GoodFood4All @GAFSPfund”</p> <p>8 thematic areas including, “Protection of biodiversity &amp; improved animal welfare”.</p> <p>Webinar on protein: “The main message of the event was that there is no one-size fits all protein solution” <a href="#">(link)</a></p>   | <p><b>Mixed/neutral</b>, promotes better standards and free-range/organic protein sources</p> | <p>Global Agriculture &amp; Food Security Program, more investments to the world’s most vulnerable communities</p> |

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|   | <p>Chef Manifesto Action Plan booklet: On SDG2: “Choose producers who commit to higher animal welfare standards. Avoid industrialised livestock production.”</p> <p>“Raise awareness about the importance of free-range eggs, sustainably sourced fish and animal welfare on your menus and in your restaurants.”</p> <p>Plant-based diets: “Chef Scott explains that the plant-forward philosophy is about moving people along a continuum to eating meat fewer times a week”. <a href="#">(link)</a></p>   |  |  |
| <p><b>Food and Land Use Coalition (FOLU) <a href="#">(link)</a></b></p>     | <p>Claudia Martínez Zuleta, Vice-Chair, Research, Champions Network, speaking on a Food Tank panel <a href="#">(link)</a>:</p> <p>“How do we integrate research to save the plant’s food systems so it reaches farmers and consumers... If we don’t find new ways to bridge the scientific institutions and practitioners, farmers and indigenous groups, women, chefs... we cannot transform...FOLU reaching out to drive change.”</p> <p>“In Colombia, we are using more pesticides and fertilisers to produce food than before, but we are not producing <i>more</i> food...We have to shift the narrative of agriculture. Need to do research that is valuable for farmers and those who produce food...Develop more healthier diets, reduce food loss and waste.”</p> <p>“We need to integrate research...there’s research on food, research on agriculture, research on the environment...but they don’t come together.”</p> <p>FOLU Independent Food Systems Dialogue, China 2020, stakeholders explore: “The economic downturn, regional conflicts, extreme weather, natural resource degradation, crop and animal diseases have already challenged food security”. <a href="#">(link)</a></p> | <p><b>Neutral</b>, not enough sources to review.</p>   |  |
| <p><b>Global Alliance for the Future of Food <a href="#">(link)</a></b></p> | <p>Ruth Richardson, Executive Director of the Global Alliance for the Future of Food, member of Champions Network</p>  | <p><b>Neutral</b>, Ruth Richardson does not discuss livestock-related topics frequently and references on the site</p> | <p>Salzburg Process paper</p> <p>IPES-Food</p> |

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|  | <p>In an interview, she named a sustainable cattle rancher as a “food hero,” that inspired her, also avoided mentioning meat or animal agriculture when asked of “one small change every person can make”, “But everyone can be mindful and work to educate themselves on where their food comes from, what impact one choice has over another, and what they can do to make small changes towards supporting food systems that are more sustainable and fair.” (<a href="#">link</a>), similar responses in later interview (<a href="#">link</a>)</p> <p>Event: Salzburg Process paper includes livestock as a “hot topic central to the food-climate nexus”, says that in order to meet SDGs, industrial livestock systems must be dismantled, connects research on zoonotic diseases and livestock, makes distinction that they will focus on industrial livestock systems rather than smallholder and pastoralist farming systems, “not all animal sourced foods are equal in terms of nutritional value and are consumed in vastly different quantities...” (<a href="#">link</a>)</p> <p>Report: Launched report with IPES-Food evaluating food systems that lead to poor health, notes “intensive livestock production” as one of the systems (<a href="#">link</a>)</p> <p>Interview: Nadia El-Hage Scialabba (FAO) on food systems, she said “My personal opinion is that if we want more sustainable food systems that guarantee sufficient food and take into account sustainability measures, such as water and land use and GHG emissions, we should be focusing on livestock feeding,” points to grassfeeding as a solution (<a href="#">link</a>)</p> <p>Event: “This is how food systems leaders prioritize human, animal, and ecological health” (<a href="#">link</a>)</p> <p>Discussion paper: Centers around meeting with experts in sustainable animal agriculture systems, “Animal agriculture and meat consumption sit at the nexus of climate change, health, environment, and well-being for communities around the globe; The current conventional and industrialized systems of meat production and consumption are not sustainable; There are viable pathways forward towards more sustainable animal agriculture systems. These alternatives have the potential to restore natural resources,</p> | <p>focus on intensive industrial livestock agriculture.</p> |  |
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|   | <p>climate resilience, and human health; Transitioning to sustainable animal agriculture systems is multifaceted, urgent and requires a systems approach at different scales, from local to global, addressing both production and consumption; Sustainable animal agriculture, particularly when integrated into diversified, ecologically sound farming systems, can contribute to resolving pressing global issues; the evidence for this can be leveraged to raise awareness and act as a call-to-action.” <a href="#">(link)</a></p>   |   |                         |
| <p><b>Institute for Research and Promotion of Alternatives in Development</b></p> | <p>Mamadou Goita</p> <p>Women also have an essential role as herders; milking animals and helping the animal give birth. Women are the first to suffer if there are local problems related to food.”</p> <p>“They all use the same resources, the same land for agriculture, grazing, or fishery. This creates interactions between [social] movements of herders” <a href="#">(link)</a></p> <p>Not enough sources to review</p>   | <p><b>Neutral</b>, too few sources to review. The few mentions refer to livestock in relation to social movements and livelihoods.</p>  |                         |
| <p><b>SAFIN</b> <a href="#">(link)</a></p>  | <p>Bettina Prato, Senior Coordinator for SAFIN, is a member of the champions network</p> <p>External blog post (IFAD): Highlights MSMEs in South Asia, specifically a goat business and a dairy farm as successful sources of income <a href="#">(link)</a></p> <p>External blog post (IFAD): References the Rural Poor Stimulus Facility and their support for small-scale farmers “Provide inputs for production of crops, livestock and fisheries” <a href="#">(link)</a></p> <p>External article (AGRA): Discusses loans provided to women through the PROFIT program, “Apart from livestock enterprises, the programme also supports women to do poultry and bee-keeping on hired land”, then highlights recipients of program loans who used the funds to start cattle-raising <a href="#">(link)</a></p> | <p><b>Mixed</b>, articles and blogs featured are largely positive but they are all externally written. Interview conducted was negative but Soarez Dillon is not a representative of SAFIN.</p> | <p>IFAD</p> <p>AGRA</p> |

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|               | <p>Event: "Examples of agri-SME risk management and post-COVID policy implications", one topic discussed was livestock insurance in Africa and Asia (<a href="#">link</a>)</p> <p>External article (IFAD): Details e-voucher program to deal with COVID, discusses how small farmers can use the program to expand animal farming and nutrition (<a href="#">link</a>)</p> <p>External blog post (Erin Sweeney, Melanie Levine- Grow Asia and WOMAG) Examines agriculture with gender-lens, "Small loans of up to Rmb 20,000 help these women diversify crops, buy livestock, or develop businesses such as shops at interest rates of 2% to 10% depending on the context" (<a href="#">link</a>)</p> <p>External article (Hans Perk, Oikocredit): Discusses work of Oikocredit with SMEs in Africa, "... the bank decided to do a pilot focusing on the dairy value chain, which was highly successful. The Covid-19 pandemic has slowed down the interest in horticulture value chains, while interest in dairy and tea value chains is improving. In early September 2020, the partner set aside € 10 million to support agriculture businesses along the dairy value chain, which will benefit over 100,000 smallholder farmers." (<a href="#">link</a>)</p> <p>Blog post: Interview with Yuri Soarez Dillon (Inter-American Development Bank), "I would say the personalization of agriculture and a shift away from animal protein. The shift away from animal protein is well under-way on the demand side in industrialized countries, with double-digit growth in plant-based foods, and this is expected to continue." (<a href="#">link</a>)</p> |  |   |
| AKADEMIYA2063 | <p>Dr. Ousmane Badiane<br/>Co-author of Malabo Montpellier report: "With rising incomes and urbanisation quickly shifting dietary habits across Africa towards increased meat consumption, the livestock sector will play a crucial role in ensuring food and nutrition security and fostering economic growth in the years ahead," (<a href="#">link</a>)</p> <p>AKADEMIYA2063 report: "Livestock and livestock products are key contributors to the economies of eastern and southern Africa."(<a href="#">link</a>)</p>  | <p><b>Positive</b>, focus on the economic benefits of livestock in Africa.</p> | <p>Malabo Montpellier Panel's report: "Meat, Milk &amp; More: Policy innovations to shepherd inclusive and sustainable livestock systems in Africa (<a href="#">link</a>)</p> |

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| <b>Commonwealth Scientific and Industrial Research Organisation (CSIRO)</b> | <p>Dr. Mario Herrero Acosta, Prof. Martin Cole</p> <p>CSIRO research works with “livestock farmers and allied industries to improve their productivity, profitability and sustainability through better livestock breeds and management practices.”</p>  | <p><b>Positive</b>, working with farmers to improve standards</p>  |   |
| <b>University of Montpellier</b>  | <p>Prof. Patrick Caron</p> <p>His research focuses on the analysis of the role of agriculture and livestock in rural transformations. (<a href="#">link</a>)</p>   | <p><b>Positive</b>, Professor Caron has published several studies on how livestock supports food security and livelihoods.</p>                                   |   |
| <b>The Center for Development Research (ZEF), Bonn University</b>           | <p>Joachim von Braun</p> <p>“A strategy for the global livestock economy serving food security requires new technology and changing consumption behavior. A big push to enhance livestock productivity for global food and nutrition security is needed now.” (<a href="#">link</a>)</p>   | <p><b>Mixed</b>, new technologies are required in animal production. Recognises income effects, but also factors in environmental and ethical considerations</p> |   |
| <b>Food and Agriculture Organisation (FAO) of the United Nations</b>        | <p>Dr. Ismahane Elouafi contributes to AT5 scientific paper, notes that while it is argued that reduced consumption of livestock products will enhance health outcomes while reducing environmental stress, “however, in many developing countries, livestock products are a critical source of dietary diversity” (<a href="#">link</a>)</p> <p>FAO website:<br/>“Livestock are key drivers for sustainable development in agriculture. They contribute to food security, nutrition, poverty alleviation, and economic growth. Through the adoption of best practices, the sector can reduce its environmental impacts and become more efficient in the use of resources”</p> | <p><b>Positive</b>, livestock contributes to healthy diets in developing countries</p>   |   |
| <b>European Food Safety Authority (EFSA)</b>                                | <p>Dr. Marta Hugas</p> <p>“Having high standards of animal welfare improves animal health and food quality, reduces the need for medication and can help preserve biodiversity. Healthy, well looked-after animals are essential to a healthy food chain.” (<a href="#">link</a>)</p>  | <p><b>Positive</b>, yet notes standards need to be improved</p>  | <p>Farm to Fork, European Commission (<a href="#">link</a>)</p> |

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|  | <p>“The positive findings in food-producing animals are encouraging because they are a sign of improvement. However, we need to further investigate the reasons behind this change. Antimicrobial resistance is a serious threat to global public and animal health – or One Health – that requires global action,” <a href="#">(link)</a></p>  |  |  |
| <p><b>Intergovernmental Panel on Climate Change (IPCC)</b></p>                                     | <p>Prof. Hoesung Lee</p> <p>Op-ed: “Cutting down on meat consumption is no doubt a healthy option and might even help mitigate climate change in the process. But, if we all gave up meat tomorrow, entire rural economies would be wiped out, just as thousands of industrial workers would be thrown on to the scrapheap if we all gave up our cars.” <a href="#">(link)</a></p> <p>IPCC report: “Livestock are projected to be adversely affected with rising temperatures, depending on the extent of changes in feed quality, spread of diseases, and water resource availability,” <a href="#">(link)</a></p> | <p><b>Neutral</b>, recognises environmental impact, but highlights important role in people’s livelihoods</p>  |  |
| <p><b>Research Institute of Organic Agriculture (FiBL)</b></p>                                     | <p>Prof.em. Urs Niggli</p> <p>“The immense pressure to keep increasing yields for a growing human population can be mitigated if we reduce food waste and feed less grain to livestock. Self-confident farmers are essential for global sustainability and food security.” <a href="#">(link)</a></p>   | <p><b>Neutral</b>, not enough sources to review. Specific mentions look at organic farming, and the need for greater investment by private sector.</p> |  |
| <p><b>Asian Farmers’ Association for Sustainable Rural Development, <a href="#">(link)</a></b></p> | <p>External blogs:<br/>e.g. “Globalisation and livestock” (FAO <a href="#">link</a>); although no internal content.</p> <p>Speeches:<br/>Esther Penunia, Secretary General, Asian Farmers’ Association (AFA) and UNFSS Advisory Committee member, emphasises securing farmers’ “access to productive resources, building the capacities of smallholder farmers, increasing the number of farmers’ networks”, and engaging governments, and increasing agricultural productivity to support the health of people and the planet <a href="#">(link)</a>. No specific mentions of livestock or related terms.</p>      | <p><b>Neutral</b>, not enough evidence to review</p>   |  |

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| <p><b>CGIAR (<a href="#">link</a>)</b></p>  | <p>Claudia Sadoff, UNFSS Scientific Chair:</p> <p>Blog: “ Women are responsible for collecting water and fuel for cooking and tending kitchen gardens and family-owned livestock. With African women producing up to 80 percent of food for their household, these women have less opportunity to grow and sell foods at market to improve their financial position.<a href="#">(link)</a></p> <p>Recent examples of “CGIAR’s impact in Africa include improvements in food safety, nutrition, livestock health, incomes, gender policy and climate policy.” <a href="#">(link)</a> - refers to ILRI and A4NH report.</p> <p>Program: <a href="#">CGIAR Research Program on Livestock</a> “will seize opportunities presented by rapid increases in demand for animal-source food in developing countries.”</p> <p>Blog by ILRI: <a href="#">Harnessing livestock innovations for greater economic good</a> “The good news is this: Partly because of the multiple roles livestock play in developing and emerging economies, there are “win-win-win” opportunities to harness the diversity of the developing world’s livestock production systems”.</p> <p>Publication: <a href="#">Livestock’s future: An opportunity not a threat</a>, the report focuses on focuses on four issues related to livestock in the developing world: 1. growth of demand for animal-sourced foods, especially in Africa and Asia; 2. the multiple roles that livestock play, not just as food but as ‘living animal assets,’ essential livelihoods and critical nutritional sources; 3. the pros and cons for development of the pathways by which that growing demand is likely to be met; 4. the many issues that stakeholders within and beyond the livestock sector need to address to ensure that all people are fed in ways that are sustainable, safe, equitable and healthy.</p> | <p><b>Positive</b>, the range of assets cover various aspects, and highlight the value of livestock</p> | <p><a href="#">Mobile phones combat disease in East Africa</a>, ILRI and A4NH. The report looks at iCow – a mobile phone agricultural platform – to connect farmers with information on 15 key zoonoses.</p> |
| <p><b>Committee on World Food Security (<a href="#">link</a>)</b></p> <p><b>Medium (<a href="#">link</a>)</b></p> | <p>Key reference documents for the UNFSS (<a href="#">link</a>), include:</p> <p>CFS Policy Recommendations: <a href="#">Sustainable agricultural development for food security and nutrition: what role for livestock?</a></p>   | <p><b>Positive</b>, livestock essential for poverty reduction and nutrition in developing countries</p> |  |



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|   | <p>“The sustainable development of agriculture, including livestock, is essential for poverty reduction and the achievement of food security and nutrition.” <a href="#">(link)</a></p> <p>Response by CFS Chair, Thanawat Tiensin: “I would recommend and encourage you and your Secretariat team to consider their arguments about including a stronger focus on human rights, especially the progressive realization of the right to adequate food”. <a href="#">(link)</a></p> <p>Blog: Meat to eat meat, by CFS: “For the past 30 years I have been working at a livestock research institute, where I hear about meat almost every day...I often wonder, livestock are accused for polluting the environment, should they really be blamed? I guess no”. <a href="#">(link)</a></p>  |   |   |
| <p><b>Institute National de la Recherche Agronomique (INRAE)</b> <a href="#">(link)</a></p> | <p>Jean-François Soussana, Vice President of international policy, is serving as scientific group support for AT1</p> <p>His first European project he led involved “the role of grasslands and livestock farms in greenhouse gas dynamics”, he concluded “...grasslands provide environmental benefits, even if the associated production of livestock results in net greenhouse gas emissions.” <a href="#">(link)</a></p> <p>Was project coordinator for 2019 IPCC special report on land and climate change, discussed “diversification of diets (more fruits, vegetables, protein crops and nuts) and production systems (...low emission livestock)” <a href="#">(link)</a></p> <p>Co-authored journal article, “Crop and animal production systems of increased productivity with reduced environmental footprint per unit product should be developed.” <a href="#">(link)</a></p> <p>Research and articles relating to animal agriculture focus on their connection to the environment and climate change, mainly in Europe.</p> <p>Research project: “Nitrogen flows associated with livestock farming. Reducing loss and restoring balance.” <a href="#">(link)</a></p> | <p><b>Mixed</b>, animal agriculture is examined largely in terms of its relationship to climate change, though the industry’s importance - especially in Europe - is included in evaluations.</p> | <p>2019 IPCC Report on land and climate change</p> <p>Jean-François Soussana</p> <p>INRA Lusignan</p> |

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|  | <p>Research project: Discusses tool developed to “prepare livestock farmers for climate change adaptation”, how climate change would affect forage crops (<a href="#">link</a>)</p> <p>Article: “Understanding and managing epidemics in livestock,” “The virus causing COVID-19 appears to have jumped directly from wild animals to humans. However, in the case of other emerging pathogens, livestock have served as conduits. For example, avian influenza reached humans via such a pathway. Furthermore, many emerging pathogens are not necessarily a threat to humans but can cause serious disease in livestock, affecting both animal health and food production,” INRAE helped veterinary services in Thailand control the transmission of H5N1 (<a href="#">link</a>)</p> <p>Press release: “Reducing the use of antibiotics in agriculture is essential to limit the occurrence and risks of propagation of multiresistant bacteria,” announces projects related to this (<a href="#">link</a>)</p> <p>Report: “Roles, impacts and services provided by European livestock production,” discusses protein consumption, dairy products, grassland usage, employment in the animal agriculture industry, animal welfare, zoonotic diseases, and pollution (<a href="#">link</a>)</p> <p>Research project: Discusses new types of agroforestry for cattle, “It has long been advantageous to associate livestock with crops in lowland areas: a portion of the crops can be used to feed the animals who, in turn, help fertilise the soil. To encourage this sort of mixed crop-livestock farming, INRA Lusignan is testing a dairy cow feeding system which aims to reduce inputs (water, fossil fuel) and resist the effects of a fluctuating climate” (<a href="#">link</a>)</p> |   |   |
| <p><b>International Fund for Agricultural Development (IFAD)</b></p> | <p>IFAD is serving as anchor organisation for AT 4.</p> <p>Gilbert Houngbo, President of IFAD, is a member of the Advisory Committee Houngbo said small farmers' "increasingly common crop failures and livestock deaths put our entire food system at risk" (<a href="#">link</a>)</p> <p>Houngbo visited project sites in Ethiopia, including animal-health centres (<a href="#">link</a>)</p>  | <p><b>Positive</b>, livestock included as a central part of IFAD’s work and the sector is discussed in terms of benefits to small farmers and developing countries.</p> | <p>Antonio Rota, IFAD<br/>FAO<br/>Global Agenda for Sustainable Livestock</p> |

Topics: “Livestock and rangeland” included as central topics of IFAD’s work, includes “cows, buffaloes, sheep, goats, pigs, poultry, camels, llamas, alpacas, horses, donkeys, rabbits and even bees,” discusses livestock’s benefits for rural populations in nutrition, food security, and economic gain and resilience, “IFAD supports small farmers in making the most of their livestock by protecting animal health, boosting productivity and sustainability, and helping to link farmers to profitable markets. IFAD-funded projects involve technology transfer, training, credit for restocking, animal health services delivery, feed and breed improvement, and best husbandry practices.” ([link](#))

Paper: Overview of IFAD’s investments in small livestock (“poultry, swine, small ruminants, guinea pigs, and rabbits”), “Even though the small livestock sector is facing rising challenges itself, including transboundary diseases, emerging infectious diseases such as COVID-19, the adverse effects of climate change, variable farm gate prices and antimicrobial resistance, it can strongly contribute to the achievement of the Sustainable Development Goals (SDGs). The small livestock sector has the capacity to provide adequate and reliable supplies of healthy and nutritious food, creating employment opportunities in the whole food chain, empowering rural women and young people, and strengthening households’ financial, physical and social assets.” ([link](#))

Project: Livestock 4 Social Development Platform, joint venture between IFAD and the Global Agenda for Sustainable Livestock to “share and disseminate evidence and best practices on the impact sustainable livestock husbandry has on socio-economic development, while providing operational support to investment projects” ([link](#))

Paper: Examines “gender and livestock”, “Women play an important role in livestock management, processing and marketing, acting as care providers, feed gatherers, and birth attendants. They are also involved in milk production”, outlines main benefits of livestock ownership for women as well as obstacles and constraints ([link](#))

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| <p><b>Pan-African Farmers Organisation</b><br/><a href="#">(link)</a></p> | <p>Elizabeth Nsimadala, President of PAFO, is on the advisory committee<br/>-In presentations she has given, she included livestock when discussing agriculture, outlined program that promoted small livestock, “Dairy goats as an alternative source of milk for nutrition as compared to dairy cows” <a href="#">(link)</a><br/>-She spoke at an ILRI event on livestock under climate change <a href="#">(link)</a></p> <p>Video: Explains difficulties facing African small-holder farmers due to COVID-19, explicitly mentions “loss of livestock” due to disruption in exports, includes images of cattle and donkeys <a href="#">(link)</a></p> <p>No other specific references to/about “livestock” or the sector. Website mostly focused on promoting programmes and partnerships.</p>   | <p><b>Neutral</b>, the sole activity paints livestock as an important part of farming in Africa, but there is a lack of other references to the sector.</p>  |   |
| <p><b>Scaling Up Nutrition</b><br/><a href="#">(link)</a></p>             | <p>Mike Khunga, SUN Global Youth Leader for Nutrition and CSN/SUN Project Officer, is the Vice-Chair for AT5<br/>He has not spoken directly about animal agriculture</p> <p>Gunhild Stordalen is a SUN member</p> <p>Lawrence Haddad is a SUN Member</p> <p>Cherrie Atilano, SUN Member, is a member of the Champions Network<br/>-Her other organisation, AGREA, works on “integrated natural livestock farming” and agriculture</p> <p>Livestock-related topics are very present on their site, especially in their blog. Some of the most recent/relevant:</p> <p>Event:<br/>Webinar on transforming food systems (with SUN Movement and WFP), quote from Dr. Mohamed Abdul Farah (SUN) “Pastoralists are highly dependent on markets for their staple food and face highest prices. When staples are expensive, livestock is cheap, putting stress on pastoralists’ household income sources” <a href="#">(link)</a></p> | <p><b>Mixed</b>, blog posts largely highlight difficulties for livestock farmers and nutritional value of animal-based products. Some older posts reference scientific studies against animal-based foods.</p> | <p>Mike Khunga, SUN</p> <p>Cherrie Atilano, SUN and AGREA</p> <p>Mohamed Abdul Farah, SUN</p> <p>World Bank</p> <p>IFAD and PRECIS programme</p> <p>FAO-WFP joint report titled “Early warning analysis of food insecurity hotspots”,</p> <p>FAO Director-General QU Dongyu</p> <p>UNICEF</p> |

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|  | <p>External blog (Camila De Ferrari Piazza, Viviana Perego and Katie Kennedy Freeman, World Bank): Discusses how COVID has affected small producers in Guatemala, “the almost complete shutdown of the hospitality industry means cancelled contracts for farmers, leaving them with surplus produce of specialized harvests and livestock, much of which is uncommon or too costly for local consumption ” (<a href="#">link</a>)</p> <p>Blog post: Highlights IFAD’s PRECIS programme, “In Niger, most people live in rural areas and depend on small-scale family farming and livestock production for their subsistence... which accounts for 43.4 per cent of GDP,” “PRECIS will promote food crops like maize, millet, rice and sorghum and develop market gardening, poultry and small livestock husbandry.” (<a href="#">link</a>)</p> <p>Blog post: Promotes report by FAO and WFP on effects of COVID in developing countries, “In Colombia, over half of livestock keepers questioned report difficulties in accessing feed, while in South Sudan, two-thirds of respondents say they are struggling to access animal health support,” “These countries were already grappling with high levels of food insecurity and acute hunger even before COVID-19, due to pre-existing shocks and stressors such as...climate extremes, and, plant pests and animal diseases, noted FAO Director-General QU Dongyu.” (<a href="#">link</a>)</p> <p>Blog post: Outlines collaboration between Danish Embassy in Kabul and FAO for emergency assistance to “more than 142,000 drought-affected vulnerable livestock herders and pastoralists,” with goal of improving livestock production and providing “training in animal husbandry and livestock management” (<a href="#">link</a>)</p> <p>Blog post: “Livelihoods in Kenya’s arid and semi-arid areas are predominantly pastoral, meaning they are heavily dependent on livestock... population increases within pastoral communities and the expansion of agriculture have reduced pastoralists’ mobility, leading to greater competition for available grazing areas. The higher frequency of drought has further limited forage for livestock, a decline in which is directly correlated to a decline in child nutrition levels. Animal products such as milk, meat and blood form an essential source of food for pastoralists, with children under five years of age in some communities obtaining up to two-thirds of their daily energy intake from milk.”</p> |  | <p>Washington State University</p> <p>Kenya’s National Drought Management Agency</p> <p>Danish Embassy in Afghanistan</p> <p>SDG Fund</p> <p>HiVOS</p> <p>IDF</p> <p>“The Global Syndemic of Obesity, Undernutrition, and Climate Change: The Lancet Commission report”</p> <p>EAT-Lancet Commission</p> |
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|   | <p>FAO provided 250 tonnes of animal feed and procured veterinary drugs and equipment for livestock in partnership with UNICEF, Washington State University, Kenya’s National Drought Management Agency, and the local government with funding from Belgium (<a href="#">link</a>)</p> <p>Blog post: Coverage of 2016 World Dairy Summit, sponsored by the International Dairy Federation (IDF) which “represents the global dairy sector and ensures the best scientific expertise is used to support high quality milk and nutritious, safe and sustainable dairy products” (<a href="#">link</a>)</p> <p>External blog post (SDG Fund): Highlights SANNHOS program and poultry farming (<a href="#">link</a>)</p> <p>External blog post (Huffington Post, Gerda Verburg): Discusses SUN report on hunger, says “Some studies point to a worrisome trend, such as one from 2005 [1], which argues that a chicken served in the UK in 2004 contained more than twice as much fat as in 1940, a third more calories and a third less protein.” (<a href="#">link</a>)</p> <p>Blog post: Outlines a multi-center obesity study ( “The Global Syndemic of Obesity, Undernutrition, and Climate Change: The Lancet Commission report”), “food systems not only drive the obesity and undernutrition pandemics but also generate 25-30 percent of greenhouse gas emissions (GHGs), and cattle production accounts for over half of those.” (<a href="#">link</a>)</p> <p>External blog post (Carmen Torres Ledezma, HiVOS): References EAT-Lancet Commission report which calls for lowering of animal-based protein consumption for health and environmental benefit, uses Costa Rica’s low intake of animal-proteins as an example (<a href="#">link</a>)</p> |   |  |
| <p><b>Thought for Food</b> (<a href="#">link</a>)</p> | <p>Blog post: Discusses predicted increase in demand for animal products, “increase in demand and consumption will also imply a greater use of resources such as land to grow food for livestock and water, while there will be a greater potential for contamination of groundwater and the atmosphere, through increased production of greenhouse gases.”, article continues to call</p>  | <p><b>Negative</b>, active advocacy for plant-based and alternative proteins over animal protein.</p> |  |

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|  | <p>for “alternative protein” from insects, bacteria and yeast, and cultured meat (<a href="#">link</a>)</p> <p>Blog post: “The Need for Alternative Proteins in Southeast Asia”, discusses impact of livestock farming on climate change and advocates for alternative proteins (<a href="#">link</a>)</p> <p>Blog post: Discusses disease detection in Cameroon for poultry farmers, highlights Poultry Farmers Management Systems (PFMS), importance of early detection of zoonotic disease for consumers and farmers (<a href="#">link</a>)</p> <p>Regional coordinator Matt Foley (FarmAfield) invests in startups that focus on animal health monitoring (<a href="#">link</a>)</p> <p>Blog post: launched series of posts dedicated to alternative proteins (<a href="#">link</a>)</p>   |  |   |
| <p><b>World Business Council for Sustainable Development (WBCSD),</b> (<a href="#">link</a>)</p> | <p>Project: FReSH project promotes sustainable and healthy diets. Section on “Plant-forward foods”-“The consumption of nutrient-rich plant-based foods needs to increase and to diversify for both health and environmental benefits,” “Diets low in vegetables, fruits, whole grains, pulses and seeds are responsible for more deaths than any other risk globally” (<a href="#">link</a>). Section on “Sustainable protein”- “It is necessary to ensure sustainable animal production and the balancing of animal-based protein consumption with plant-based alternatives.”, “Representing 14.5% of GHG emissions... the animal protein production sector must act even faster than other sectors”, calls for “reducing animal protein and introducing sustainable and healthy plant protein consumption” (<a href="#">link</a>)</p> <p>Study: Examines the environmental impact of proteins and their value in nutrition, “proteins are an essential part of human diets, yet they are over-consumed overall,” “Proteins have a significant impact on the environment, with recognized negative effects depending on protein sources,” points to livestock as main source of environmental impact, also highlights benefits, “livestock can play ecological roles...farmers can manage them using methods that are compatible with grassland biodiversity...bringing economic value to these areas” (<a href="#">link</a>)</p> | <p><b>Mixed</b>, engage and collaborate with organisations focused on dairy and livestock with concentration on sustainability, but also regularly call for increased use of plant proteins to combat climate change</p> | <p>Dairy Action for Climate Change</p> <p>Kuwaiti Danish Dairy Company</p> <p>EAT Foundation</p> <p>FReSH</p> |

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|   | <p>Study: “Protein Impact Framework: a flexible tool for companies to assess the sustainability &amp; health impact of animal and plant-based proteins”, (<a href="#">link</a>) accompanying news article (<a href="#">link</a>)</p> <p>Article: New Zealand branch of WBCSD announced collaboration with Dairy Action for Climate change to address emissions in the agriculture industry, Executive Director Abbie Reynolds said “The agricultural sector contributes to 48% of New Zealand's emissions – so this work will have a key role to play, if we are to meet our 30% emissions reduction target by 2030”. (<a href="#">link</a>)</p> <p>Article: Kuwaiti Danish Dairy joined WBCSD (<a href="#">link</a>)</p> <p>External article: David Bennell--manager of food, land, and water for WBCSD--moderated workshop at GreenBiz 20, discussion of plant-based protein and sustainable animal protein (<a href="#">link</a>)</p> <p>External article (Meg Wilcox, GreenBiz): WBCSD hosted event at Davos discussing difficulties in livestock farming and sustainability, “The negative impact of livestock production on land use varies considerably according to regions and land management practices, notes WBCSD,” “WBCSD emphasizes that precision agriculture, sensors, plant protein isolates, processing technologies and product fortification are all examples of technologies that can help promote plant protein production and consumption at scale” (<a href="#">link</a>)</p> <p>Event:<br/>WBCSD held event with EAT and FReSH “to dialogue about how we can ensure a shift towards more sustainable livestock production systems and how we can inspire consumers to shift toward more sustainable and healthy protein sources” (<a href="#">link</a>)</p> |   |                     |
| <p><b>World Food Programme (WFP)</b><br/>(<a href="#">link</a>)</p> | <p>WFP is serving as the anchoring organisation for AT5</p> <p>Most recent news releases cover challenges of small livestock farmers in Africa, the Middle East and Asia. Livestock and animal topics are very present in their news releases and blog posts.</p>   | <p><b>Positive</b>, discussion around livestock largely addresses its importance in developing communities and programs focus on disaster recovery.</p> | <p>FAO<br/>LEAP</p> |



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|                                   | <p>Project: LEAP project provides early detection of droughts in Ethiopia, also used to “help pastoralists identify fresh grazing areas for their livestock, using vegetation maps” (<a href="#">link</a>)</p> <p>Blog post: Highlights WFP program that “is providing much-needed equipment and training, covering key areas of livestock management and milk production — from how best to feed and tend to cattle, to processing and distribution”, “Milk is one of the few sources of animal protein available to children in Burundi. It also helps combat stunting, a cruel condition linked to malnutrition that caps individuals’ potential to thrive, by limiting their physical and cognitive development. That’s why Project Amata, building on previous WFP projects, will also engage schools and local communities, making milk more accessible for thousands of students and raising awareness about its importance in curbing malnutrition.” (<a href="#">link</a>)</p> <p>Project: Collaborated with FAO on climate resilience and food security in Mozambique, FAO led drive to “enhance livestock production through better access to animal feed and animal health services and the use of climate information” (<a href="#">link</a>)</p> |   |  |
| <p>4SD (<a href="#">link</a>)</p> | <p>Blog post: Interview with Jimmy Smith, DG of ILRI, “COVID-19 has made us realise that new heights of collaboration, integration and innovation are urgently needed especially between health, veterinary and environmental disciplines,” introduction from David Nabarro says, “There is a constant need to advance inter-related thought and action on interactions between people, animals and the planet.” (<a href="#">link</a>)</p> <p>Working paper: “COVID in cold environments: risks in meat processing plants,” “Cold food processing plants, and in particular slaughterhouses and cold food processing plants, are favourable environments for COVID transmission” (<a href="#">link</a>)</p>   | <p><b>Mixed</b>, livestock-related topics are not very present on their site. The few instances present take differing stances on the livestock industry.</p> |  |

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| <p><b>International Food Policy Research Institute (IFPRI)</b><br/><a href="#">(link)</a></p> | <p>Samuel Benin (Deputy Division Director, Africa Regional Office) is co-leading the Working Group on Zero Hunger under AT1</p> <p>-Co-authored multiple articles on livestock development in Ethiopia and Zambia, “The results suggest that improving access to markets and extension programmes can enhance the role of livestock in improving food security and reducing poverty in the mixed crop–livestock farming systems”, “Zambia cannot rely on... higher-value export crops to achieve this growth target; broader-based agricultural growth, including increases in fisheries and livestock, will be important.” <a href="#">(link)</a>, <a href="#">(link)</a>, <a href="#">(link)</a>, <a href="#">(link)</a></p> <p>Livestock-related topics are very present on their site, especially in research papers and their blog. Some of the most recent/relevant:</p> <p>Discussion paper: Collaborated with FAO and ILRI to examine the “Livestock Revolution”, “...emphasizes the importance of continued investment in both research on and development of animal and feed grain production and processing, and the need for policy action to help small, poor livestock producers become better integrated with commercial livestock marketing and processing.” <a href="#">(link)</a></p> <p>Journal article: “The role of livestock in developing countries,” describes the importance of livestock sector in rural communities and economies of developing countries, “Managing the required intensification and the shifts to new value chains is also essential to avoid a potential increase in zoonotic, food-borne and other diseases.” <a href="#">(link)</a></p> <p>Blog post: “Chinese livestock farms struggle under COVID-19 restrictions,” examines issues related to supply and market disruptions and lockdowns on livestock farming. <a href="#">(link)</a></p> <p>Journal article (collaborated with FAO, IWMI, ILRI, CSIRO, AGAL, and CGIAR): “Supporting sustainable expansion of livestock production in South Asia and Sub-Saharan Africa”, “...boosting livestock productivity primarily in these two regions [low- and middle-income countries] could improve food security and producer incomes while limiting greenhouse gas emissions and agricultural water usage”. <a href="#">(link)</a></p> | <p><b>Positive</b>, livestock is very present in their research. They often examine its role in developing communities both in their economies and welfare.</p> | <p>FAO</p> <p>ILRI</p> <p>CSIRO</p> <p>IWMI</p> <p>AGAL</p> <p>CGIAR</p> <p>WEF</p> |
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|   | <p>Discussion paper: Examines the relationship between animal-sourced foods and stunting in young children, they found “strong associations between ASF consumption and child growth, particularly for fish and dairy products, and in some instances for eggs and meat also... high relative prices of ASF calories are a critical constraint restricting consumption of these foods, particularly for highly perishable products such as fresh milk and eggs.” (<a href="#">link</a>)</p> <p>Blog post: Blog about the WEF’s Sustainable Development Impact Summit, “Sustainable small-scale livestock farming is essential to meeting the 21st-century’s protein needs”, “...potential harms of raising livestock and consuming meat, milk, and eggs are frequently discussed in the Western media these days, their benefits for much the world’s population, especially in developing countries, get less attention. In low-income countries, animals remain essential for nutrition, livelihoods and crop farming... there’s a lot that can be done to promote a sustainable, broad-based and environmentally friendly livestock sector.” (<a href="#">link</a>)</p> |   |  |
| <p><b>International Center for Tropical Agriculture (CIAT)</b><br/>(<a href="#">link</a>, <a href="#">link</a>)</p> | <p>Livestock-related topics are very present on their site, especially in their blog. Some of the most recent/relevant:</p> <p>What we do: “Forages and Livestock,” “Global demand for livestock products (such as meat, milk, and eggs) is expected to double by 2050. Necessary increases to future production must be reconciled with negative environmental impacts that livestock cause. Diverse tropical forage grasses and legumes, by providing a valuable source of livestock feed, can help farmers improve meat and milk production and raise incomes,” LivestockPlus strategic initiative “demonstrate[s] how improved forages, when properly managed, can lead to sustainable intensification of mixed crop–forage–livestock systems in the tropics, contributing to multiple social, economic, and environmental objectives” (<a href="#">link</a>)</p> <p>Blog post: Interview with Michael Peters (lead for Tropical Forages Program), discusses programme efforts to reduce the livestock sector’s environmental footprint through creating a forages-livestock-water linkage (<a href="#">link</a>)</p>  | <p><b>Positive</b>, there is significant attention to the livestock sector in both the blog and the core objectives of the organisation and their importance in developing communities. It is important to note that the new website does not include livestock on the strategy page.</p> | <p>Bioversity International</p> <p>ILRI</p> <p>KIT</p> |

On the Alliance with Bioersity strategy page, the livestock sector is not mentioned. ([link](#))

Blog post: “How improved livestock and pasture management practices are impacting agro-pastoralists in East Africa”, discusses improving pasture management practices ([link](#))

Blog post: Discusses COVID and tropical deforestation, “Research suggests that small-scale subsistence farmers with little connection to markets deforest less...Some of these linkages are direct (e.g., expansion of ranching activities for dairy or beef production), while others are indirect (e.g., growing maize production for poultry feed or palm oil for snack foods)... respond to increasing incomes in urban areas that in turn support higher calorie consumption...” ([link](#))

Blog post (John Mutua, Birthe Paul, Mireille Ferrari (ILRI) and Rosemary Nzuki): Discusses collaborative project and workshop with CIAT, ILRI, and Karlsruhe Institute of Technology (KIT), “When cows and pigs are exposed to continuous heat stress, their bodies lose the ability to cool themselves effectively, resulting in lowered productivity, weakened immune systems and, at times, death. In East African countries such as Kenya, Uganda and Tanzania, where livestock- and animal-source foods are critical sources of livelihoods and protein, heat stress could have serious economic and nutritional impacts.” ([link](#))

Blog post: Discusses training program and “CLEANED” tool which “assesses the environmental impacts of livestock interventions”, “Livestock plays an important role in the daily lives of farmers throughout East Africa. It provides human nutrition, food security, income, draught power, manure for nutrient cycling, and has important cultural value... The livestock sector is responsible for large contributions to greenhouse gas (GHG) emissions, land use change, soil degradation, water use and loss of biodiversity,” “...promotes interventions that sustainably intensify livestock production by minimizing the negative impacts and enhancing the positive ones.” ([link](#))

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|  | <p>Blog post: “Why it might be time to give livestock a break”, discusses environmental problems relating to cattle especially in Colombia and presents options for more sustainable practices (silvopastoralism). (<a href="#">link</a>)</p>   |  |   |
| <p><b>Devex Future of Food Systems series</b> (<a href="#">link</a>)</p> | <p>Photo essay “Food for Thought”: Features a photo of a smallholder farmer in Rwanda with his goats: “Cattle, goats, and sheep are key sources of meat and dairy, and the livestock industry is slated to help reduce malnutrition and boost livestock farmers’ incomes.” (<a href="#">link</a>)</p>   | <p><b>Positive</b>, livestock vital not only for nutritious diets, but also sources of income for smallholders.</p>  | <p>FAO<br/>One Acre Fund<br/>IFPRI</p>  |
| <p><b>Food Tank website</b></p>  | <p>Blog posts: “28 Innovative Livestock Farmers Who are Shaping the Future of Protein”, “poorly managed livestock systems have raised various environmental and health concerns...But many innovative livestock farmers around the world are driving change by moving away from conventional farming.”</p> <p>“Many farmers on this list have switched from industrial to sustainable livestock production systems showing they can protect the environment, promote animal welfare, and improve incomes.” Global examples (USA, England, Brazil, Philippines, India, Nigeria etc.) (<a href="#">link</a>).</p> <p>“Study Finds Dramatic Increase in Antibiotic Resistance in Livestock” antimicrobial resistance (AMR) in food animals and livestock (<a href="#">link</a>); another blog notes, “it is no secret that livestock production takes a heavy toll on the planet and contributes significantly to climate change”, (<a href="#">link</a>); blogs propose “livestock industry can play a major role in reducing global emissions”, not just changing diets (<a href="#">link</a>).</p> <p>“18 Organisations Working to Improve Livestock Management Practices” (<a href="#">link</a>). Highlights positives: livestock can provide a nutritious source of protein, manure for fertilizer, fuel for stoves and heat, transportation, consumption of food scraps and waste, and management of weeds and insects. Also notes that, “industrial livestock operations, or factory farms, can be very resource intensive, polluting ground and surface water, emitting greenhouse gas</p> | <p><b>Mixed</b>, focus centers on how livestock farmers are changing their methods to be more innovative / environmentally friendly (therefore recognising that there are potentially concerns), the examples tend to favour farmers (and consumers) in the USA.</p> | <p>FAO<br/>UN<br/>Environmental Working Group<br/>Science Magazine<br/>“<a href="#">Global trends in antimicrobial resistance in animals in low- and middle-income countries</a>”</p> |

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|  | emissions, and contributing to the spread of zoonotic diseases and antibiotic resistance”. Better management includes grants to incentivise farmers, holistic land management, assistance to organic farming, and training.  |   |   |
| <b>Alliance for a Green Revolution in Africa (AGRA) (<a href="#">link</a>)</b> | <p>Agnes Kalibata in conversation with DFID on climate change, “from a community and business perspective we need to secure the environment and ensure that the markets are larger and more resilient. Since 2015, 24m people have fallen out of the food security bracket meaning that 24m people that were feeding themselves are no longer able to do so. Zimbabwe lost 10% of their livestock, 25,000 households, not to mention their need for food.” (<a href="#">link</a>)</p> <p>Blogs:</p> <p>“Livestock business helps Isiolo women pay fees, medical bills”, women who have taken up “male-dominated business of livestock keeping” in Kenya, thereby generating their own incomes (<a href="#">link</a>).</p> <p>“Farmers are smart and want to be businessmen”. “Take the production of meat in South America, the US or in Europe, for example: too much land has been deforested only for that quite expensive purpose. With the water required to produce one kilogram of meat, you can produce 300 kilograms of sweet potatoes.” (<a href="#">link</a>)</p> <p>“Somalia: a fragile state with great potential for agriculture”. “Efforts to transform the country’s productive sectors are bearing fruit, with the livestock sector showing some of the biggest gains during recent years” (<a href="#">link</a>)</p> | <b>Neutral</b> , looks at the role of livestock for livelihoods, and also the environmental impacts of meat demand/consumption. |   |
| <b>MaMo Panel (<a href="#">link</a>)</b>                                       | <p>Livestock included as one of their main “Resources”, which collect their reports and briefings, presentations, videos, and infographics by topic. (<a href="#">link</a>)</p> <p>Report/presentation: “Meat, Milk &amp; More: Policy innovations to shepherd inclusive and sustainable livestock systems in Africa”, “highlights options for sustainably promoting growth in the livestock sector, drawing from what four African countries—Ethiopia, Mali, South Africa, and Uganda—have done</p>   | <b>Positive</b> , discusses and researches the role of livestock systems in African development.                                | <p>African Development Bank</p> <p>Islamic Development Bank</p> <p>World Bank</p> |

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|   | <p>successfully in terms of institutional and policy innovation as well as programmatic interventions” (<a href="#">link</a>), conducted accompanying presentation with country representatives, international organisations (the African Union Commission (AUC) with H.E Josefa Sacko, the AU Commissioner for Rural Economy and Agriculture, the African Development Bank, the Islamic Development Bank, the World Bank, ZEF, CIRAD, IFPRI, Welthungerhilfe, UNECA, AGRA, the UK Department for International Development, FAO), and MaMo Panel members. (<a href="#">link</a>)</p> <p>Blog post: “Africa’s Livestock Sector is Key to its Covid-19 Response &amp; Recovery”, “The livestock sector already provides up to 80 per cent of agricultural GDP in some countries, and has provided vital short-term relief during the pandemic for some of Africa’s millions of smallholder farmers... And yet the coronavirus outbreak has also compounded some of the challenges that have held back the sector from becoming an economic powerhouse, limiting access to markets as well as the veterinary services that underpin safe and successful livestock-rearing”. (<a href="#">link</a>)</p> <p>Webinar: “Empowering Women to Succeed in Africa’s Livestock Sector”, hosted webinar that discussed possibilities and challenges for women in livestock with speakers from African Women in Agricultural Research (AWARD), the Senegalese Institute of Agricultural Research (ISRA), La Laiterie du Berger, and government (Dr. Modibo Traore). (<a href="#">link</a>)</p> <p>Blog post: “Five women leading the livestock revolution in Africa,” highlights women who have “overcome immense personal, social, cultural and economic hurdles to build and grow successful enterprises in poultry, camel milk, dairy and pigs.” (<a href="#">link</a>)</p> |  | <p>ZEF</p> <p>CIRAD</p> <p>IFPRI</p> <p>Welthungerhilfe</p> <p>UNECA</p> <p>AGRA</p> <p>UK Department for International Development</p> <p>FAO</p> |
| <p><b>Nutrition for Growth</b><br/>(<a href="#">link</a>)</p> | <p>External article (DEVEX): Says “the world is eating a diet much too high in animal-source foods” (<a href="#">link</a>)</p> <p>Blog post: Covers USAID projects in nutrition, mention Feed the Future and “strengthening supply of essential animal-sourced foods for women and children...”, specifically points to egg production (<a href="#">link</a>)</p>   | <p><b>Mixed</b>, most references were positive or neutral aside from the highlighted news story.</p> | <p>EAT-Lancet Commission</p> <p>UNICEF report on child malnutrition</p>  |

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|   | <p>Blog post: Details Valid Nutrition’s plant-based alternatives in the absence of milk, “Launching VALID’s new product... for the treatment of moderate acute malnutrition and chronic malnutrition involves changing the status quo by gaining approval from the WHO for evidence-based, non-milk RUTF recipes in the first instance; as well as creating the infrastructure to support ‘real’ demand from poor people for products they desire and need.” (<a href="#">link</a>)</p> <p>Blog post: Highlights Ghana Nutrition Improvement Project (GNIP) and the Ajinomoto Foundation (TAF), “KOKO Plus is produced locally using locally available ingredients (soybean) supplemented with micronutrients and lysine to improve the amino acid balance. KOKO Plus is an evidence-based product (World Food Programme [WFP] registers KOKO Plus as a ‘Nutritious powder’ in its food basket) and is designed to meet local needs”, references scientific articles on protein in plant-based products (<a href="#">link</a>)</p>   |  | <p>IPCC report on climate change</p> <p>USAID</p> <p>WFP</p> <p>Valid Nutrition</p> <p>Ghana Nutrition Improvement Project (GNIP)</p> <p>The Ajinomoto Foundation</p> |
| <p><b>The Brooke</b> (<a href="#">link</a>)</p> | <p>Key Issues: organisation focuses on the importance of horses, donkeys, mules to support sustainable development and food security (<a href="#">link</a>)</p> <p>Livestock-related topics are prevalent on their site, especially in their blog. Some of the most recent/relevant:</p> <p>Blog post: “We can’t achieve the SDGs without investing in animal health” (<a href="#">link</a>)</p> <p>Blog post: Highlights ways in which equine livestock assist in fulfilling the SDGs, “...horses, donkeys and mules... support the livelihoods of 600 million people in some of the world’s poorest countries”, (<a href="#">link</a>)</p> <p>Blog post: “...horses, donkeys and mules contribute to the livelihoods of many poor communities around the world, yet their contribution to sustainable development is largely overlooked. These animals are not reflected in the livestock policy around them, making them ‘invisible livestock’.” (<a href="#">link</a>)</p> <p>Blog post: “Could COVID-19 create a more compassionate world for animals?”, emphasizes animal welfare, posits relationship between animal welfare and zoonotic diseases (<a href="#">link</a>)</p> | <p><b>Positive</b>, central mission of the organisation is to promote use of equines in sustainable development.</p> | <p>VDAFACA</p> <p>World Veterinary Association</p>  |



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|   | Event: Workshop on need for veterinary medicines in Ethiopia ( <a href="#">link</a> )  |   |  |
| <b>FABLE Consortium</b><br>( <a href="#">link</a> ) | <p>2020 FABLE Report, Pathways to Sustainable Land-Use and Food Systems. (<a href="#">link</a>):</p> <p>Global FABLE targets: “Greenhouse gas emissions from crops and livestock compatible with keeping the rise in average global temperatures to below 1.5”</p> <p>Impact of Covid: “Livestock value chains have shown to be especially vulnerable to disruptions”.</p> <p>Sustainable and productive agriculture: “All FABLE country teams assume higher crop and livestock productivity as a key component of greater sustainability of their food and land use systems.”</p> | <b>Positive</b> , the aims to understand how countries can ensure food security and healthy diets for all, promote decent rural livelihoods, keep the rise in average global temperatures to well below 2°C above pre-industrial levels, halt and reverse the loss of biodiversity, ensure sustainable water use, and contain the pollution of water and air, including through excessive use of fertilizers. |  |