

SBI/SBSTA Koronivia Joint Work on Agriculture:

2(e): Improved livestock management systems, including agropastoral production systems and others; 2(f): Socioeconomic and food security dimensions of climate change in the agricultural sector

Response from the Farmers Constituency

The Farmers' Constituency represents the many millions of farmers from all corners of the world, from smallholder farmers to large-scale farmers, those planting crops, raising livestock, practising silviculture and fisher folk. We welcome the opportunity to respond to this consultation in this important step forward for agriculture in the UNFCCC negotiations.

The Farmers Constituency welcomes the detailed examination of the different topics within the KJWA. However, agriculture is multi-functional with interlinkages between many topics. As such, awareness is required of the various synergies and possible trade-offs to ensure that solutions are farm and farmer specific.

Farmers have a unique practical expertise, a combination of formal education, traditional knowledge, and experience from living and working on the land and with nature. Many are already drivers of innovation and transformation. Farmers must ultimately implement climate action whilst adapting to a changing climate and so have a central role in the KJWA.

2(e): Improved livestock management systems, including agropastoral production systems and others

1. Livestock products are an important agricultural commodity for global food security because they provide 17% of global kilocalorie consumption and 33% of global protein consumption¹. The Committee on World Food Security (CFS) acknowledged during its 43rd Session the **essential role of livestock farming for poverty reduction and the achievement of food security and nutrition**.
2. The livestock sector contributes to the livelihoods of one billion of the poorest population in the world and employs close to 1.3 billion people^{2,3}. Two-thirds of the world's 600 million poor livestock keepers are rural women who do most of the day-to-day farm animal management as well as the processing, marketing, and selling of animal produce. In areas of the world where crop production is not possible, mostly in dryland or highlands areas, pastoralism provides an essential source of income and sustenance. If climate change increasingly results in crop failures, the flexibility of animal use of unproductive land is a source of food security. It is **highly relevant to the Sustainable Development Goals (SDGs)** as well as to the implementation of the 2014 Rome Declaration on Nutrition and to the fulfilment of the universal Human Right to Food.
3. The CFS adopted recommendations to achieve sustainable livestock development for food security and nutrition and contribute to the progressive realisation of the right to adequate

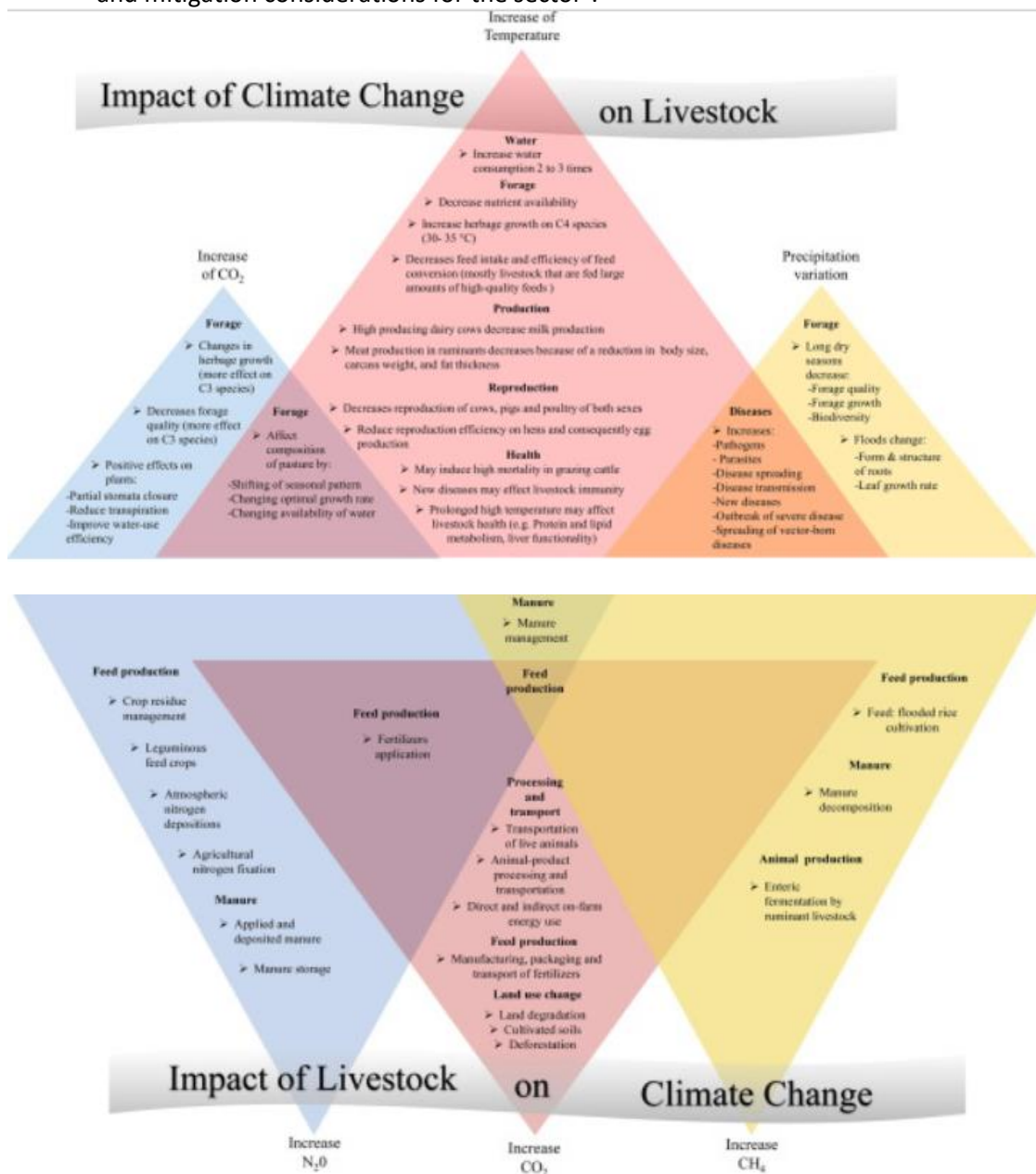
¹ Rosegrant et al, 2009. Looking into the future for agriculture and AKST (Agricultural Knowledge Science and Technology). In Agriculture at a crossroads (eds McIntyre B. D., Herren H. R., Wakhungu J., Watson R. T.), pp. 307–376. Washington, DC: Island Press.

² Hurst, Termine & Karl, 2005. Agricultural workers and their contribution to sustainable agriculture and rural development. Rome: FAO

³ <https://whylivestockmatter.org>

food, in the overall context of achieving the 2030 Agenda for Sustainable Development, recognising the essential role of the small-scale farmers. CFS recommends encouraging the **appropriate intake of animal sourced foods that is culturally acceptable, for healthy diets and improved nutrition**, including through awareness-raising and education in the context of promoting sustainable agriculture and livestock production in accordance with SDG 12. However the livestock sector receives no more than 2.5% of official development assistance to agriculture from major donor countries⁴.

4. **Livestock production is likely to be adversely affected by climate change**, competition for land and water, and food security at a time when it is most needed⁵. However the livestock sector is an **important source of greenhouse gases** and can have other significant environmental and social impacts. The diagrams below summarise many of the adaptation and mitigation considerations for the sector⁶:



⁴ <https://whylivestockmatter.org/>

⁵ <https://www.sciencedirect.com/science/article/pii/S221209631730027X>

⁶ *Ibid.*

5. The livestock sector has a large potential to reduce its emissions and **substantial emission reductions can be achieved across all species, systems, and regions**⁷. For example, in South Asian mixed dairy farming systems, emissions can potentially be reduced by 38% by improving feed and feeding practices, as well as animal health and husbandry. Similar mitigation interventions could reduce emission from West Africa's small ruminant sector by 27 to 41%. In mixed dairy systems in OECD countries, reductions of emission by 14 to 17% are possible, through feed supplements, treatment of manure in anaerobic digesters and energy efficiency. Looking beyond emissions alone to consideration of the **balance of GHG costs (emissions) and benefits (sequestration)** of agropastoral systems highlights additional and sometimes significant mitigation potential (see paragraph 17).
6. GHG emissions from livestock are part of a natural GHG cycle. Wildlife (especially wild ruminants) also contribute (and always have contributed) to this natural cycle. For this reason, (direct) **GHG emissions from livestock have to be viewed differently** from emissions from burning fossil fuels *e.g.* fugitive methane from gas exploration.
7. The **huge diversity of the livestock sector needs to be taken into account** when defining the overall sustainability of mitigation and adaptation strategies, which can vary across different systems, species, and climates.
8. **Animal breeding** can both play a role in animal health, robustness and productivity and the best available and locally appropriate breeding techniques should be promoted. The adoption of dual-purpose cattle breeds that provide both milk and meat can be beneficial.
9. **Proactive management of livestock health.** Health planning, vaccination, and antibiotics only when necessary, are prerequisites for improved livestock management systems. Access to and the support from qualified professionals *e.g.* vets, are essential in this proactive approach, together with the development and deployment of rapid, specific, easy-to-use field tests for livestock diseases to enable efficient control of disease outbreaks. Global strategies will be required to both monitor the prevalence and development of livestock diseases, and to **prevent and control zoonotic pathogens to protect public health.**
10. Good feed quality and appropriate feed components are essential. This includes feedstock testing, feed additives (*e.g.* amino acids or methane inhibitors) and reduced protein content. Adjusting the nutritional content of **feed to meet animal needs** can significantly save resources and improve animal health and productivity. Different feeds may be required under adverse climatic conditions *e.g.* extreme heat, and the creation of fodder banks when quality and supply are good, can improve resilience as well as delivering for mitigation. **Feed quantity and quality are likely to be affected** by a combination of changes in temperature, carbon dioxide and precipitation.
11. Adverse and unpredictable weather events lead to a continuous loss in livestock productivity especially in developing countries. Improvements in **animal housing and/or the provision of shelter** for example using hedges and trees are important for both mitigation and adaptation. In livestock housing, emissions can be reduced *e.g.* with filters, and by separating of slurry and manure.
12. Composting manure and anaerobic digestion. **Better storage and processing of manure** can significantly reduce greenhouse gas emissions of both nitrous oxide and methane. However,

⁷ http://www.fao.org/ag/againfo/resources/en/publications/tackling_climate_change/index.htm

it is also important to **consider the “pollution swapping” effect** when evaluating the effectiveness of any strategy.

13. **Biogas** plants provide solutions for storing manure, reducing emissions and producing green energy at the same time, a triple-win for the farmer and the environment. Small-scale biogas plants processing manure and other residues can help **provide decentralised green energy for smallholder farmers and rural communities** without access to the electricity grid, so supporting sustainable development. Where the energy produced is surplus to farm demands, the export of such energy provides an additional and diversified source of income improving farm business resilience and security.
14. **Efficient manure spreading techniques** such as slurry injectors reduce air contact and therefore minimise nutrient losses, ammonia and methane. Additionally, acidification or cooling of manure where feasible can also be effective mitigation measures.
15. Reducing livestock losses through improving animal health and more productive livestock can **lead to lower emissions per product, numbers of offspring and absolute emissions**.
16. According to FAO **70% of global agricultural land is grassland**. Ruminants are essential to maintain the carbon stocks that are stored in grassland soils.
17. Sustainable grazing systems can **maintain or offer the possibility of increasing carbon storage in grassland soils** but overgrazing must be avoided. Studies show that cattle grazing may improve soil quality and enhance soil sequestration of carbon and nitrogen⁸. An ecosystem assessment of pastoral landscapes in Senegal indicated that such systems can have a neutral carbon balance⁹.
18. Grassland carbon sequestration could further contribute to the mitigation effort by, with global estimates of about 0.6 GT CO₂-eq per year. In some situations, **grasslands and rangelands could be more resilient carbon sinks than forests**¹⁰.
19. **86% of livestock feed is not suitable for human consumption** (grass and leaves, oilseed cakes, by-products, and crop residues)¹¹. This demonstrates the role of livestock for food security, nutrient cycles, maintenance of grasslands and recycling of food by-products. Additionally, agropastoral systems play an important role in landscape conservation and have created iconic landscapes that attract tourists and are important spaces for recreation.
20. The **management of livestock products need attention** particularly in developing countries e.g. vessels to keep products cool through processing, storage and/or to the market.
21. **Encouraging product specifications** e.g. fat in milk, size in eggs, especially in developing countries should enable farmers to get higher value of their produce, but this will require fairness and transparency across the supply chain.
22. **National GHG inventories must be improved** starting with better data availability and data collection at farm level so that the changes in practice made by farmers are reflected in the

⁸ <https://www.sciencedirect.com/science/article/abs/pii/S0167880913002697>

⁹ Assouma et al, 2019. Pastoral landscapes in the Sahel: a carbon balance with unexpected potential for climate change mitigation. CIRAD policy brief, November 2019.

¹⁰ <https://climatechange.ucdavis.edu/news/grasslands-more-reliable-carbon-sink-than-trees/>

¹¹ FAO, 2017. Livestock: On our plates or eating at our table? A new analysis of the feed/food debate

inventory. Better quality activity data should be equally supported by research and modelling to move from Tier 1 to Tier 2 and 3 emissions factors. Other metrics like GHG intensity would demonstrate progress alongside reductions in absolute emissions. Such productivity improvements would be much more relevant to farmers and the range of different farming systems across the world. In addition the agriculture inventory does not account for the differences between short- and long-lived gases. A better representation of the sequestration of carbon in soils and vegetation is also required.

23. **Sustainable livestock farming** should allow livestock farmers all over the world to financially support their families by achieving a fair income. It should evolve into an attractive business that provides young farmers with the financial security and stability to invest for a more sustainable future.

2(f): Socioeconomic and food security dimensions of climate change in the agricultural sector

24. Food security as defined by the UN Committee on World Food Security exists when all people at all times have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. This definition points to **four pillars of food security**: physical availability of food, economic and physical access to food, food utilisation influenced by sanitary and nutritional quality of food and stability of the other dimensions of food security.
25. Agriculture is on the frontline of climate impacts and the resilience of agricultural systems are distributed unequally. The IPCC's recent land use report highlighted that **climate change is already affecting all four pillars of food security**¹². It has been suggested that rather than being a once-a-century event, severe production shocks, including food shortages, price spikes and market volatility, are likely to occur every 30 years by 2040¹³.
26. **Ensuring food security should be one of the key criteria for assessing and implementing mitigation and adaptation strategies in agriculture.** Governments should consider it a priority when setting greater ambition to in their Nationally Determined Contributions (NDCs). As stipulated in Article 2.1b of the Paris Agreement, mitigation strategies should not pose a threat to food and nutrition security anywhere, especially for poor rural populations in developing countries. Adaptation actions should involve measures that are autonomous (triggered by changes in agroecosystems, markets, or welfare changes), incremental (maintain the essence and integrity of a system or process at a given scale and focus on improvements to existing resources and management practices) and transformative (change the fundamental attributes of a socio-ecological system either in anticipation of or in response to climate change and its impacts). Focusing and supporting the most vulnerable – such as small-scale farmers, women and youth - will help to address hunger, food security and climate change simultaneously.
27. Ensuring synergy between climate and food security workstreams is essential. **Stronger and continued collaboration between the KJWA and the CFS** should lead to more visibility for food security and nutrition in the UNFCCC process and minimise the risk of duplication of effort.

¹² <https://www.ipcc.ch/srccl/>

¹³ <https://af.reuters.com/article/energyOilNews/idAFL5N1004SI20150814>

28. **Women farmers have a pivotal role in global food security.** For example, women produce 70% of Africa's food; two-thirds of the world's 600 million poor livestock keepers are rural women who do most of the day-to-day farm animal management as well as the processing, marketing and selling of animal produce. A step-change in investing in rural women farmers is required through an integrated, gender transformative approach to training, education, access to specialised support e.g. access to veterinary services, finance, and tools. **Empowering and valuing women** increases their capacity to improve food security in a changing climate and substantially improve the wellbeing of their families and communities as well as creating effective synergies among adaptation, mitigation and food security.
29. Farmers are seeing this impact with harvests and incomes being lost. This is leading to **farmers leaving the sector**. In developing countries migration from rural to urban areas both within and outside the country can lead to social tensions and turmoil. The lack of opportunity particularly influences young people to look outside farming. It is a **global challenge to encourage young people to remain in and/or to join** the agricultural sector.
30. **Urgent attention continues to be required on reducing food losses and waste** for effective climate action and to promote a healthy balanced diet thereby ensuring food and nutrition security. Food storage, well managed infrastructure and (international) trade can help alleviate the consequences of crop failures.
31. In certain areas of the world, **extension systems are inefficient or do not exist**. More focus and funding are required to achieve transformation of our agricultural systems at scale. **Learnings from the KJWA should be made available** to knowledge exchange, extension and advice professionals as they, together with applied research, have a critical role to play in providing (impartial) information to build upon farmers' own traditional knowledge.
32. **Farmers across the world face many common challenges:**
- unfair sharing of value-added and risks across the food chain;
 - over-dependence on investors, traders and processors;
 - volatile prices and market fluctuation along vulnerable food-chains;
 - instability in trade and inadequate prices;
 - inadequate access to insurance systems and loans can help to reduce the financial and economic pressure of climate change;
 - insecure land tenure. The New Delhi Declaration reaffirmed the relevance of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security for better access, control and stewardship over land and equitable tenure security, in accordance with relevant national legislation, for the implementation of the UNCCD and the promotion of sustainable land management¹⁴.
33. Addressing these challenges requires the **development and implementation of policies and tools** to facilitate farmers' access to markets and including creating an enabling environment for farmer-owned cooperatives.
34. Despite the challenges faced, especially by developing country and smallholder farmers, farmers are ambitious - they want to be, and are, part of the solution. **Leadership by farmers is essential to success**. By letting farmers lead and focusing on the sustainability of

¹⁴ <https://www.unccd.int/news-events/new-delhi-declaration-investing-land-and-unlocking-opportunities>

farming operations as they respond to the changing climate, policymakers can encourage win-win scenarios. Farmers must be at the centre of discussions and action. Farmers' organisations and co-operatives have a key role as agents of influence and change *e.g.* in facilitating farmer engagement, co-ordination, direct involvement in development programmes *etc.*

The next steps for the KJWA: initial thinking

35. The **KJWA should be instrumental in raising global climate ambition for agriculture**. It is unique in its focus on agriculture and climate change. Work within the **KJWA should therefore be sustained** over the long-term to support agriculture and food security in the context of climate mitigation and adaptation seeking to advance both scientific and technological advice and inform and catalyse implementation. The work should be flexible in order to meet the range of local, national and regional challenges and priorities. Agriculture must be mainstreamed in international climate change policy including future mechanisms and approaches established under Article 6 of the Paris Agreement. Such mechanisms and approaches should not endanger food security and be based on robust science, respect environmental integrity and farmers rights.
36. **The KJWA should lead to an increase in financing and investment in agriculture by:**
- continuing to encourage and guide the operating entities of the finance mechanism such as the Green Climate Fund (GCF) to assign a higher priority to agriculture in their funding programmes and involve farmers' organisations and cooperatives in GCF projects;
 - exploring innovative financial models to finance climate actions in the sector, including through blending public and private sources for example, for ecosystem services like carbon sequestration;
 - encourage the consideration of a **future Standing Committee on Finance forum on agriculture** to enhance the understanding on how to accelerate the mobilisation and delivery of climate finance for sustainable agriculture. This should provide a platform for a wide range of stakeholders from governments, climate funds, financial institutions, civil society, think tanks and the private sector to discuss a topic of interest in climate finance and promote linkages and coherence in the mobilisation and delivery of climate finance for agriculture;
 - encourage and facilitate the accreditation of an entity from amongst the global community of **farmers' organisations and cooperatives to become an Accredited Entity** to the GCF.
37. The continuation of work under the KJWA must, as others have said, continue to **"provide adequate time and space for constructive exchange among Parties and observers"**. In particular, the active participation of farmers must be upheld.

Covid-19

38. Covid-19 has brought fragility of global food security to the fore. The World Food Programme (WFP) has raised the prospect of a 'hunger pandemic' that could result in 300,000 deaths per day¹⁵. Food must get to those people in most need.

¹⁵ <https://insight.wfp.org/wfp-chief-warns-of-hunger-pandemic-as-global-food-crises-report-launched-3ee3edb38e47>

39. The UN General Secretary has called the Covid-19 crisis an ‘unprecedented wake-up call’ and wants to see ‘the recovery to turn into a real opportunity to build a better future’. This opportunity must be seized to **change the food system for the better, one that is fairer and more equitable and leads a world without hunger.**