

# **Sustainable Livestock and Food Systems Transformation**

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**A St George's House Consultation**



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## Summary

Livestock food systems are trapped in crisis. They are a major driver of the climate, biodiversity, pollution, and health 'Nexus'. Current trends endanger the safe biophysical state of the Earth - and yet transformation of livestock production and consumption has the largest potential to help regulate the planet. Substantive real-world progress at global scale will need to happen - in this decade - for transition pathways to avoid a reasonable likelihood of disruptive tipping points towards planetary and societal breakdown.

There is a widely held consensus for a future based on international solidarity and rights-based principles, and within safe and just planetary limits. This preferable future could become more probable if ways to resolve real-world trade-offs can be found. Global goals and key principles for sustainable livestock need to be tailored to inform context-level pathways. It is vital to differentiate between high and low meat-consuming countries, and between large producer and importer countries.

A set of underlying pressures and constraints that create self-reinforcing lock-in mechanisms. These are: a common and context-specific problem; values and beliefs; justice; and the rates of change in societies and food systems.

There are tangible and plausible, near-term milestones that could contribute to solving barriers to transition, including:

- Securing delivery on the Global Methane Pledge
- FAO Global Plan of Action for Sustainable Livestock Transformation raising ambition on timescales and financing
- Integrating the UNFCCC + UNCBD on food system transformation
- Progressive countries' National Food Action Plans
- Establishing a Cage-Free Europe and EU support for small-scale agriculture
- Greater consensus on reform of livestock subsidies
- Establishing an Inter-Governmental Platform on Anti-Microbial Resistance
- High-ambition governments giving clearer policy signals to business, greater consumer labelling (e.g. GHG emissions, production and farming methods).

Taking account of the current strategic landscape and probable trends, intervention should focus on the following strategic gaps in solutions to accelerate change:

**Enabling resources for practical action** already exist but dissemination and communication are insufficient and fail to leverage good practice. There should be more focus on mechanisms that remove current transition cost-barriers for practitioners;

**Context-specific policy opportunities** have greatest potential to accelerate progress, including regional, country, and city levels, common processes, and major political and public moments;

**Creating the conditions for change** by more effectively framing the debate with greater inclusion, diversity of voices and relevance of stakeholders. To be effective, convergence is needed with other movements for societal change;



**A commonly agreed vision for what positive change looks like.** Global goals and key principles for sustainable livestock are needed to establish a core narrative. However, the role of livestock is contested space and context specificity is also needed to be relevant to different audiences.

These solutions are inter-dependent, and action is needed by many actors collaborating across institutional boundaries.

Despite geo-political challenges, livestock food systems transformation is more critical than ever. The Consultation concluded that that the debate must be continued and widened in order to set a common agenda for action.

## 1 Why we came together

Food systems are a leading cause of environmental degradation and depletion of natural resources which, in turn, impacts on the food systems themselves. Globally, this contributes to an interconnected climate-nature-hunger-health crisis with growing risks that drive social instability and conflict. The goals of Agenda 2030 require widespread transformations to avoid endangering the biophysical state of the Earth.

Livestock production uses three-quarters of all global agricultural land. It is the main, or a major, driver of biodiversity loss, deforestation, climate change, soil degradation, and the overuse and pollution of water. It contributes to key non-communicable diseases and antimicrobial resistance, as well as increasing the risk of zoonotic diseases and future pandemics.

However, at the same time, livestock production represents the main source of livelihoods for many, and especially for those in low-income countries. The FAO has estimated globally that about half the people (650 million) living on less than \$2.15/day in 2019, were directly dependent on livestock for their livelihoods.

In view of the importance and urgency of these issues, this Consultation was held to take the debate further, with a view to co-creating a shared agenda on sustainable livestock transformation in support of preparations for the critical UNFCCC COP30, the UN Food Systems Summit +4 Stock Take and other key global policy fora.

## 2 What we did

St George's House, founded by the late Prince Philip and located in the grounds of Windsor Castle, has a long track record of work at a senior level on food, farming, health and climate change. Such work brings together key people from government, civil society and the public and private sectors from around the world.

The Consultation included an online discussion in July 2024 and an in-person meeting held at Windsor Castle in February 2025 (see Annex). The purpose was to explore the key strategic issues and barriers to building common ground for solutions, with particular emphasis on the competing tensions and linkages that contribute to the complexity of this agenda. An enquiry-based design process was used, guided by systems-thinking and related complex problem-solving approaches.



All discussions and this Report are subject to the [St George's House Protocol](#) and no comments made during a Consultation are attributed to individuals. This Report is the output of this process, and includes a summary of the general discussion, key findings, a list of participants, and is in the public domain.

### 3 Livestock as a key leverage point for food systems sustainability

The livestock-based agricultural biome has the largest potential to help regulate the planet's essential nitrogen, phosphorus, water, and carbon cycles. And yet, with an expected global population of 10 billion by 2050, demand for animal-sourced food is set to increase further.

Over 700 million people still face hunger. Animal-sourced foods are an important nutrition source for children, pregnant and breastfeeding women, and for many people living in low-income countries. Meanwhile, small-scale farmers are inadequately supported, and their livelihoods under threat from further unsustainable intensification by large-scale producers.

By contrast, in high-income countries the overconsumption of animal protein compromises human health. Reduction of excess meat and dairy consumption is among the most effective measures to mitigate greenhouse gas emissions, where calories and ruminant animal-sourced food are consumed in excess of health guidelines. This can have significant co-benefits for environment, health, food security, biodiversity, and animal welfare.

In the face of multidimensional crisis, business-as-usual is not an option for the global food system, which has processes, responses and outcomes closely linked to social, economic and political mechanisms. Changes in livestock production and consumption systems are central to pathways for net zero climate goals, to a nature-positive future, and to combatting the related and growing global inequalities in poverty and human health.

### 4 Trapped Transition and the Power for Change

Despite urgent calls for fundamental transformations, the global food system is trapped in crisis. The issue is characterised by large uncertainties, complexity and divergent values among actors. Policies and programmes for action are highly contested and there is growing political polarisation. Existing political institutions at governmental and inter-governmental levels are finding it increasingly difficult to address the scale and urgency of these challenges. For many, the challenge of sustainable transformation seems intractable.

The Consultation recognised the nature of the challenge, and that the collective response requires deep systemic change to bring the goal of a safe and just transition towards a future where livestock systems are part of the solution, not the part of the problem.

Livestock systems transformation needs new perspectives to justice that promote Earth system stability to prevent the collapse of conditions of life for all species. Central to this challenge is the need for humanity to learn to live in harmony with nature.



We explored the underlying pressures and constraints that prevent sustainable livestock transformation, the main self-reinforcing factors that contribute to these barriers and lock-in mechanisms. We identified four key barriers, and our discussion focused on assumptions about each of these and where there is the greatest potential for interventions that might provide solutions to them.

#### a) A common and context-specific problem

The need for context-specific responses in a multi-lateral process creates barriers to adopting common targets to achieve a global outcome.

Humanity faces a growing range of catastrophic and existential risks from destabilising the biophysical processes that regulate global commons, which form the shared life support systems of the planet. The response needed far exceeds the capacity of any individual state and requires strong and sustained international cooperation.

However, despite the common nature of the problem, its impacts and the consequences of its solutions vary between countries and societies. Food systems touch all of us in our daily lives, and the main challenges for sustainable livestock system transformation are context-specific and lie in the social and cultural domain.

The livestock sector is complex in terms of diversity of systems, farm size, farmers, species, and geographies. Some countries are concerned about the environmental impacts of existing production, others are concerned about nutrition for their people. Perspectives differ, for example, on the importance of ensuring better lives not only for humans but also for animals. Perceptions differ on the economics and true costs of food. This diversity makes it difficult to agree on the direction of transformation and common targets.

There is potential for greater progress to be enabled through a more widely understood and agreed evidence base. This needs to be a holistic and integrated view at systems-level, rather than focusing on individual themes. The Sustainable Development Goals provide a global framework and recognition is needed that one universal target is not possible for all regions.

#### b) Values and beliefs

Food is core to culture and identity. It can create strong ideological issues that often become highly polarised. For example, food affects people daily and governments are concerned about food prices and cost-of-living crises. This makes any real change difficult if there is a risk of price spikes or in supply.

The political economy of food systems does not enable rational models to be adopted for food consumption and for farm businesses. A commonly agreed and coherent financial typology is lacking. Efficiency measures in current assessments of livestock systems exclude externalised costs, such as environmental impacts, zoonotic disease, pandemic risk, antimicrobial resistance. Progress could be made through the agreed adoption of holistic and systemic frameworks that measure and value the positive and negative environmental, social, health and economic costs of and benefits of transformation, in order to facilitate business, consumer, investor and policy decisions.



### c) Justice

Sustainable livestock transformation is also a matter of justice. A key question is how biophysical safe limits can be maintained while also meeting goals for well-being and justice. This requires integration of peoples' lives and the planet's stability to protect humans, other species and the maintenance of life on Earth.

Change creates questions over how to partition responsibility in both mitigation and adaptation. Disparities between the contexts for high-income/high-consuming OECD countries and the majority of countries globally make it difficult to achieve a shared response.

Access to knowledge and information - and equality over how they are interpreted - is another dimension to justice in this debate. Knowledge is often treated as context specific. Although the bio-physical processes governing planetary sustainability are universal, there are social and political barriers to legitimacy for the scientific case for change in food systems. For example, there is a perception of structural racism in much evidence-based research, such as the case for shifting to a 'Mediterranean-based' diet.

Many stakeholders fail to recognise the power imbalances in projecting their own narratives to different country contexts. When actors oversimplify, it can lead to difficult and inconsistent narratives that become barriers to collective agreement. There can be a lack of recognition in basic evidence that demonstrates real trade-offs exist between equally legitimate goals, such as tackling climate change, nature restoration and human development needs.

### d) The rates of change

The time we have left, in terms of Earth system stability, is less than the time currently being taken for society to respond. Research shows that the production of animal sourced foods needs to be reduced by at least half globally to stay within environmental limits and planetary boundaries. Substantive progress in real-world transformation of food systems at global scale will need to happen, in this decade, for transition pathways to avoid a reasonable likelihood of disruptive tipping points towards planetary and societal breakdown.

Food insecurity and crises of hunger are creating acute pressures and constraints on many humanitarian and development agencies. This trend is growing with the frequency and severity of conflict, human migration and environmental extremes. The urgency and need for short-term responses limits capacity and investment in the enablers of change.

Lack of time is part of the problem, but time is an enabler of solutions. Rapid change elicits negative socio-political reactions, and diversification and change in diet are often polarising. Time is needed for positive shifts, and this needs to be taken in to account. For example, many farmers and consumers are unwilling to change, new production practices and training have to take place, market access needs development, and supply chains need to adapt.

Dialogue and shared understanding are needed, encompassing both the bio-physical state of the Earth system, its growing instability and cascading risks, and also the diversity of local contexts and the specific nature of social and political issues.



## 5 Beliefs for our future

Based on our understanding of the global situation for livestock and food systems and likely developments, we discussed how we collectively view the world today, how we feel the world is likely to change if current trends continue and, how we would like the world to be in the future.

The Consultation interrogated a continuum of plausible choices between contrasting future 'archetypes', based on analysis by the Global Scenario Group of hundreds of future scenario exercises, and reflecting four well-established 'future worlds':

- **Growth** - Continued economic expansion driven by capital markets, strong individualism, competition, and a focus on market-based solutions to social challenges
- **Restraint** - Reduced consumption of resources, and a focus on environmental stewardship, cooperation, equity, and human well-being
- **Catastrophe** - Exceeding the safe operating space of Earth systems, global risks reach tipping points and cascades, leading to human mortality and migration, conflict, societal fragmentation and permanent or periodic collapse
- **Transformation** - Fundamental transition away from incremental adjustment within current paradigms and systems, associated with technological innovation and major social change

**The Probable Future** - There was a high-level of consensus that the most likely future trajectory is one of growing planetary risk to the safe operating space for humanity due to extractive economic growth. Livestock production is expected to continue to grow, driven by negative feedback loops between industrial production, hunger and tariff-induced food inflation, and coupled with perverse effects such as the growth in animal-feed production as a by-product of biofuels.

There is a realistic prospect that land-use competition will intensify, and resource constraints will limit transition. 'Status quo' farming is reinforced due to political reaction against sustainable reforms. Business uncertainty and economic slowdown are likely to result in retrenchment of the corporate sector in relation to sustainably responsible practices.

It was noted that this 'global crisis' worldview is more typical of observers from the Global North, and that more optimistic 'recovery from catastrophe' thinking can be found among some with perceptions based more on histories of colonial slave trade and resource depletion and rebuilding from social and cultural collapse. Nonetheless, the debate concluded in the short-term there was a strong evidence that global geo-politics would result in policymaking becoming more sectoral, short-term, polarised, and running counter to the Sustainable Development Goals. Real and present global risks include the Amazon Basin tipping into becoming a net-emitter of greenhouse gases due to the expansion of livestock agriculture, and the likelihood of another zoonotic global pandemic.

**Common purpose and plausible pathways for a Preferable Future** - Participants shared a clear, positive vision desirable future based on international solidarity and rights-based principles, with equity enabled by redistribution and regenerative growth within safe planetary limits.





There was a strong consensus on why food matters and that we want to see a future founded on values of intra-generational and inter-generational justice and harmony with nature: Nutrition for All (social justice); Food Within Safe Planetary Boundaries (sustainable use of environmental goods and services); Food at One with Nature (One Health/Peace with Nature).

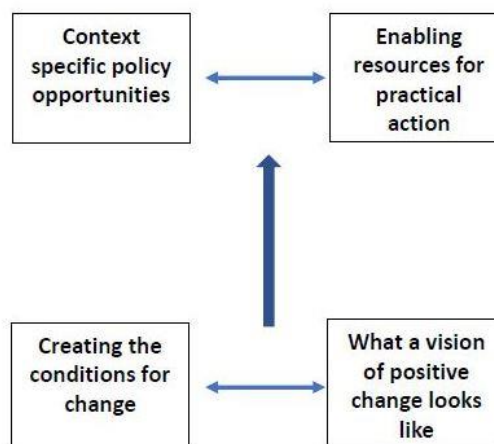
This preferable future could become more probable if ways to resolve real-world trade-offs can be found. Plausible milestones through collaboration include:

- Securing delivery on the Global Methane Pledge
- FAO Global Plan of Action for Sustainable Livestock Transformation raises ambition on timescales and financing
- Integration of the UNFCCC + UNCBD on food system transformation (e.g. NDCs and Accounting for Nature indicators)
- High-ambition countries' National Food Action Plans
- Establishing a Cage-Free Europe and EU support for small-scale agriculture
- Greater consensus on reform of livestock subsidies
- An inter-governmental evidence platform on anti-microbial resistance is established
- High-ambition governments give clearer policy signals to business, greater consumer product labelling (greenhouse gas emissions, production systems, transparency of farming methods).

## 6 Levers of change

Taking account of the current strategic landscape and probable trends, we identified several strands of intervention that are strategic gaps in solutions to accelerate change.

There was a strong consensus that these interventions are inter-dependent. Action is needed in combination by many actors collaborating across institutional boundaries to build momentum in transition pathways.



### a) Enabling resources for practical action

A wide range of knowledge products, tools and frameworks for actionable solutions already exist. However, dissemination and communication processes are hugely insufficient and fail to leverage the wealth of resources for promoting good practice. This requires greater collective institutional capacity for curation and consensus-building, and a commitment to create a widely-accepted set of solutions 'hubs' or knowledge platforms.

We also concluded that many institutions underestimate the importance of enabling farmers, fishers and other practitioners to access actionable, educational material. More focus is also needed on removing current transition cost-barriers for practitioners, through a range of mechanisms, including investment finance, certification and greater



diversion of existing subsidies. There was a call for a working group to be established to help grow ideas, such as a Livestock Transition Bond.

#### b) Context-specific opportunities for policy progress

While the planetary climate-nature-hunger-health crisis ultimately requires a global response, the Consultation recognised that the greatest opportunities for accelerating progress at a policy level are found in sub-global contexts. These include the regional, country, and city levels, common processes, and major political and public moments; for example, the UNFSS+4 and, regionally, the current European Council Presidency Trio and individual countries (UK, Denmark and the Netherlands).

In terms of pathways, we noted a major contrast between the focus of the UN and global institutions on the "Global South" and the discourse on principles applicable to the "Global North" among dominant actors.

The global food policy space is crowded and much of the advocacy on the case for change has been made already. In terms of political moments, progress can be catalysed through targeted effort to support governments to take the next steps on transition pathways, such as in development and adoption of Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) for climate change, and National Biodiversity Strategies and Action Plans (NBSAPs).

Global goals and key principles for sustainable livestock need to be tailored to inform context-level pathways, and it is vital to differentiate between high and low meat-consuming countries, and between large producer and importer countries.

#### c) Creating the conditions for change

Despite the clear and compelling evidence base on the needs for sustainable and rights-based future livestock food systems, there still needs to be shifts in societal values and beliefs for this to be established as the broadly accepted agenda.

The challenge is to more effectively frame the debate. There is a risk of diversion or avoidance on the substantive issues if the debate is framed in ways that become polarised (e.g. the counter-reaction to 'vegetarianism'). Alternative ways of communicating messages, with greater inclusion and diversity of voices, are needed that have wider recognition and relevance of stakeholders.

To be effective, frames need to converge with other rights-based movements in societies, and converge on common systems-level issues, including health, safe planetary limits, social cohesion, and resilient land-use-based livelihoods.

#### d) Agreeing the vision for what positive change looks like

We concluded that it is critical to agree a core narrative and a common vocabulary for sustainable transition, and to be able to specify what next steps look like. This is essential in order to set the agenda and rebut negative counter-narratives in a contested space that can be politically captured by vested interests (e.g. the alternative protein debate).

Global goals and key principles for sustainable livestock are needed to establish the ground rules. However, context specificity is also needed to be relevant to different



audiences. Much thinking has already been done and a consensus can, and should, be built quickly.

Key themes relevant to further narrative development include:

- Demonstrating the cost of inaction, not just responding to counter-narratives based on arguments about the true cost of current externalities
- Highlighting the future of food supply, particularly to climate change-induced disruptions, and the regional risks of climate-change impacts on regional livestock production systems and the global vulnerability of supply chains
- The inter-dependence of human health and wellbeing, animal health and welfare, and the safe bio-physical conditions for life on Earth
- Providing global thinking to support national governments, companies and cities set science-based targets for local action on food systems, complementing the work of the Science Based Targets Initiative on climate action.

## 7 Conclusions

This Consultation process originated from the debate in and around the UN Food Systems Summit. Cross-sectoral collaboration is fundamental for food systems transformation but is less mature than some other agendas, such as climate change and biodiversity. It is also more complex. The debate is at a much earlier stage in the journey.

Despite the necessity of collective impact, the pressures and constraints on investing proactively in collaboration are acute. Compartmentalised multi-lateral processes absorb the capacity of many civil society organisations and inter-governmental institutions, and they perpetuate sectoral silos in which policy communities lack a common language. This challenge is growing as the frequency and severity of conflict, human migration and environmental extremes increase and cascade.

Shortly before the Consultation in February, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) launched its landmark 'Nexus Report'. This is the most comprehensive scientific assessment of the interlinkages between Food, Biodiversity, Water, and Health. IPBES calls for a whole-of-society approach to contribute collaboratively to transformative change.

The Consultation process was a rare opportunity to bring together a cross-sectoral community of expertise that transcended the usual conversations. As the meeting in Windsor closed, the world was reacting to further geopolitical shocks with major reductions in aid for international development, including assistance on food, water and climate change. We concluded that the transformation of livestock food systems is more critical than ever for a safe and just world. Participants reaffirmed their commitment to continue and widen the debate, and we agreed the need to set a common agenda for action.

Professor Mike Clarke  
Independent Facilitator  
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## Annex: Participants

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