



A Statement on Sustainable Animal Agriculture Systems

January 2017

In spring 2016 in Washington, D.C., the Global Alliance for the Future of Food met with experts, advocates and other funders working on sustainable animal agriculture systems* to determine a shared narrative and position, and identify opportunities to take collective action.

Emerging high-level messages

- 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, 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 shared understanding of the issues

The issues surrounding animal agriculture and food systems are complex.

Take livestock management as an example. Intensive, large-scale systems of production are known to generate negative environmental impacts, while more regenerative, traditional systems of animal management can be part of climate solutions by restoring soil carbon and revitalizing degraded lands that are otherwise abandoned.¹ On the consumption side, there is some agreement that overall meat consumption levels need to decrease for both health and environmental reasons.² Yet there are significant ethical dilemmas around influencing consumption, considering the inequality in access to meat between wealthy and less wealthy nations, and the economic and sociocultural value of animal agriculture. These consumption challenges speak to stark regional and economic disparities that influence access to meat.

In many parts of the world we have inherited an extractive system that aims to maximize production, concentrate the supply of cheap/heavily subsidized raw materials, and supply a food processing industry that encourages reliance on cheap animal proteins and processed meats.³

This cheap meat comes at a high cost. We have a system that generates significant negative externalities and impacts such as massive deforestation, a growing epidemic of antibiotic-resistant infections leading to thousands of human deaths per year, abysmal labor conditions and toxic exposure of workers, reduced biodiversity, and increasing rates of non-communicable diseases (NCDs) - which are on the rise in part due to contaminants found in meat and meat by-products, such as agrochemicals, food additives, hormones, and antibiotic residues.⁴ The expansion of conventional feed crops –

* The term “animal agriculture systems” refers to the land-based production of domesticated animal species for consumption of meat and other by-products (milk, eggs). We are not including aquaculture, fisheries, nor wild meat harvesting in this discussion.

primarily large-scale monoculture maize and soy farming dependent on the intensive application of nitrogen fertilizers and agrochemicals – has its own destructive consequences, including amplifying deforestation, biodiversity loss, air and water pollution, and degradation of soils.⁵

Currently:

- Most of the world's regions over-consume protein, with rising rates in emerging economies.⁶
- However, 25% of the world's children are stunted, and 795 million people are food insecure, speaking to inequitable access to food and protein.⁷
- Ruminants are responsible for nearly half of greenhouse gas emissions from agricultural production, use one-quarter of the Earth's landmass, excluding Antarctica, for pasture, and account for one-third of the global water footprint of farm animal production.⁸
- 80% of antibiotics purchased in the United States are used for livestock,⁹ contributing to skyrocketing rates of antibiotic resistance.
- Application of untreated animal waste on cropland contributes to excessive nutrient loading, contaminating surface waters, and stimulating bacteria and algal growth and subsequent reductions in dissolved oxygen concentrations in surface waters.¹⁰ This practice leads to contaminated drinking water and dead zones.¹¹

Enough is already known, and examples of sustainable animal agriculture systems are available to point the way forward.

Mixed, integrated farming systems that include animals show promise across different contexts globally, to solve a number of problems associated with current animal agriculture models.¹² Improved management of grazing lands can restore native grasses and significantly improve soil carbon sequestration, mitigating climate change.¹³ Additionally, efforts to improve industrial production practices along the supply chain can have significant positive impacts on water quality, forest cover, animal welfare and human health. The following are examples of production-related initiatives that take a variety of approaches to improve animal food systems:

- Regenerative grazing initiatives in the US, Zimbabwe, Namibia and elsewhere use Holistic Management and other similar techniques to facilitate provision of essential ecosystem services, increase soil carbon sequestration, reduce environmental damage, and restore rural economies by keeping producers on the land.¹⁴
- Indigenous Lakota Sioux communities in North America have established Native American Natural Foods in order to regenerate grasslands through the production of high-quality buffalo products.¹⁵
- Pastoralists in northern and eastern Africa have been working to maintain their ecological, economic, and biocultural practices.¹⁶
- Free range poultry initiatives that are integrated with growing diversified feed crops are blossoming, with examples like Main Street Project¹⁷ and Polyface Farm¹⁸ in the US.
- The Mississippi River Collaborative¹⁹ works to improve water quality by reducing agricultural sources of pollution through policy change, training, and technical research, as well as communication and public outreach.
- Verified Deforestation Free (VDF) certification systems improve sourcing standards, establish traceability systems, and encourage the adoption of better production practices for soy and beef.²⁰
- Initiatives like Farm Animal Investment Risk and Return are raising the awareness of investors to understand the risks and opportunities related to livestock production, and to support them to assess these issues as part of their investment processes, putting pressure on industry to improve their practices.²¹
- Other investor-driven initiatives, including Ceres,²² NEI²³ and AARC,²⁴ are putting pressure on meat producers to improve water quality, reduce antibiotic use and improve animal welfare.

Some initiatives addressing consumption issues include:

- The World Resources Institute program "Shifting Diets for a Sustainable Food Future" has developed the protein scorecard and shift wheel, tools to support a shift towards more sustainable diets.²⁵
- Brazil has developed Dietary Guidelines that includes the following statement: "Natural or minimally processed foods, in great variety, and mainly of plant origin, are the basis for diets that are nutritionally balanced, delicious, culturally appropriate, and supportive of socially and environmentally sustainable food systems."²⁶
- Many companies have begun offering antibiotic-free meat choices, responding to consumer demand.

Well-managed animal agriculture systems and sustainable diets are necessary elements of our future food systems.

The Global Alliance for the Future of Food and allied grant-making organizations seek to **accelerate the transition to**

sustainable animal production and livestock consumption that is renewable, resilient, equitable, diverse, healthy, and interconnected.

Together, we are working to foster animal agriculture systems that are:

Renewable: Support the renewability of natural and social resources and contribute to increased integrity in the face of changing global dynamics.

Resilient: Are resilient, regenerative, durable, and economically adaptive, and contribute to communities that foster the same characteristics.

Equitable: Address the inequitable access different people have to animal products and proteins, and seek ways to balance those inequities (so that communities that need more animal protein/nutrition can receive it, and those that are consuming animal products to the detriment of their own health are supported in their transition to more sustainable and healthful alternatives).

Diverse: Value the rich biological capital of animal diversity and understand, analyze, and support the varied role of animal agriculture in diverse cultures, diets and agro-ecological systems.

Healthy: Contribute to the health of individuals, households, communities, regions, and nations, and attend to the health, humane treatment, and well-being of animals in animal agriculture.

Interconnected: Recognize the contribution of sustainable animal agriculture and meat consumption to culture, healthy ecosystems, local economies, and climate change mitigation.

Potential pathways forward

Policy - There is a need for policy change in relation to production systems in terms of greenhouse gases, animal waste, worker safety, antibiotic use, emerging diseases, and food safety. Advocacy can take place at the local level (e.g., through land use regulations), national level (e.g., through removing subsidies for animal feed crops and/or implementing price support tools),²⁷ or international level (e.g., through trade policy). However, policy development must recognize the role of industry and the need to raise awareness and understanding among consumers and constituents about these issues in order to influence industry practices, government policy, and regulations. The relationship between policy change and markets is dynamic, with each influencing the other. Therefore, early steps could include fostering consumer understanding about animal agriculture production and the impacts of extractive animal agriculture production, and driving market demand for sustainable animal agricultural products, while advocating for a supportive policy framework for sustainable livestock production.

Consumption - Policy and regulations notwithstanding, production and industry are driven by market demand and consumption. Meat consumption is considered by many as the top trend and gap in addressing sustainability in animal agriculture. The sustainability challenges facing animal agriculture must also be addressed holistically, from both the production and consumption sides. Consumer demand can be influenced, for example, by the food purchasing decisions made by institutions such as school districts, universities, hospitals, military units and food aid agencies. Institutional food procurement policies can be leveraged for this purpose. Additionally, other means for influencing consumer behaviour need to be further explored. Many consumer facing companies are expending significant resources to better understand the current and future trajectory of consumer demands and preferences for animal protein, especially with younger generations. There is some existing research on proven strategies for changing consumer behavior, and there is a need for more widespread understanding of those opportunities among funders, policymakers, and influencers. Likewise, there is a need for greater understanding of and focus on meeting the protein needs of marginalized populations, particularly in emerging economies, while reducing overall meat consumption worldwide. Conflicting education and messaging around animal product consumption - including one-dimensional solutions ("meat is unsustainable") - confuse consumers and undermine systemic solutions.

Industry and Investment - There is potential in leveraging the shift towards responsible investment in order to influence

industry practices. In recent years, many large institutional investors have divested from the fossil fuel industry, for instance. Some experts are anticipating a similar divestment strategy and/or shareholder activism within other sectors or businesses widely seen as unsustainable and/or that are holding unreported risks and liabilities such as climate risk, water risk, etc. Institutional investors are starting to look critically at their investments in agribusiness and/or in agricultural sectors that have significant environmental impacts. In recognition of their environmental impact, food companies are improving their practices by making commitments, for example, to zero deforestation beef and soy. Work on externalities and true cost accounting could also be leveraged to demonstrate the additional risks and liabilities – socioeconomic, health, and environmental – that some sectors/businesses are not currently accounting for or reporting. Measurement of these externalities can be leveraged to inform the public, drive political pressure on the private sector, and/or be incorporated into risk management strategies to incite change within businesses.

Frameworks for Change - In each of the areas, highlighting and producing successful frameworks (whether it is adopting corporate methods of influencing behavior, demonstrating to farmers how sustainable transitions can be effective, or integrating externalities into financial risk) can be a powerful way to drive change.

Next steps

We are convening an advisory committee of Global Alliance members and interested foundations working on sustainable animal agriculture and consumption issues to determine next steps and the role the Global Alliance and other funders might play in supporting pathways to more sustainable, equitable and secure animal agriculture systems, globally.

Given the Global Alliance's unique position and resources, we aim to explore, with our partners, the generation of viable and tangible solutions at the global level that take us beyond our usual strategies, recognizing that this collective action will magnify every organization's individual responses. Our intention is to create a platform to advance knowledge and action.

We are considering the following ideas:

- Research that explores how international agreements and policies hinder or support the transition to sustainable animal agriculture and consumption.
- Development of metrics and tracking tools to leverage the shift towards responsible investment, providing investors with the information and tools they need to make business decisions that respond to social and environmental pressures.
- Generation of case studies of agroecological pilots that demonstrate scalability in key countries, including policy opportunities and barriers, as well as barriers to scaling up or out the sustainable, agroecological systems.
- Documentation of key decisions that industry has taken to improve their practices, including antibiotic use reduction, deforestation free soy and beef production, cage-free production, etc., including how to leverage a significant shift in practices as well as policy barriers to implementing or incentivizing these shifts.

As we move forward, we recognize that the inclusion of diverse perspectives and communicating the complexity and nuance of the issues is crucial to driving change. The transition we are proposing is at the global systems scale, at the national scale, and at the local scale. This means efforts will have to be contextualized and adaptive, and that the strategies to move forward will evolve through engagement and learning.

¹ See, for example: PEW Commission, 2008. Putting Meat on the Table: Industrial Farm Animal Production in America; Teague W. R. et al, 2016. "The role of ruminants in reducing agriculture's carbon footprint in North America." *Journal of Soil and Water Conservation* 71: 2.

² To achieve a health global diet, research shows that a 25% increase in the number of fruits and vegetables eaten globally and a 56% reduction in red meat would be required. See Springmann et al, 2016. "Analysis and valuation of the health and climate change co-benefits of dietary change" *PNAS Early Edition*. Accessed from: <https://animalaglit.files.wordpress.com/2016/04/pnas-2016-springmann-1523119113.pdf>

³ PEW Commission, 2008. Putting Meat on the Table: Industrial Farm Animal Production in America.

⁴ Hawkes, C. et al. 2012. "Linking agricultural policies with obesity and non-communicable diseases: A new perspective for a globalising world." *Food Policy* 37:3, 343-353.

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- 5 Hendy C.R.C, et al. 1995. Interactions Between Livestock Production Systems and the Environment. Accessed from: <http://www.fao.org/wairdocs/lead/x6123e/x6123e00.htm#Contents>
- 6 Ranganathan, J. et al. 2016. "Shifting Diets for a Sustainable Food Future." Working Paper, Installment 11 of Creating a Sustainable Food Future. Washington, DC: World Resources Institute. Accessed from: <http://www.worldresourcesreport.org>.
- 7 World Food Program, 2016.
- 8 Ranganathan, J. et al. 2016. "Shifting Diets for a Sustainable Food Future." Working Paper, Installment 11 of Creating a Sustainable Food Future. Washington, DC: World Resources Institute. Accessed from: <http://www.worldresourcesreport.org>.
- 9 Spellberg, B. et al. 2016. "Antibiotic resistance in humans and animals." National Academy of Medicine.
- 10 Pew Commission on Industrial Farm Animal Production. 2008. Putting Meat on the Table: Industrial Farm Animal Production in America.
- 11 Tomich, T et al. 2016. "The California Nitrogen Assessment." Accessed from http://asi.ucdavis.edu/programs/sarep/research-initiatives/are/nutrient-mgmt/california-nitrogen-assessment/ExecutiveSummaryLayout_FINAL_reduced.pdf and Robert J. Diaz and Rutger Rosenberg, "Spreading Dead Zones and Consequences for Marine Ecosystems," Science, August 15, 2008.
- 12 Eisler, M. C., et al. 2014. "Agriculture: Steps to Sustainable Livestock." Nature 507 (7490). Accessed from <http://www.nature.com/news/agriculture-steps-to-sustainable-livestock-1.14796>.
- 13 FAO. 2001. "Soil Carbon Sequestration for Improved Land Management." Accessed from: <http://www.fao.org/3/a-b1001e.pdf>
- 14 For more information on restorative or regenerative agriculture, see: La Salle, T.J. and P. Hepperly. 2008. "Regenerative Organic Farming: A Solution to Global Warming." Rodale Institute. Accessed from: https://grist.files.wordpress.com/2009/06/rodale_research_paper-07_30_08.pdf and <http://www.soilsforlife.org.au>. For Zimbabwe regenerative grazing and holistic management, see: <https://sustainableagriculturezimbabwe.wordpress.com/tag/over-grazing/>, <http://www.africacentreforholisticmanagement.org/programmes-and-services.html>. For Namibia regenerative grazing and holistic management, see <https://holisticmanagement.org/communities/conservation-agriculture-namibia/>.
- 15 Native American Natural Foods/Tanka website: <http://www.tankabar.com/>
- 16 Christensen Fund: <https://www.christensenfund.org/2015/03/24/roaming-rift-development-pastoralists-northern-kenya/>
- 17 Main Street Project: <http://mainstreetproject.org/>
- 18 Polyface Farms: <http://www.polyfacefarms.com/>
- 19 Mississippi River Collaborative: <http://www.msrivercollab.org/focus-areas/agriculture/>
- 20 Moore Foundation Forests and Agricultural Markets Initiative: <https://www.moore.org/initiative-strategy-detail?initiativeId=forests-and-agricultural-markets-initiative>
- 21 FAIRR: <http://www.fairr.org/about-fairr/>
- 22 See Ceres press release: <https://www.ceres.org/press/press-releases/leading-investors-press-meat-producers-to-tackle-water-pollution-risks>
- 23 NEI Investments: <https://www.neiinvestments.com/>
- 24 The Animal Agriculture Reform Collaborative is bringing together sustainable farmer, environmental, public health, social and economic justice, and animal welfare organizations to bring about systemic change required to establish a sustainable and just animal agriculture system. They are building a network of national, regional, and state-based non-profit advocacy organizations across the US to build and align movements and issue advocacy communities.
- 25 World Resources Institute. 2016. "Shifting diets for a sustainable food future." Accessed from <http://www.wri.org/publication/shifting-diets>
- 26 FAO. Food Based Dietary Guidelines – Brazil: <http://www.fao.org/nutrition/education/food-based-dietary-guidelines/regions/countries/brazil/en/>
- 27 Ray D. et al. "Rethinking US Agricultural Policy: Changing Course to Secure Farmer Livelihoods Worldwide." <http://www.agpolicy.org/blueprint/Summary.pdf>