## Cross Cutting Solutions

### Solution 15 – A Just Transition

***Enable a Just Transition of livestock production to mitigate climate change, improve health and create jobs.***

#### What problem is your solution addressing?

There is too much livestock on this planet; more than is needed to meet nutritional requirements in a practical sense, and unevenly distributed in terms of accessibility. When it comes to land use, greenhouse gas emissions, biodiversity, public health, livelihoods and food security, it is clear that business as usual in the way we raise animals[1] is **incompatible with the Sustainable Development Goals (SDGs), the Paris Agreement** and other critical international targets.[2] [3] Reducing livestock has become imperative for human and planetary health.[4]

A Just Transition of livestock production is a **truly cross-cutting solution**. **The existing trends of livestock production are detrimental to our planet, ecosystems, resources, human well-being and animal welfare**:

- The sector accounts for at least 14.5%[5] of all greenhouse gas (GHG) emissions and is projected to account for up to **81% of the 1.5°C emissions budget by 2050** if production continues unabated.[6] Additionally, livestock cause 32% of global anthropogenic methane ($CH_4$) emissions, more than natural gas, oil, or coal production.[7] Unlike fossil fuels, there is limited potential to address methane from livestock through technological measures.[8] As such, livestock production constitutes one of the main contributors to climate change while also driving **soil degradation, air pollution, water contamination and biodiversity loss and, in its current and projected scale, is unsustainable**.[9] These changes are linked to more extreme weather patterns, migration, conflicts, famine, as well as crop failures and reduced nutritional value of some foods, while exacerbating the burden on younger generations to adapt.

- Industrialised animal agriculture is the **leading cause of tropical deforestation**.[10] Beef and soy production cause **more than two-thirds of the recorded habitat loss** in Brazil's Amazon and Cerrado regions and Argentina and Paraguay's Gran Chaco region.[11] Around 77% of global soy is fed to

[1] Commentary on types of livestock production are addressed throughout this solution
[2] Benton TG, Bieg C, Harwatt H, et al. (2021, February 3). Food system impacts on biodiversity loss: Three levers for food system transformation in support of nature. Chatham House Research Paper. https://www.chathamhouse.org/2021/02/food-system-impacts-biodiversity-loss
[3] Clark M, Domingo N, Colgan K, et al. (2020). Global food system emissions could preclude achieving the 1.5° and 2°C climate change targets. Science; 370: 705-708. https://www.doi.org/10.1126/science.aba7357
[4] Van Oosterhout C, Hall N, Ly H, and Tyler KM. (2021). COVID-19 evolution during the pandemic – Implications of new SARS-CoV-2 variants on disease control and public health policies. Virulence; 12(1): 507-508. https://doi.org/10.1080/21505594.2021.1877066
[5] Gerber PJ, Steinfeld H, Henderson B, et al. (2013). Tackling climate change through livestock: A global assessment of emissions and mitigation opportunities. Food and Agriculture Organization of the United Nations (FAO), Rome. http://www.fao.org/docrep/018/i3437e/i3437e.pdf
[6] Emissions impossible: How big meat and dairy are heating up the planet. (2018). GRAIN and the Institute for Agriculture and Trade Policy (IATP). https://www.iatp.org/emissions-impossible
[7] United Nations Environment Programme and Climate and Clean Air Coalition. (2021). Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions. Nairobi. https://www.ccacoalition.org/en/resources/global-methane-assessment-full-report
[8] United Nations Environment Programme and Climate and Clean Air Coalition. (2021), ibid.
[9] Towards a common food policy for the European Union. (2019). IPES-Food. http://www.ipes-food.org/pages/CommonFoodPolicy
[10] World Wildlife Fund (WWF). (Summer 2018). What are the biggest drivers of tropical deforestation? World Wildlife. https://www.worldwildlife.org/magazine/issues/summer-2018/articles/what-are-the-biggest-drivers-of-tropical-deforestation
[11] World Wildlife Fund (WWF). (Summer 2018), ibid.

livestock for meat and dairy production and farmed fish.[12] In addition, an increasing demand for animal products is closely linked to devastating wildfires in the Amazon.[13]

- 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.[14] Similarly, more than one third of all calories produced by the world's crops are destined for animal feed, but just 12% of those feed calories ultimately contribute to the human diet.[15]

- The demand for industrialised livestock products in the Global North and developing nations is especially detrimental to **the Global South**. The massive amount of land required for industrial-scale livestock — both pasture and animal feed production — leads to increased land concentration by large meat and feed producers headquartered or with substantial operations in the Global North at the cost of **small-scale farmers** (especially women and Indigenous Peoples). This process is often associated with land conflicts, **the loss of livelihoods and compromised food sovereignty**.[16] Countries tend to be more conflict-prone when they increasingly rely on natural resources; especially when those resources, such as agricultural lands, become less available, less productive or plagued by drought.[17] We recommend that farming systems including animals that respect ecosystems and uphold food sovereignty (under the principles of **agroecology**), while empowering Indigenous Peoples, peasant communities, youth and women should be incentivised. Concurrently, given that climate change has already negatively impacted these producers and will continue to do so,[18] governments should also offer a variety of culturally-appropriate resources for those that express interest in transitioning to alternative, resilient livelihoods.

- **Pastoralist community practices** are disappearing due to loss of land caused by government policies (including those that benefit larger meat companies) and climate change impacts such as droughts. When traditional practices and knowledge are no longer applied, humanity loses important biocultural diversity.

- The COVID-19 pandemic highlighted the poor working conditions entrenched in the meat processing industry, and the risks and realities plant workers face daily across the world. Exploitative conditions, including overcrowded accommodation, long working hours, low pay, illegal wage deductions and job insecurity have an outsized impact on vulnerable populations, such as migrant and cross-border workers.[19] [20] Studies in different regions and countries show slaughterhouse and other industrial animal agriculture workers are at higher risk of respiratory diseases, as well as exposure to

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[12] Ritchie H. Soy. Our World in Data. https://ourworldindata.org/soy (accessed 3 May, 2021).
[13] Duarte BC, and Stickles N. (2019, August 30). Brazil is the world's largest beef exporter — here's why eating meat is linked to the Amazon fires. Business Insider. https://www.businessinsider.com/meat-consumption-linked-to-the-amazon-fires-2019-8
[14] Ritchie H, and Roser M. (2019, November 11). Half of the world's habitable land is used for agriculture. Our World in Data. https://ourworldindata.org/global-land-for-agriculture (accessed 18 May, 2021) ; relies on [1] Poore J, and Nemecek T. (2018). Reducing food's environmental impacts through producers and consumers. Science; 360(6392): 987-992. https://www.doi.org/10.1126/science.aaq0216 and [2] UN FAOSTAT Statistical Database, Rome.
[15] Cassidy ES, West PC, Gerber JS, and Foley J. (2013). Redefining agricultural yields: from tonnes to people nourished per hectare. Environmental Research Letters; 8: 034015. https://doi.org/10.1088/1748-9326/8/3/034015
[16] Participants at the "Livestock Diversity Forum". (2007, September 6). Wilderswil declaration on livestock diversity. http://www.ukabc.org/wilderswil.pdf
[17]International Union for Conservation of Nature (IUCN). (2021). Conflict and Conservation. Nature in a Globalised World Report No.1. Gland, Switzerland. https://doi.org/10.2305/IUCN.CH.2021.NGW.1.en
[18] Kimaro EG, Mor SM, and Toribio JALML. (2018). Climate change perception and impacts on cattle production in pastoral communities of northern Tanzania. Pastoralism; 8: 19. https://doi.org/10.1186/s13570-018-0125-5
[19] European Federation of Food, Agriculture and Tourism Trade Unions (EFFAT). (2020, 30 June). Covid-19 outbreaks in slaughterhouses and meat processing plants: State of affairs and proposals for policy action at EU level. https://effat.org/wp-content/uploads/2020/06/EFFAT-Report-Covid-19-outbreaks-in-slaughterhouses-and-meat-packing-plants-State-of-affairs-and-proposals-for-policy-action-at-EU-level-30.06.2020.pdf
[20] Human Rights Watch (HRW). (2019, September 4). Workers' Rights Under Threat in US Meat and Poultry Plants. https://www.hrw.org/report/2019/09/04/when-were-dead-and-buried-our-bones-will-keep-hurting/workers-rights-under-threat

antimicrobial-resistant bacteria. [21] [22]

- The **triple burden of malnutrition** is a serious threat to public health. Seemingly unrelated crises such as undernutrition, micronutrient deficiencies, diet-related non-communicable diseases and obesity are increasing at the same time, even within the same countries.[23] With the rise in people experiencing hunger and malnutrition, more people adopting plant-rich diets, especially in G20 and emerging developing countries, could play a role in reducing undernutrition in poorer countries, due to the lower use of resources in growing plants directly to feed people.[24] These dietary shifts alongside production improvements and sharply reduced food loss and waste are necessary to healthily and equitably feed the growing human population within planetary boundaries.[25] It is estimated that growing food exclusively for direct human consumption could increase available food calories by as much as 70%, which could feed an additional four billion people.[26]

- Overconsumption of animal products is detrimental to **human health**. High consumption of red and processed meat[27] are important diet-related risk factors for obesity, non-communicable diseases (type 2 diabetes, cardiovascular and some forms of cancers) and premature mortality in most regions. In fact, high consumption of those animal products, combined with low intake of fruit and vegetables, are among the main drivers of global health-related deaths among adults.[28] The combination of these imbalanced diets represent one of the **greatest public health and financial burdens globally**.[29]

- Industrial animal production fails to ensure **animal welfare** in its most basic form. While regulations vary from country to country, they largely fail to guarantee the 'five freedoms', such as the freedom from pain and distress and ability to express natural behaviours.[30] Most animals are kept in small cages or overcrowded, unsanitary spaces, for their entire lives.[31]

- Livestock production accounts for 73% of global antibiotic use.[32] The overuse of these products in animals as growth promoters increases the threat of **antimicrobial resistance (AMR)**, and has been linked to drug-resistant infections in animals, as well as humans.[33] AMR already causes 700,000 deaths per year, and could rise to 10 million global deaths annually by 2050 if no action is taken.[34]

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[21] Taluja MK, Gupta V, Sharma G, and Arora JS. (2019, July 3). Respiratory Hazards to Occupational Exposure of Poultry Dust in Poultry Farm Workers in Northern India. Indian Journal of Physiology and Pharmacology; 63(3): 223-230. https://www.ijpp.com/IJPP%20archives/2019_63_3/223-230.pdf

[22] Lam Y, Fry JP, and Nachman KE. (2019). Applying an environmental public health lens to the industrialization of food animal production in ten low- and middle-income countries. Globalization and Health; 15: 40. https://doi.org/10.1186/s12992-019-0479-5

[23] Malnutrition — Impact. World Health Organization (WHO). https://www.who.int/health-topics/malnutrition#tab=tab_2 (accessed 10 May, 2021).

[24] Baroni L, Cenci L, Tettamanti M, and Berati M. (2007). Evaluating the environmental impact of various dietary patterns combined with different food production systems. European Journal of Clinical Nutrition; 61: 279-86. https://doi.org/10.1038/sj.ejcn.1602522

[25] Willett W, Rockström J, Loken B, et al. (2019, February 2). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. The Lancet; 393(10170): 447–92. https://www.doi.org/10.1016/S0140-6736(18)31788-4

[26] Cassidy ES, West PC, Gerber JS, and Foley J. (2013), ibid.

[27] Defined as a Group 2A probable carcinogen and Group 1 carcinogen, respectively, by the World Health Organization. Cancer: Carcinogenicity of the consumption of red meat and processed meat. (28 October 2015). https://www.who.int/news-room/q-a-detail/cancer-carcinogenicity-of-the-consumption-of-red-meat-and-processed-meat

[28] Afshin A, Sur PJ, Fay KA, et al. (2019). Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. The Lancet; 393(10184): 1958-1972. https://doi.org/10.1016/S0140-6736(19)30041-8

[29] Springmann M, Spajic L, Clark MA, et al. (2020). The healthiness and sustainability of national and global food based dietary guidelines: modelling study. BMJ; 370: m2322. https://doi.org/10.1136/bmj.m2322

[30] Terrestrial Animal Health Code. (2019). Volume 1, twenty-eighth edition. World Organisation for Animal Health, Paris. https://www.oie.int/fileadmin/Home/eng/Health_standards/tahc/current/chapitre_aw_introduction.pdf (accessed 11 May, 2021).

[31] Silbergeld, EK. (2019). One health and the agricultural transition in food animal production. Global Transitions; 1: 83-92. https://doi.org/10.1016/j.glt.2019.01.003

[32] Tiseo K, Huber L, Gilbert M, et al. (2020). Global Trends in Antimicrobial Use in Food Animals from 2017 to 2030. Antibiotics (Basel); 9(12): 918. https://doi.org/10.3390/antibiotics9120918

[33] Van Boeckel TP, Glennon EE, Chen D, et al. (2017). Reducing antimicrobial use in food animals. Science; 29: 1350-1352. https://doi.org/10.1126/science.aao1495

[34] No Time to Wait: Securing the future from drug-resistant Infections - Report to the Secretary-General of the United Nations. (2019, April). Interagency Coordination Group on Antimicrobial Resistance. https://www.who.int/antimicrobial-resistance/interagency-coordination-group/final-report/en/

- About 75% of all **emerging infectious diseases** are zoonotic in nature. Increasing human demand for animal protein drives unsustainable agricultural expansion and land use change as well as the creation of industrial facilities (factory farming), which are the main drivers of zoonotic diseases globally.[35]

Finally, one can observe an increasing awareness about the negative effects of industrialised livestock production among investors[36] and growing consumer demand for more sustainable, plant-based foods. A Just Transition is therefore crucial to mitigate **negative socio-economic effects and prevent stranded assets** that the livestock industry is otherwise likely to face. If applied timely, a Just Transition can become **a strong driver of job creation, job upgrading, social justice and poverty reduction**.[37]

### How does your solution address the problem?

Most **Paris Agreement** signatory countries mention agriculture in their nationally determined contributions (**NDCs**), with some including livestock.[38] However, almost all of these mentions urge increased production, intensification and/or technical 'solutions', while failing to address the implications for livelihoods, gender, public health and perhaps most glaringly, the realities of planetary boundaries.

Just Transition of livestock production brings numerous environmental, health and socio-economic benefits, such as:

- ***Freeing up land for food production, conservation, reforestation, ecosystem restoration and other essential purposes to mitigate and adapt to climate change.*** Land is a precious resource, and a large percentage is dedicated to animal agriculture: around three-quarters of global agricultural land.[39] A common sense step towards food security is to devote arable land to diverse crop production wherever possible, instead of feed crops for livestock or fuel. Returning converted lands back to their natural states and original stewards would have **immense benefits for carbon sequestration,**[40] **habitat and biodiversity**. Hypothetically, if the world adopted plant-based diets, it would free up 75% of agricultural land.[41] It is easy to see how ambitious moves in that direction, even while maintaining traditional, small-scale animal husbandry, could help deliver the food systems transformation so desperately needed.

- ***Ensuring food sovereignty and sustaining livelihoods through Indigenous, traditional and small-scale animal farming where other food options or means of subsistence are scarce or nonexistent.*** Ensuring more sustainable and equitable food production with respect to local environments and populations is key. The solution emphasises the need to move away from industrialised animal production. By addressing overproduction and overconsumption of industrialised animal products, the solution is putting high emphasis on securing livelihoods where animal products are often the only source of nutrition. Ending agricultural expansion for livestock and feed production would be hugely beneficial to farmers, herders and other practitioners of traditional

[35] United Nations Environment Programme (UNEP) and International Livestock Research Institute (ILRI). (2020). Preventing the next pandemic: Zoonotic diseases and how to break the chain of transmission. Nairobi. https://www.unep.org/resources/report/preventing-future-zoonotic-disease-outbreaks-protecting-environment-animals-and
[36] Abnett K, and Jessop S. (2021, March 21). Investors urge Europe to prioritise climate in agriculture reform. Reuters. https://www.reuters.com/business/sustainable-business/investors-urge-europe-prioritise-climate-agriculture-reform-2021-03-22/
[37] International Labour Organization. (2015). Guidelines for a just transition towards environmentally sustainable economies and societies for all. Geneva. https://www.ilo.org/global/topics/green-jobs/publications/WCMS_432859/lang--en/index.htm
[38] Schulte I, Bakhtary H, Siantidis S, et al. (August 2020). Enhancing Nationally Determined Contributions (NDCs) for Food Systems. WWF, UNEP, EAT and Climate Focus. https://www.climatefocus.com/publications/enhancing-ndcs-food-systems-recommendations-decision-makers
[39] Ritchie H, and Roser M. (2019, September), ibid.
[40] Hayek MN, Harwatt H, Ripple WJ, and Mueller ND. (2021). The carbon opportunity cost of animal-sourced food production on land. Nature Sustainability; 4: 21–24. https://doi.org/10.1038/s41893-020-00603-4
[41] Ritchie H, and Roser M. (2021, March). If the world adopted a plant-based diet we would reduce global agricultural land use from 4 to 1 billion hectares. Our World in Data. https://ourworldindata.org/land-use-diets (accessed 9 May, 2021).

animal husbandry, who have overwhelmingly maintained sustainable, agroecological practices but whose livelihoods are threatened by climate change and sectoral intensification. While Just Transition in animal agriculture is important in every region and nation, the approaches must be tailored after thorough consideration of local realities and must respect community rights and decision-making. As in energy production, the onus is on **G20 countries** to facilitate the transition in their own countries and assist others, including **the countries that trade with them**. It is crucial to prevent further unsustainable animal agriculture intensification and expansion in the **Global South** where meat consumption is on the rise. If not addressed, it could increasingly threaten the livelihoods of millions of small-scale farmers who would be outcompeted by large-scale producers (in fact, this process is already underway in many areas, replicating the trend seen in the Global North).[42]

- ***Creating more robust public health by saving millions of lives[43] and cutting health-related costs.*** A global switch to diets that rely less on meat and other animal products and more on fruit and vegetables - categorised as 'healthy diets' by WHO[44] or 'planetary health diets' by the EAT-Lancet commission[45] - could save 5.1 million lives by 2050 (even more saved with vegetarian or vegan diets, 7.3 and 8.1 million, respectively).[46] Similarly, such a shift could dramatically reduce health costs, by $735 billion USD per year in 2050 (even more saved with vegetarian or vegan diets, $973 billion and $1 trillion, respectively).[47] If G20 countries consumed the types of foods and amounts recommended by their national dietary guidelines, the bloc's GHGs would decrease 19% (0.7 gigatons). If each followed the planetary health diet, it would reduce them by 46% (1.7 gigatons).[48] Such dietary shifts are a resounding win-win for people and the planet.

- ***Improving the socioeconomics of the farming system including a revitalisation of rural economies.*** Despite the urgent need to transition away from industrialised animal production towards climate-compatible and predominantly plant-based, diverse agriculture, there are concerns about the possible negative socio-economic impacts of the transition among farmers, supply chain workers and government ministers. These concerns have to be addressed by engaging in multilateral dialogues and showcasing pathways for an **equitable transition** for farmers, growers and processors and how this can enable positive socio-economic changes, including job creation and GDP boost.[49] The International Labour Organization and Inter-American Development Bank estimated that a Just Transition to **plant-based diets would create 19 million jobs** by 2030 in Latin America and The Caribbean. Accounting for a 4.3 million loss of jobs in the traditional livestock industry, it is estimated that the transition will net 15 million jobs.[50] Overall, these net-zero jobs in plant-based food production would be safer, more equitable, support gender parity and strengthen rural economies when coupled with increased public services. Although there is a need to investigate variations

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[42] Gura, S. (2008). Industrial livestock production and its impact on smallholders in developing countries. Consultancy report to the League for Pastoral Peoples and Endogenous Livestock Development, Germany. http://re.indiaenvironmentportal.org.in/files/gura_ind_livestock_prod.pdf

[43] A new study in the United States shows that air pollution from industrial animal agriculture causes a significant number of premature deaths in surrounding communities, even more than coal power plants. Diet shifts are the most impactful mitigation measures recommended, with adoption of flexitarian, or planetary health, diets reducing mortality by 68% (and vegetarian and vegan diets even more so, resulting in 76% and 83% reductions, respectively).

[44] Healthy diet. (29 April, 2020). World Health Organization (WHO). https://www.who.int/news-room/fact-sheets/detail/healthy-diet ; "The exact make-up of a diversified, balanced and healthy diet will vary depending on individual characteristics (e.g. age, gender, lifestyle and degree of physical activity), cultural context, locally available foods and dietary customs. However, the basic principles of what constitutes a healthy diet remain the same. For adults… A healthy diet includes the following: Fruit, vegetables, legumes (e.g. lentils and beans), nuts and whole grains…"

[45] EAT. (2019). Summary Report of the EAT-Lancet Commission: Healthy Diets From Sustainable Food Systems. https://eatforum.org/eat-lancet-commission/eat-lancet-commission-summary-report/

[46] Springmann M, et al. (April 2016), ibid.

[47] Springmann M, et al. (April 2016), ibid.

[48] EAT. (2020). Diet for a Better Future: Rebooting and Reimagining Healthy and Sustainable Food Systems in the G20. https://eatforum.org/knowledge/diets-for-a-better-future/

[49] In addition, we encourage member states to invest in research and development into theories like 'Beyond GDP' and economies of wellness, to move towards increased standards of living for all people and away from perpetual growth.

[50] Saget C, Vogt-Schilb A, and Luu T. (2020). Jobs in a Net-Zero Emissions Future in Latin America and the Caribbean. Inter-American Development Bank (IDB) and International Labour Organization (ILO), Washington D.C. and Geneva. https://www.ilo.org/global/docs/WCMS_752069/lang--en/index.htm

between regions, we assume an analysis of other regions would arrive at similar conclusions and recommend further studies on the topic. Furthermore, the growing interest in alternative protein development[51] as a means to promote entrepreneurship among communities forced out of livestock production due to climate change, sectoral intensification, land access, etc. has not been properly researched and has the potential to address many problems, like poverty and malnutrition, at the same time.

This solution recognises **wide variances in animal production** in environmental impact and health implications. **The true cost** of each system and individual animal product should be considered in policy recommendations regarding both domestic production and imports.[52]

We also recognise the possibility for and examples of animals raised in agroecological systems, either grazing or mixed cropping, that has a net benefit to communities and ecosystems. However, and most importantly, **these exemplars should not be overestimated** in their ability to be scaled and replicated in different regions, when what makes them so fit for purpose is their adaptive, localised conditions.[53]

While this solution emphasises the need for a **global Just Transition** away from animal-based agriculture to predominantly plant-based food production, it recognises that **any effort to move away from industrial animal agriculture** towards holistically sustainable animal husbandry practices (accounting for impacts across the socio-economic and environmental spectrum), could be an improvement and a step towards a better food system. Bolder steps in this direction will create the most effective results.

We propose **a set of global multidisciplinary policy measures** to incentivise the equitable reduction and redistribution of animal protein production and consumption. Such measures could include repurposing agricultural subsidies to incentivise the production of more sustainable, higher animal welfare and climate-friendly food, rethinking the principles of conventional trade agreements to imbed sustainability and labor standards, the introduction of food sustainability taxes to guide consumer behaviour, the adjustment of national dietary guidelines and public procurement rules, promotion of healthier diets, etc. Such policy recommendations should be refined to speak to unique socio-economic contexts and reflect local realities.

To this date, there have been no consolidated attempts to demonstrate a Just Transition in animal agriculture as a cross-cutting solution. This shortcoming naturally results in risk-aversion among decision makers to make any ambitious commitments to reduce livestock production and consumption. We propose developing **country-specific transition roadmaps** to be developed in collaboration with farmers, workers, experts in nutrition, public health, environment, circular economy, gender and human rights as well as Indigenous Peoples and labor groups to better envisage pathways to an equitable transition.

**Is this a new solution or an existing solution that needs scaling?**

An existing solution that needs scaling.

**Which organisation/s, institution/s or groups of individuals are associated with the solution?** 50by40 is a convener of a cross-sector stakeholder group and thought-leader on Just Transition within livestock production.

[51] Ismail I, Hwang YH, and Joo ST. (2020 March). Meat analog as future food: a review. Journal of Animal Science and Technology; 62(2): 111–120. https://www.doi.org/10.5187/jast.2020.62.2.111

[52] The Economics of Ecosystems and Biodiversity (TEEB) (2018). Measuring what matters in agriculture and food systems: a synthesis of the results and recommendations of TEEB for Agriculture and Food's Scientific and Economic Foundations report. UN Environment, Geneva. http://teebweb.org/our-work/agrifood/reports/measuring-what-matters-synthesis/

[53] Garnett T, Godde C, Müller A, et al. (2017). Grazed and confused? Ruminating on cattle, grazing systems, methane, nitrous oxide, the soil carbon sequestration question – and what it all means for greenhouse gas emissions. Food Climate Research Network. https://www.tabledebates.org/publication/grazed-and-confused

Website: https://50by40.org/

### If selected as a game-changing solution, how will you leverage the UN Food Systems Summit to scale your solution?

We propose to host a **Just Livestock Transition roundtable** with ministers of Agriculture, Health, Climate, Environment, Labor and Finance from selected member states. In addition to experts within these areas, the roundtable will include strong representation from youth, small-scale farmers and trade unions from across geographies speaking to the job creation potential and transition pathways. The inclusion of farmers is of utmost importance to the success of the roundtable and follow up. This discussion will be strongly informed by interviews with and recommendations from farmers in different regions and cultures.

**Technical and socio-economic roadmaps** for relevant countries will demonstrate the concrete numbers as well as feasibility and timelines for implementation.

Post roundtable, the outcomes will guide the **recommendations for country NDCs at COP26**, including, if possible, a presentation of the roadmaps at side-events with participation from the above stakeholders. Selected champion countries could continue to build the case for Just Livestock Transition as an integral part of NDCs, with the next Paris Agreement stocktake in 2025 being a key target.

**A Just Transition fund for animal agriculture** should be established so that countries and regions can directly assist farmers and communities in a transition (this process needs to be voluntary but incentivised). A similar precedent was set by the European Union when it established a Just Transition Fund to support regions in the transition towards climate neutrality. However, it mainly focused on energy transition without addressing other recourse-intensive industries, such as livestock production.

### Is this idea applicable to a particular geography, demography, landscape or other type of setting?

The idea can be applied to both high- and low-income countries, but should initially focus on countries and regions with high animal product consumption, as well as countries and regions that export such products to them, following the **Common But Differentiated Responsibility approach**. At the same time, the solution gives a special focus to the Global South to prevent further intensification and expansion of unsustainable animal agriculture.

### Who are the main actors that would put this action into place?

Policymakers (governments), civil society organisations and farmers/fisheries

### Source and process

Lasse Bruun, 50by40, AT2 CSO Lead and cross-cutting solutions WG member