

## **SUSTAINABLE LIVESTOCK SOLUTIONS CLUSTER**

**Stakeholder Group C: Solutions that aim to optimize and align consumption and production so that the sector stays within all planetary boundaries and contributes to ensuring healthy diets for all. (22/07/2021)**

The agreed unifying framing for all three Sustainable Livestock Solutions papers explains the need for the Cluster: *“For millennia, livestock farming<sup>1</sup> has provided food, clothing, power, manure and income and acted as assets, collateral and status. In 2018, there was a global stock of 38.9 billion farmed land animals<sup>2</sup>. This has created an unprecedented challenge: on one side, the need to increase the availability of livestock derived foods to satisfy the unmet nutritional requirements of an estimated 3 billion people<sup>3</sup>, and contribute to reducing stunting, wasting and anaemia<sup>4</sup>. On the other side, many methods and scale of livestock production systems around the world present severe tests to stay within the safe operating zone of planetary boundaries<sup>5</sup>. This is especially with regards to biodiversity, climate change, biochemical flows<sup>6</sup> and ensuring healthy levels of intake of meat<sup>7</sup>, eggs and dairy across all populations as well as good science-based animal health and welfare within the One Health framework. A re-balancing of consumption may be beneficial in populations of high livestock product intake. With strong population growth concentrated mostly among the socioeconomically vulnerable populations in the world, the sustainability<sup>8</sup> challenge grows exponentially and solving it is more urgent than ever before.”*

**In line with the goal of Action Track 3 to ‘boost nature positive production at scale to globally meet the fundamental human right to healthy and nutritious food, while operating within planetary boundaries’, Stakeholder Group C proposes four solutions aimed at transforming the way the world, produces, consumes and thinks about animal-sourced foods.**

The solutions are proposed in the context of a scientific evidence-base showing that a significant reduction in global consumption of meat and dairy is needed if we are to achieve the Sustainable Development Goals and to meet the Paris climate targets,<sup>9 10 11 12</sup> to reduce the environmental harms and overuse of natural resources stemming from current livestock production,<sup>13</sup> to lower the incidence of non-communicable disease,<sup>14</sup> and to minimise the use of antimicrobials<sup>15</sup> and the risk of the emergence of zoonotic diseases.<sup>16</sup>

### **Solution 1: Resize the livestock industry**

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.<sup>17</sup> Consumption of livestock products exceeds healthy and sustainable levels in some countries and falls short in others. The solution lies in more equitable distribution of global production and consumption levels within planetary boundaries.<sup>18 19</sup>

Overall global reduction in the consumption of animal source foods should be undertaken on a contraction and convergence basis. This would enable increased consumption of animal-sourced foods in some countries and regions and substantial reductions amongst high-consuming populations.<sup>20 21 22 23</sup> Issues of affordability<sup>24</sup> would need to be addressed as would the worrying disconnect between the retail price of food and the true cost of its production in terms of harms to the environment and human health amongst others.<sup>25 26</sup>

Resizing of the livestock industry should be supported by policy measures that encourage both less and better production and consumption of livestock products and reflect both the negative and beneficial externalities of livestock production. For example, by reorienting agricultural subsidies to incentivise the production of more sustainable, humane and climate-friendly foods; updating national dietary guidelines; utilising public procurement to influence change and by promoting and subsidising healthy and sustainable dietary choices whilst discouraging unhealthy choices. This would not only reduce the harms to environment caused by excessive livestock production but deliver health benefits by reducing the incidence of heart disease, obesity, type 2 diabetes and certain cancers.<sup>27, 28, 29 30</sup>

It is also a priority to prevent further unsustainable animal agriculture intensification in the Global South. If not addressed, the industrial livestock sector could increasingly threaten the livelihoods of millions of small-scale farmers, a process already underway in many areas, replicating the trend seen in the Global North.<sup>31</sup>

## **Solution 2: Shift towards regenerative, agroecological farming systems**

The livestock sector should undergo a dramatic transformation to become genuinely sustainable and nature-positive, for example, with farmed animals being reared on the land consuming foodstuffs that humans cannot eat, such as pasture and genuine byproducts in regenerative systems such as agroecology, agroforestry, organic farming, low intensive permanent grassland, and rotational integrated crop-livestock farming. Such farming can build soil fertility and quality, conserve water and restore biodiversity, while minimising the use of agro-chemicals.<sup>32 33 34</sup>

Most of the livestock sector's detrimental environmental impacts stem from land use change, including deforestation and the use of human-edible cereals and soya as feed. Globally 40% of crop calories are used as animal feed<sup>35</sup> where it can undermine food security and thereby SDG 2 due to the inefficient conversion of cereals into meat and milk.<sup>36 37 38</sup> Intensification of crop and animal production has led to soil degradation,<sup>39 40</sup> biodiversity loss, including declines in pollinator numbers,<sup>41 42</sup> overuse and pollution of water<sup>43 44 45</sup> and air pollution.<sup>46 47</sup> Demand for soya has led to the expansion of farmland into forests, with concomitant biodiversity loss and the release of stored carbon.<sup>48</sup> This undermines SDGs 3, 6, 12, 14 & 15.

Ending agricultural expansion for industrial livestock and feed production would be hugely beneficial to farmers, herders and other practitioners of traditional animal husbandry, who have overwhelmingly maintained sustainable, agroecological practices but whose livelihoods are threatened by climate change and sectoral intensification.

## **Solution 3: Support a Just Transition**

Despite the urgent need to transition towards nature positive farming, there are concerns about the possible negative socio-economic impacts of the transition among farmers, supply chain workers and government ministers. These concerns should 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.<sup>1</sup>

Transition support should be provided for farmers no longer wishing to engage in livestock production, or who wish to diversify to regenerative integrated crop-livestock, silvopastoral systems, horticulture or alternative protein production. The former Director-General of the FAO highlighted the danger of small-scale livestock farmers being "pushed aside by expanding large capital-intensive operations."<sup>49</sup> Smallholder farmers must be helped to increase their productivity through regenerative agriculture which can increase yields while reviving degraded land.

## **Solution 4: Adopt good standards of farm animal welfare**

The introduction of good standards of animal welfare is increasingly recognised as a key element of genuine sustainability in livestock systems. Scope for high animal welfare can be found particularly in nature-positive farming. There is scientific recognition that the best kind of animal welfare entails not only avoiding cages and crates and overcrowding but also providing opportunities for animals to have positive experiences, to experience a good quality of life and to be kept in conditions which facilitate their capacity for pleasurable feelings such as companionship.<sup>50</sup> The FAO has stated: "A paradigm shift has become urgent. Animals are to be addressed as living beings to take care of and valorize, not only as a source of commodities to exploit"<sup>51</sup>

Industrial production is dependent on routine use of antimicrobials to prevent the diseases that arise when animals are kept in poor conditions.<sup>52 53 54</sup> Indeed globally, around 70% of all antibiotics are used in farm animals.<sup>55</sup> The stressful, crowded conditions of industrial agriculture contribute to the emergence, spread and amplification of pathogens.<sup>56</sup> This leads to antimicrobial resistance in animals which can then be transferred to people. Additionally, intensively reared animals are selectively bred to have nearly identical genomes and act as vast replication vessels for some viruses.<sup>57</sup>

To prevent future pandemics<sup>58</sup> and save our antibiotics<sup>59</sup>, we need to move to ‘health-oriented’ systems for rearing animals in which good health is inherent in the farming system, rather than being propped up by routine use of antibiotics. Such systems would avoid overcrowding and excessive herd and flock size. They would minimise stress, ensure that animals can perform their natural behaviours and enjoy a good quality of life. Such systems would not use routine mutilations such as castration, tail docking, teeth clipping and beak trimming.

A ‘one health, one welfare’ approach is needed for the benefit of human wellbeing, animal welfare and sustainability.<sup>60 61</sup>

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<sup>1</sup> For the purpose of this solution cluster we classify all domesticated mammal and poultry species as livestock

<sup>2</sup> FAOSTAT 2018, (retrieved on 22 June 2021) current stock: poultry: 32.9 bn; cattle ruminants: 1.8 bn; small ruminants: 2.6 bn; pigs and other: 1.6 bn

<sup>3</sup> FAO, IFAD, UNICEF, WFP and WHO. 2020. *In Brief to The State of Food Security and Nutrition in the World 2020. Transforming food systems for affordable healthy diets*. Rome, FAO

<sup>4</sup> Iannotti, L., et al. 2021. Livestock-derived foods and sustainable healthy diets. Rome, Italy: UN Nutrition Secretariat. <https://hdl.handle.net/10568/113923>

<sup>5</sup> Mo Li et al, 2021. The role of planetary boundaries in assessing absolute environmental sustainability across scales, *Environment International* 152: 106475 <https://doi.org/10.1016/j.envint.2021.106475>

<sup>6</sup> Bowles, N., Alexander, S. and Hadjikakou, M., 2019. The livestock sector and planetary boundaries: A ‘limits to growth’ perspective with dietary implications. *Ecological Economics*, 160, pp.128-136

<sup>7</sup> Food Systems Summit Action Track 2 Scientific Group Paper. Shift to Healthy and Sustainable Consumption Patterns. Available at: [https://sc-fss2021.org/wp-content/uploads/2021/04/Action\\_Track\\_2\\_paper\\_Shift\\_to\\_Healthy\\_Consumption.pdf](https://sc-fss2021.org/wp-content/uploads/2021/04/Action_Track_2_paper_Shift_to_Healthy_Consumption.pdf)

<sup>8</sup> UN Food and Agriculture Organisation’s definition of sustainability: A sustainable food system (SFS) is a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised. This means that: – It is profitable throughout (economic sustainability); – It has broad-based benefits for society (social sustainability); and – It has a positive or neutral impact on the natural environment (environmental sustainability).

<http://www.fao.org/3/ca2079en/CA2079EN.pdf>

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