

HANDS-OFF AGRI-SILVO-PASTORAL CULTURES

A CALL TO ACTION

to peasants, herders, indigenous peoples and all eaters caring about good food

Summary

The increased industrialization of our food system has led to environmental degradation and epidemic levels of lifestyle-related diseases. Agroindustry studies and biased and inaccurate journalism from top outlets are profoundly influencing public policies to discourage ecological food production, for the benefit of lab-grown animal proteins, leading to profound environmental, economic and public health consequences. The urgency to address climate concerns is used to push ahead false solutions that will further penalize peasants, herders, indigenous people and eaters in general, to the benefit of a handful corporations. We, as indigenous of the Earth, call for heightened awareness regarding the rolling food and farming agenda that threaten genuine farming and will strive to promoting localized ecological food supply chains, in solidarity with food producers and our animal relatives.

Purpose

As the Earth continues to warm and the ecological, economical and health crises worsen, chemical-free, sun-powered and ecological agriculture and grazing is needed to restore the Earth, including 2/3 of the world's ice-free land turning to desert and exacerbating climate change, while providing decent livelihoods and healthy food to humanity.

Public policies, investors and eater's world over need to seriously consider the costs and benefits of food transformation pathways, rather than embracing techno-fixes that benefit a few corporations that have created the problems that we are facing today. In particular, public funds must be used to support virtuous food producers and reclaim agriculture naturalness, rather than investing in corporate-led synthetic food alternatives and compensating the poor for the damage they create.

Communities on urban-rural networks will strive to mobilize their resources to establish and boost shared, localized and ecological food supply chains. While industrial agriculture and transhumanism may continue within the dominant market system, communities of the willing will mobilize their will and creativity to create localized food supply chains that benefit people and nature.

Main objectives

- Save grazing livestock systems from lobbies' attacks in the name of climate change and restrict intensive confinement livestock husbandry;
- Use public funds for public goods that benefit peasants, herders and Indigenous Peoples who care for the Earth through agroecology and provide healthy food to all;
- Rally concerned institutions and individuals around community-supported food supply chains that sustain local producers, supply healthy food and safeguard the planet for future generations.

AgriCULTURE is:

- crafted by human intelligence, care and labor (vs Artificial Intelligence);
- soil-based (vs lab-based);
- sun-powered (vs. fossil fuel-powered); and
- circular only through synergistic plant/animal interactions (vs. wasteful).

Context

Agriculture as we know it. Farming has been around for thousands of years and has arguably done more to shape human history and society than almost any other activity. Within the lifetime of most people now alive, agriculture has gone through the Green Revolution (via synthetic fertilizers and pesticides), the gene revolution (via GMOs and gene editing) and the digital revolution (via precision agriculture and AI), all bringing technological innovations that seek to increase yields, while creating considerable ecological and social externalities. As part of the unilateral innovation trend adopted throughout the different revolutions, livestock specialization separated animals from the land, creating issues upstream and downstream, as most world's grain output is fed to confined livestock, creating huge manure pits that contribute to pollution and climate change through nitrate leaching and methane emissions. Nowadays, industrial agriculture sustains factory farms and ranches with intensively-grown feed grains, thus using more land as shadow acres, and pharmaceutical' use. On the other end of the spectrum, pastoral economies sustain arid lands where crops cannot be cultivated to supply meat, milk, fiber, leather and transport to at least 180 million pastoralists. In between stive a variety of livestock management systems, from integrated crop-livestock, free range and organic systems, to grassfed, biodynamic, permaculture, holistic planned grazing and silvopastoral systems.

Feeding the world in the 21st century. Population growth and the increasing purchasing power in developing and emerging countries compounds Western countries' dietary pattern of overconsumption of animal proteins. Due to very limited planet's reserves of fertile land and livestock pressure on land and climate, as well as the verge of collapse of world's major fisheries in the quest for animal protein, biotechnology to produce food is now turning to alternatives such as vertical farming, insect production and lab-cultured animal products, including meat, dairy, eggs and fish substitutes. Plant-based meat requires raw materials (such as soy and corn) grown intensively with glyphosate and other inputs, multiple additives and large quantity of sodium, while tissue-cultured meat uses fetal bovine serum, staminal cells from live animals, fungicides, antibiotics and even growth hormones which are forbidden in livestock production. The long-term impact on health of such ultra-processed food-like products is unknown but there are reasons for serious concern. Lab-based food is in any case a false solution to climate concerns, as it uses lots of energy to be manufactured, in the very attempt to respond to the energy crisis! Void of scrutiny, public and private investments, including a number of governments, are increasingly flowing toward 'protein' strategies and funds for lab-grown meat and plant-based substitutes...

Factory food as the final step of food system transformation. The currently dominant narrative is food system transformation, entailing food production without agriculture, that is without farmers and livestock. Raw materials can be produced by 'intelligent' machinery, for producing techno-food in vertical farms and laboratories. These innovations are backed by a global campaign against livestock production, and organically-grazed animals in particular. In [Northern Ireland](#), an industry-commissioned study calls for a reduction of over one million sheep and cattle to reach net-zero carbon emissions. The [New Zealand](#) climate change minister has recently unveiled a plan to tax, from 2025, deer, sheep, goats, and beef burps in order to tackle the country's sources of greenhouse gas emissions. Public money is committed to tackling climate change by forcing farmers into [emission trading schemes](#) that allow exacerbating business-as-usual with more feed additives imports into feedlots, rather than converting industrial livestock systems into regenerative operations. In his last book, journalist [George Monbiot](#) echoes the agroindustry narrative by declaring that 'there is no major farm product as environmentally damaging as organic, pasture-fed beef'¹. While the agroindustry systematically labels as 'fake science' whatever contradicts its narrative, a holistic analysis suggest that such unilateral climate mitigation strategies are expected to result in much higher greenhouse gas emissions - as a significant number of farms would exit production, resulting in land-use change and decreased soil carbon sequestration, let alone fires and other phenomena that increase greenhouse gas emissions. Last but not least, the attribution of climate responsibility to livestock enteric emissions relies on flaw methodologies for the cycle of methane in the living

¹ See [reply](#) to Monbiot's faulty arguments

biosphere. Consequently, the dynamics of the relatively short-lived [methane](#) are often inappropriately represented in global warming potential calculations, thus misleading climate mitigation strategies.

The end of farming. Crops grown in liquid nutrient medium in stacked racks supplemented by artificial light (i.e. vertical farming), and meat grown in petri dishes have proponents and opponents but in both cases, these developments are surely transforming the relations between humans and the biosphere. Placing food production in buildings and labs would theoretically free land used for farming, estimated by its proponents at 1 hectare of vertical farming and cultured meat versus 10-20 hectares of agricultural land. Besides the highest water and energy requirements and unknown long-term effects on health of such novel productions, the impact on land is far from being understood. In particular, taking away animals from pastures will surely desertify lands, exacerbating water scarcity and climate change and increasing fire risks. More worryingly, [IPES-Food](#) reports that digitization of agriculture is expected to lead, by 2050, to the abandonment of 300 million farms, forced migration of over one billion people, and the destruction of diversified food supply chains which today feed the world – to the benefit of non-tested technologies managed by for-profit companies. Through digitization that replaces peasant labor, livestock and much of soil-based food production, farming is threatened with extinction. The misleading claims that dominate the protein and digitalization transition prevent serious consideration of agrifood SYSTEM transformative pathways.

Justification

Livestock matters. Industrial livestock production is undoubtedly a source of multiple concerns. Segregation of genetically-identical animals creates animal welfare issues, loss of biodiversity, climate change, water scarcity, deforestation, antibiotic resistance, zoonotic diseases, and potentially pandemics. Poorly managed extensive livestock systems erode land and contribute to climate change. More than dismissing animal husbandry altogether, what matters is maintaining the balance between animals and vegetative carrying capacity of a farm or grazing area. History [demonstrates](#) that the disappearance of large herbivores from the land - such as the great extinction of large herbivores in the late Pleistocene, the extermination of wild Bisons in North America's Great Plains, and the substantial reduction of herbivores by the African rinderpest epizootic - has had substantial impact on ecosystems biogeochemical cycles, fire regimes and potentially climate, as it transformed steppes into waterlogged habitats and locked landscapes with woody vegetation. Herbivores are crucial to land conservation and properly managed livestock, such as holistic planned grazing (practiced on over 21 million hectares in all five continents) and other regenerative grazing practices have demonstrated their potential in rehabilitating degraded lands and sequestering carbon in soils at a rate of [0.5-7 t C/ha/year](#), while providing food and livelihoods. Rather than exterminating animals who feed on grass to free land for rewilding, there is an urgent need to restore lands currently producing feed crops. Transforming livestock systems requires both converting factory farming to properly-managed grassed systems, as well as reducing meat consumption in Western diets, and chiefly poultry and pigs that heavily rely on grain feed.

The multiple benefits of grass-fed systems. Many voices are raised to exterminate, or drastically reduce ruminants (and thus methane emissions), as part of national efforts to reduce greenhouse gas emissions. However, animals grazing in a semi-extensive meadow, fertilized only by animal manure, not only emit enteric methane but stimulate soil carbon sequestration. Under these conditions, [several scientific studies](#) have shown that the carbon balance may be nil or even negative, as the quantity of carbon stored is equal or greater than emitted. Thus, grasslands (which represent 70% of agricultural lands but of which just 1/3 are grazed) are crucial carbon sinks, on average [0.7 Tg C/ha/year](#) - provided they are grazed! Considering that the ecological footprint of grazing lands represents just 5% of humanities ecological footprint, while croplands have much higher ecological footprint, the culprit livestock systems are those intensively confined and grain-fed. Grass-fed systems preserve grass from oxidation and landscapes from desertifying. More importantly, grass-fed livestock has the unique potential of converting sun-powered grass in marginal lands into nutritious animal proteins, while promoting vegetal diversity and preserving soil fertility. The importance of herbivores is best appreciated in abandoned landscapes that feature reduced biodiversity, as compared to pastoral systems. Generally, full-grazing systems in areas with adequate rainfall and appropriate soil conditions offer the opportunity to improve the overall system efficiency when low input systems are sought. However, the farm-

N-balance as well as impacts on climate change can be improved further if [integrated grazing systems](#) are favored, based on grass-clover leys and cash-crop rotation.

Reclaiming agri-culture and public goods. Throwing the baby out with the bathwater is a dangerous proposition to the many concerns created by industrial agriculture, from pollution and climate change to public health, due to over-consumption of poor-quality food. Dismissing livestock production as harmful altogether threatens hundreds of millions of peasants, herders and indigenous peoples who have cared and sustained animals in balance with the environment and culture for millennia (e.g. sylvo-pastoral systems, transhumance). [Biosecurity](#) standards that confine animals in multistory housing to stem epidemics threatens family farmers and herders, as well as animal biodiversity and welfare, to the benefit of industrial animal husbandry. Uprooting pastoralists in the name of climate mitigation is a war against our four-legged relatives and all the indigenous cultures that care for animals. It is also a violation of diverse faiths which are centered on animal care, such as Jesus Christ as a shepherd caring for his sheep, Krishna as a cowherd protecting the cows, Buddha will all animals. There are also modern agroecological and economically, ecologically and socially viable alternatives, such as biodynamic agriculture and holistic planned grazing that facilitate, respectively, optimal nutrient and energy cycling and large-scale regeneration of the world's grasslands. The agrifood system must be rebuilt on the understandings and perspectives and needs of diverse actors, including groups whose voices are rarely heard, including but not limited to pastoralists, artisanal fishers, indigenous peoples, and food insecure groups in marginal areas. Adopting a precautionary approach to novel food types is crucial to safeguard the future of humanity as a whole, due to the potential shift from ultra-processed food to extra-ultra-processed food.