Benjamin Schachter, Coordinator
Environmental and Climate Change Team
Office of the United Nations High Commissioner for Human Rights (OHCHR)
Palais des Nations
CH-1211 Geneva 10, Switzerland

January 31, 2024

Re: Submission to consultation on Resolution 53/6 Human Rights and Climate Change

Dear Mr. Schachter,

Please consider the following comments from the Centre for Health Science and Law.[1]

As you know, the United Nations General Assembly embraced the right to a healthy environment. However, the role of greenhouse gas emissions from ruminant animals in threatening that right is often understated and even completely ignored. It is real and substantial.

1. Contribution of cattle and other ruminant livestock to greenhouse gas emissions

Globally, widespread poverty is the main obstacle to ruminants rivalling the climate-warming harm caused by fossil fuels. Generally, as incomes rise, so does consumption of meat, including beef, goat, and lamb meat. Some of the evidence of this harm comes from the UN Intergovernmental Panel on Climate Change, the UN Secretary General's Independent Group of Scientists, a Lancet Commission, a group of experts at Oxford University, and a report published in the prestigious journal *Nature Food*. In particular:

- The United Nations Intergovernmental Panel on Climate Change indicated that the vast majority of food-related contributions to harmful greenhouse gas emissions emanate from cattle and that food systems contribute 21–37% of total global greenhouse gas (GHG) emissions.[2]
- The UN Secretary General's Independent Group of Scientists recommended the following to achieve the SDGs: "global reduction in meat consumption of around 40–50 per cent..."[3]
- The recent Lancet Commission report repeated observations that 30% of GHG emissions comes from food systems, of which 57% comes from the production of red meat and milk (mostly from ruminants).[4]
- An Oxford University team found that GHG emissions from meat and other animal-origin foods are vastly higher than plant-based food.[5]
- A study published in *Nature Food* and posted on the Food and Agriculture Organization (FAO) website: estimated that 57% of GHG emissions from the food system comes from livestock.[6]

2. Methane from ruminants in high-income countries may be under-estimated.

Even so, methane from ruminants may be underestimated. For instance, Johns Hopkins and New York University researchers concluded that the conventional method for calculating methane gas contributions by livestock underestimates its impact on climate in high-Income countries (where meat and milk consumption is highest) to the extent that true methane contributions of meat and dairy production may be 39% to 90% higher than elsewhere.[7]

3. Mitigation measures seem to be only mildly effective.

Numerous published, peer-reviewed studies found that changes in feed, etc. were only marginally effective in reducing greenhouse gas emissions from cattle, for instance:

a) Nutrition and feeding approaches may be able to reduce CH4/ECM by 2.5 to 15%, whereas rumen modifiers have had very little success in terms of sustained CH4 reductions without compromising milk production. More significant reductions of 15 to 30% CH4/ECM can be achieved by combinations of genetic and management approaches. [Though these seem small compared to the starting point.];[8]
b) A 25-yr simulation of their current production system gave an average annual carbon footprint of 10.9±0.6 kg of CO2 equivalent units per kg BW sold, and the energy required to produce that beef (energy footprint) was 26.5±4.5 MJ/kg BW compared to 1970, the carbon footprint of the beef produced has decreased by only 6%;[9]
c) a study found only an 11% reduction in methane;[10]
d) a study promoted eating less food overall and wasting less instead of reducing beef consumption;[11]
e) only 11% reduction in methane production;[12] and
f) ironically, one study advocated breeding heat-resistance cattle.[13]

4. Integrating the amounts of food typically consumed with the GHG-emissions per KG of food adds important decision-making information, especially revealing the large GHG-emitting impact of milk.

The emissions per KG of milk makes it appear like a minor contributor to greenhouse gas emissions. However, using the benchmark consumption estimates in the same FAO working paper cited in the *State of Food and Agriculture 2023*, one of five flagship reports of the UN Food and Agriculture Organization confirms the importance of reducing GHG emissions from milk from ruminant animals. Babies drink in the range of 600-700 mL per day of breastmilk and, presumably, a similar amount of cow's-milk-based formula when not breastfeeding,[14] a contribution to greenhouse gas emissions that can be largely avoided by consuming a nutritionally superior less expensive alternative (human mothers are not ruminants). This is substantially more likely with less formula marketing and more workplace and maternity leave protections.

Valuation of the healthand climate-change benefitsof healthy diets									
Background paper for The State ofFood Security and Nutrition in the World 2020									
GHG emissions footprints in 2030 (kgCO2-eq per kg of product) by foodcommodity and regions									
	Global (p. 7)	High-Income (p. 7) The nearly identical regional emissions for all foods but beef and	FAO Estimated Daily Intake Baseline/Benchmark diets (page 3)	grams per day	Calculated Total GHG emissions per day (global)	Percent of global total GHG from food group	Calculated Total GHG emissions per day (high-income countries) even assuming same amount consumed/day which underestimates meat,	Percent of global total GHG from food group high income countries	
Wheat	0.37	0.37	Wheat	117	43	2%	43	3%	
Rice	1.55	1.49	Rice	126	195	8%	188	13%	High income countries consume far less rice, but it is a staple in many developing countries and recommnded diets model consumeing 30% less.
Maize	0.36	0.36	Maize	33	12	0%	12	1%	
Other grains	0.36	0.34	Other grains	22	8	0%	7	1%	
Roots	0.11	0.11	Roots	134	15	1%	15	1%	
Legumes	0.29	0.29	Legumes	17	5	0%	5	0%	
Soybeans	0.27	0.27	Soybeans	5	1	0%	1	0%	
Nuts and seeds	0.54	0.57	Nuts and seeds	13	7	0%	7	1%	
Vegetables	0.3	0.3	Vegetables	227	68	3%	68	5%	Health benefis justify GHG emissions
Fruits (temperate)	0.24	0.24	Fruits (temp)	37	9	0%	9	1%	
Fruits (tropical)	0.25	0.25	Fruits (trop)	62	16	1%	16	1%	
Fruits (starch)	0.55	0.55	Fruits (starch)	28	15	1%	15	1%	
Sugar	0.57	0.57	Sugar	51	29	1%	29	2%	
Palm oil	4.92	4.92	Oil (palm)	6	30	1%	30	2%	
Vegetable oil	2.06	1.65	Oil (veg)	22	45	2%	36	2%	
Beef	36.82	16.18	Beef	25	921	38%	405	28%	All four recommended diets model little or no meat.
Lamb	20.12	15.95	Lamb	5	101	4%	80	5%	All four recommended diets model little or no meat.
Pork	3.16	2.77	Pork	38	120	5%	105	7%	All four recommended diets model little or no meat.
Poultry	2.16	1.89	Poultry	31	67	3%	59	4%	
Eggs	1.82	1.54	Eggs	22	40	2%	34	2%	
Milk	3.07	1.31	Milk	221	678	28%	290	20%	Recommended diets model 30% less milk or none.
Shellfish	1.55	0.39	Shellfish	6	9	0%	2	0%	
Fish (freshwater)	1.95	1.34	Fish (freshwater)	8	16	1%	11	1%	
Fish (pelagic)	0.01	0.01	Fish (pelagic)	3	0	0%	0	0%	
Fish (demersal)	0.53	0.78	Fish (demersal)	5	3	0%	4	0%	
			Total GHG emissions pe		2452	100%	1470	100%	
** According to the FAO Statistical Yearbook (at page 287) Europe and the Americas consume double the amount of meat per capita as Asia and quadruple the meat consumption of Africa.									
See: https://www.fao.org/3/cc8166en/cc8166en.pdf									
See also: https://landgeist.com/2021/10/05/meat-consumption-in-europe/									

Smith et al. are also developing a "Green Feeding Tool" to estimate the adverse environmental impact of commercial milk formula in particular, to complement estimates of the economic and human health harms (to babies and their mothers) in the Costs of Not Breastfeeding Tool hosted by Alive & Thrive.[15]

Despite the known risks to the environment from ruminant animals, few if any statutes or regulation specifically require the disclosure of such risk to rights holders (consumers and the public that does not consume them). However, there may be a legal duty to disclose such risks. For example, the Supreme Court of Canada held that there is a general duty to disclose risks to consumers in *Hollis* v. *Dow Corning Corp*:

> *A manufacturer of a product has a duty in tort to warn consumers of dangers it knows or ought to know are inherent in the product's use. This duty is a continuing one, requiring manufacturers to warn not only of dangers known at the time of sale, but also of dangers discovered after the product has been sold and delivered. All warnings must be reasonably communicated, and must clearly describe any specific dangers that arise from the ordinary use of the product. The duty to warn serves to correct the knowledge imbalance between manufacturers and consumers by alerting consumers to any dangers and allowing them to make informed decisions concerning the safe use of the product.*[16]

Hollis cited with approval in paragraph 20 the Supreme Court of Canada's own 1972 decision in *Lambert* v. *Lastoplex Chemicals*:

> *Manufacturers owe a duty to consumers of their products to see that there are no defects in manufacture which are likely to give rise to injury in the ordinary course of use. Their duty does not, however, end if the product, although suitable for the purpose for which it is manufactured and marketed, is at the same time dangerous to use; and if they are aware of its dangerous character they cannot, without more, pass the risk of injury to the consumer.*[17]

Lambert has been cited with approval by dozens of Canadian courts, including recently by the Alberta and Ontario Courts of Appeal.[18] Coincidentally, the Lambert case was about the harm caused by the pilot light of a methane-fueled furnace (i.e., natural gas) igniting an aerosolized sealant causing an explosion that inflicted serious heat-related injury and property damage.

Presumably common law duties to warn about the risks of consumer products are common to many countries, though these generally require private lawsuits to enforce compliance.

Respectfully submitted,

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Endnotes

[1] The Centre for Health Science and Law is a founding member of the Geneva Global Health Hub (G2H2) and a member of the International Association of Consumer Food Organizations. CHSL is one of the few health-focused Canadian NGOs accredited by the UN Economic and Social Council (ECOSOC). I have been personally active in international standard-setting advocacy and expert deliberations at the Codex Alimentarius Commissions (since 1998), World Health Organization (since 2005), UN General Assembly (since 2011), and several UN Human Rights Council committees and working groups (since 2018). CHSL is a member of the global School Meals Coalition and provided technical assistance through UNICF to 10 national governments and intergovernmental organization in Africa to help nationally implement the WHO *International Code on the Marketing of Breast-milk Substitutes* and other nutrition-related regulations in 2018-2022. In Canada, CHSL and its predecessor (the Canadian operations of the Center for Science in the Public Interest) have advocated nutrition labelling reforms, advertising restrictions, sodium reduction measures, a ban on trans fat, and a national, publicly funded school food program. I served as one of five voting members of the International Development Law Organization's "Healthy Diets and Human Rights Research Initiative Advisory Board" (focusing on Kenya, Tanzania, and Uganda) along with a former Special Rapporteur on the Right to Food, current Executive Secretary of the UN Nutrition Committee, and ex officio reps of UNICEF, WHO, and FAO. I also served on a Justice Canada external advisory committee on the development of its Child Rights Impact Assessment tool and on-line course that was announced in July 2023. CHSL contributed to the 2018-2022 child rights review of Canada by the UN Human Rights Council's Committee on the Rights of the Child.

[2] Intergovernmental Panel on Climate Change (IPCC). *Special Report on Climate Change and Land, CH05, Food Security. Executive Summary*. 2019. Available at: https://www.ipcc.ch/src cl/chapter/chapter5/

[3] Independent Group of Scientists appointed by the Secretary-General (2023). *Global Sustainable Development Report 2023: Times of Crisis, Times of Change: Science for Accelerating Transformations to Sustainable Development*. United Nations, New York. Available at: https://sdgs.un.org/gsdr/gsdr2023

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[10] Ribeiro GO, Oss DB, He Z, Gruninger RJ, Elekwachi C, Forster RJ, Yang W, Beauchemin KA, McAllister TA. Repeated inoculation of cattle rumen with bison rumen contents alters the rumen microbiome and improves nitrogen digestibility in cattle. *Scientific Reports*. 2017 Apr 28;7(1):1276.

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[12] Ribeiro GO, Oss DB, He Z, Gruninger RJ, Elekwachi C, Forster RJ, Yang W, Beauchemin KA, McAllister TA. Repeated inoculation of cattle rumen with bison rumen contents alters the rumen microbiome and improves nitrogen digestibility in cattle. *Scientific Reports*. 2017 Apr 28;7(1):1276.

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[16] *Hollis* v. *Dow Corning Corp*., 1995 (Supreme Court of Canada), [1995] 4 *Supreme Court Reports* 634. Available at: https://canlii.ca/t/1frdr

[17] *Lambert* v. *Lastoplex Chemicals*, 1971 CanLII 27 (SCC), [1972] *Supreme Court Reports* 569. Available at: https://canlii.ca/t/1twsz.

[18] *St Isidore Co-op Limited* v *AG Growth International Inc*, 2020 Alberta Court of Appeal, 447 (CanLII). Available at: https://canlii.ca/t/jc2xz and *Burr* v. *Tecumseh Products of Canada Limited*, 2023 Ontario Court of Appeal 135 (CanLII). Available at: https://canlii.ca/t/jvw3n