



## **Influencing dietary changes in a zoonotic disease crisis**

| Opinion

**Diana Bogueva, Dora Marinova**

Curtin University Sustainability Policy Institute, Curtin University, Perth, Australia

Correspondence: [diana.bogueva@curtin.edu.au](mailto:diana.bogueva@curtin.edu.au); [D.Marinova@curtin.edu.au](mailto:D.Marinova@curtin.edu.au)

Received 14 April 2020; Revised received 20 May 2020; Accepted 25 May 2020; Published 30 June 2020

**Abstract:** The COVID-19 pandemic is requiring us to reconsider our relationship with the animal world. A large proportion of newly emerging diseases have a zoonotic origin, and human society should acknowledge that it has severely impacted the habitat of animals through livestock production and consumption as well as land clearing for agricultural purposes. There is a role for government in avoiding similar crises by sending clear and transparent messages to the public concerning the benefits of a reduction in the intake of animal-based foods. Two potential solutions are suggested: the use of taxation and a new sustainability social marketing model built on the 4-S mix (sustainability, strength, self-confidence and sharing).

**Keywords:** Social marketing; diet, zoonotic diseases; pandemic; meat consumption.

The current coronavirus pandemic is directing attention away from other global issues, such as climate change, biodiversity loss and land use conversion. Although this may be justifiable to a large degree, it is also important to view the issue from a wider perspective. First, irrespective of the exact transmission channel, the origin of COVID-19 is zoonotic [1]. Secondly, other zoonotic diseases directly traced to meat consumption include the swine flu epidemic (H1N1), which in 2009 killed between 151,700 and 575,400 people [2] and originated in pig farms in USA; and the bird/avian flu epidemic (H5N1), which started in chicken farms in Asia in 2004 and has since become a regular annual occurrence. These are examples of the newly emerging diseases whose causes are anthropogenic [3] and linked to people's preference for meat products. They also reflect the changing relationship between people and animals manifested through industrial livestock production and habitat destruction. If we are to effectively address the threat of such zoonotic diseases, we need to focus on primary prevention, which is eliminating the causes of them, and not only on secondary

prevention [4], related to early diagnosis, quarantine, self-isolation and social distancing.

Ironically, the same factors triggering the alarming outbreaks of zoonotic diseases are also largely responsible for climate change, biodiversity loss, excessive fresh water use and land conversion for livestock production. We have worked with dozens of contributors across the globe putting together a picture of environmental and health deterioration directly associated with people's preferences for animal-based proteins [5–7]. Much more work, however, is needed to influence people's dietary preferences, and instead of blaming particular nations or creating conspiracy theories about the COVID-19 pandemic, people need to examine their own food choices.

While the globe is currently fighting the same COVID-19 threat and there may be some signs of collaboration and unity, there is no evidence of voluntary solidarity to eradicate the roots of zoonotic diseases. One would think that a time of crisis would trigger a deeper level of reassessment of human behaviour. Unfortunately, we are

not seeing any of this when it comes to people’s food choices.

During this time of distress, people continue to consume their preferred foods, regarding their intake of meat and other livestock-based products as a right derived from their status as the superior species [8]. One cannot expect people to forego the consumption of animals and animal-based products given deep-seated habits, cultural attitudes and personal feelings. The complexity of all food-related aspects makes changing consumption patterns extremely difficult, particularly in wealthier places such as Australia, Europe and America. Ironically, people seem to be more willing to giving up their individual freedom of movement, accept severe economic consequences and put up with living within the constraints of their home, than confront their food habits.

As with other crisis situations, there is a role for the government to play. Governments across the globe took immediate and strict measures to respond to the COVID-19 pandemic but are they doing enough for climate change and the protection of biodiversity, rainforests, native shrubs and steppes? We can concentrate a lot of scientific effort on finding a vaccine for COVID-19 but, as history shows, the next zoonotic disease will be just around the corner unless we change our food preferences by reducing the demand for animal proteins.

We are not arguing that the government should ban animal-based foods. What we want the government to do is send the correct and transparent message to their nation’s citizens that some food choices are associated with a higher risk of disease and environmental deterioration. There are different ways this could be done. Let’s explore two of them, namely taxation and social marketing.

The role of the taxation system is to collect and redistribute monetary benefits [9]. If animal-based products were subject to higher taxes in a similar way to alcohol and cigarettes, this would send a clear message to the consumers that the consumption of such products is undesirable. It would also raise revenue from those who continue to buy such products, which could potentially be used to support the public health system and restore the natural environment, including reforestation and cleaning of contaminated lands and waters. Currently in Australia, food is exempt from the 10% goods and services tax (GST). A GST imposed on animal-based products at the standard 10% level (or higher) would be a logical step to take. Unfortunately, Australia sees itself as a producer of high-quality meat and dairy products and is reluctant to admit the environmental consequences and risks this poses.

**Table 1.** Sustainability social marketing built on the 4-S marketing mix [13]

<b>Sustainability</b>	This is the greater public good for current and future generations. Choosing more environmentally friendlier food choices, which have a lower environmental impact, contribute towards climate stability and restrict land use to the current arable areas, will be beneficial for human health and better for the bio-physical environment.
<b>Strength</b>	This sends a positive message that humans have the power and opportunity to reverse climate change, protect from zoonotic diseases and improve the ecological health of the planet. Building belief in consumer strength to make a difference with better food choices encourages the strength of each individual.
<b>Self-confidence</b>	This should create individual empowerment for sustainability through the reassurance that the actions of each individual matter. The individual voluntarily desires to reduce meat consumption or to substitute with other healthier and environmentally friendlier food options available on the market. This can boost consumer self-confidence and self-pride.
<b>Sharing</b>	The planet and its resources are there to be shared not only between all living species today but also with those of the future. Voluntary solidarity in food sharing is the right way to go forward in improving the chances for human survival for the present and future generations while respecting all other species with whom we share the planet and their habitats.

Taxing animal-based foods is similar to the other “sin taxes” designed to mitigate the social cost of consuming unhealthy or poor choice goods [10]. Selective taxes that increase the market prices of particular targeted goods could influence consumer purchasing power by reducing or shifting demand. They could encourage reduction in the quantities purchased or could lead to switching to other product substitutes, hopefully better than the targeted foods.

However, even if a higher tax on animal-based foods is introduced, people are quick to absorb the extra costs and after a period of reduced consumption tend to revert to their old habits. Such taxes are also described as regressive, since they have a smaller impact on people with higher incomes [11]. What remains is to influence people’s choices through social marketing which encourages behavioural change for the greater good [12].

Sustainability social marketing [13] can help in this challenging task. It creates a social environment for supporting voluntary actions for the greater social good as it relates to food choices. This would require a new marketing approach, and the one that we have put forward builds on the 4-S marketing mix: sustainability, strength, self-confidence and sharing (see Table 1).

Unless people are prepared to be subjected to another zoonotic outbreak, they need to seriously reconsider their relationship with the animal world. They need to re-imbed themselves in a symbiotic relationship with nature where there is respect and place for all species on this planet. Dietary shifts towards a significantly reduced consumption of animal-based products have been described as a move towards a planetary diet [14]. Sustainability social marketing can represent the lever to achieve such a shift while reducing the probability of future zoonotic threats and improving the health of the planet and its human population.

### Conflict of interest

The authors declare no conflict of interest.

### References

- 1 World Health Organisation (WHO). Origin of SARS-CoV-2 (26 March 2020). Available: <https://www.who.int/health-topics/coronavirus/who-recommendations-to-reduce-risk-of-transmission-of-emerging-pathogens-from-animals-to-humans-in-live-animal-markets>. Accessed April 14, 2020.
- 2 Centre for Disease Control and Prevention (CDC). 2009 H1N1 Pandemic (H1N1pdm09 virus). Available: <https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html>. Accessed April 14, 2020.
- 3 World Health Organization, Food and Agriculture Organization of the United Nations, World Organisation for Animal Health. Report of the WHO/FAO/OIE joint consultation on emerging zoonotic diseases, 2004. Available: [https://apps.who.int/iris/bitstream/handle/10665/68899/WHO\\_CDS\\_CPE\\_ZFK\\_2004.9.pdf](https://apps.who.int/iris/bitstream/handle/10665/68899/WHO_CDS_CPE_ZFK_2004.9.pdf). Accessed April 14, 2020.
- 4 Greger M. Pandemics: history & prevention. Available: [https://www.youtube.com/watch?v=7\\_ppXSABYLY](https://www.youtube.com/watch?v=7_ppXSABYLY). Accessed April 14, 2020.
- 5 Bogueva D, Phau I. Meat myths and marketing. In: Raphaely T, Marinova D, eds. *Impact of meat consumption on health and environmental sustainability*. Hershey, PA: Information Science Reference (IGI Global), 2016: 264–276.
- 6 Bogueva D, Marinova D, Raphaely T, eds. *Handbook of research on social marketing and its influence on animal origin food product consumption*. Hershey, PA: Business Science Reference (IGI Global), 2018.
- 7 Bogueva D, Marinova D, Raphaely T, Schmidinger K, eds. *Environmental, health and business opportunities in the new meat alternatives market*. Hershey, PA: Business Science Reference (IGI Global), 2019.
- 8 Brugger P. It’s the speciesism, stupid! Animal abolitionism, environmentalism, and the mass media. In: Bogueva D, Marinova D, Raphaely T, eds. *Handbook of research on social marketing and its influence on the animal origin food product consumption*. Hershey, PA: Business Science Reference (IGI Global), 2018: 92–105.
- 9 Raphaely T, Marinova D. Taxing meat and animal food products. In: Bogueva D, Marinova D, Raphaely T, eds. *Handbook of research on social marketing and its influence on the animal origin food product consumption*. Hershey, PA: Business Science Reference (IGI Global), 2018: 121–134.
- 10 Hoffer A, Gvillo R, Shughart II WF, Thomas MD. Regressive effects: causes and consequences of selective consumption taxation, March 3, 2015. Mercatus Centre, George Mason University. Available: <https://www.mercatus.org/publications/urban-economics/regressive-effects-causes-and-consequences-selective-consumption>. Accessed April 14, 2020.
- 11 Organisation for Economic Cooperation and Development (OECD) and Korea Institute of Public Finance. *The distributional effects of consumption taxes in OECD countries*. OECD Tax Policy Studies, No. 22, 2014. OECD Publishing. Available: <https://dx.doi.org/10.1787/9789264224520-en>. Accessed April 14, 2020.
- 12 French J, Gordon R. *Strategic social marketing for behaviour and social change*, 2nd ed. London, UK: SAGE Publications, 2020.
- 13 Bogueva D, Raphaely T, Marinova D, Marinova M. Sustainability social marketing. In: Hartz-Karp J, Marinova D, eds. *Methods for sustainability research*. Cheltenham, UK: Edward Elgar, 2017: 280–291.
- 14 Willett W, Rockström J, Loken B, et al. Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. *Lancet* 2019; 393: 447–492.