

COVID-19, wet markets, and planetary health



Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which causes COVID-19, may have emerged at a wet market in Wuhan, China.¹ The term wet market denotes any place selling fresh produce, but global attention has focused on markets selling live, sometimes wild, animals. To avoid future pandemics of zoonotic diseases, leading international figures have called for an international ban on wet markets.¹ However, from the perspective of planetary health,² which draws a connection between the health of humans and their environment, engaging in small-scale animal husbandry—of which live-animal markets often form a part—while reducing global meat consumption and more rigorously enforcing a ban on illegal wildlife trade would be beneficial. Wet markets provide an important source of protein to populations in low-income regions and the food systems in which such markets are embedded, and they are more environmentally sustainable than industrial food systems. Banning markets with live animals is likely to disadvantage both human and planetary health; a more effective approach would be to improve hygiene and regulatory standards at such markets, eliminate industrial-scale movement of live animals, and outlaw sales of wild animals known to be of risk for disease spread.

In the past half-century, the human population has undergone a significant nutritional transition towards diets rich in animal protein.³ Between 1961 and 2017, global annual meat consumption grew seven-fold, from 70 billion kg to almost 500 billion kg.⁴ This dietary transformation has been facilitated by countries shifting from traditional free-range animal rearing to industrial livestock and fish production. Through high animal densities, mechanical innovations, and the use of specialised animal feeds and additives, large-scale high-intensity animal farming has achieved much higher outputs than small-scale farming, bringing down meat prices.⁵ Industrial farms have also been routinely found to have better hygiene standards and lower greenhouse gas (GHG) footprints than do smaller or organic farms if only the farm, not its whole food system, is taken into account.⁶

However, traditional small-scale meat production has numerous environmental and social advantages over industrial animal rearing. Its GHG footprints

might be lower than those of industrial farms once carbon sequestration of the soil on which animal feed is grown is accounted for.⁶ Sales of live animals reduce the need for energy-intensive cold storage.³ Compared with industrial farms, free-range animal rearing involves generally shorter farm-to-fork distances and less meat processing (which often acts as a reservoir of food-borne pathogens⁷ and whose products can be carcinogenic⁸). It is also associated with lower air and water pollution and less antibiotic use, thus causing a significantly lower emergence of antibiotic-resistant bacteria than industrial livestock farming and meat-processing plants.^{5,7} In the current pandemic, fatality rates might be higher in regions with widespread antibiotic resistance, which complicates the treatment of secondary infections.⁹

Furthermore, small-scale animal rearing in developing countries has traditionally provided livelihoods to a large proportion of their population. In India, which has somewhat resisted industrialisation of its livestock sector, two-thirds of smallholder farmers are also engaged in animal husbandry, which constitutes up to 75% of their incomes.⁷ Mixed crop–livestock farming allows smallholders to boost their consumption of animal proteins—which in rural India is generally very low—and enhance crop yields by utilising animal waste as manure.³ By contrast with India, meat consumption in Thailand has largely industrialised since the 1980s and most small-scale rural meat producers have been driven out of business.⁷

Markets selling live animals can pose a danger to public health by enabling zoonotic disease spread, particularly if they are poorly regulated and allow for close mixing of different species.¹ Nevertheless, not only would banning such markets probably result in driving them underground with even less regulation, the current negative focus on this form of meat production is tinted with western imperialism¹ and counterproductive from a planetary health perspective. Purchasing ever-increasing amounts of chilled or frozen meat from animals reared on industrial farms is portrayed as the safe norm even though global meat production, which has escalated because of industrial farming, contributes about 15% to annual global GHG emissions, uses up more than 80% of agricultural land, and is the biggest

source of eutrophication.¹⁰ To bring global diets back in line with planetary boundaries and make them healthier for human bodies, global meat consumption needs to substantially decline.⁸ Traditional meat production, with small-scale animal husbandry and live-animal markets, has been associated with significantly lower production and consumption of meat and hence would more naturally complement the plant-heavy diets recommended by the EAT–Lancet Commission on Food, Planet, Health.⁸

Instead of trying to outlaw all live-animal markets, it would be more effective to reduce the scale of global meat consumption and produce a smaller amount of meat predominantly through small-scale, organic, and local enterprises; regulate wet markets more stringently to improve hygiene and prevent species mixing; and use such regulated wet markets as a tool to enforce the ban on illegal wildlife trade. This approach would also be more ethical² towards smallholder farmers in low-income and middle-income countries, who could continue to make a living through mixed crop–livestock farming; towards the animals, whose welfare on free-range farms is indisputably higher than in intensive systems; and towards future generations, by leaving them a safer and more liveable planet.

We declare no competing interests.

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