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21

MEATING GLOBAL CHINA AT HOME

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21
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Introduction

China has committed to an ambitious target of carbon neutrality by 2060 but achieving this will require the greening of the agricultural sector, especially the carbon cost of meat production. The production of meat has become a matter of global climate urgency. For example, the United Nation's (UN) Intergovernmental Panel on Climate Change called for a policy in reduction of meat diets to mitigate climate change. Greenhouse gases (GHG) from China's animal husbandry contribute to its agriculture emissions overall, not to mention additional environmental costs of meat production from land use issues and wastewater. China's carbon targets look to technological innovation and alleviation measures to provide solutions to carbon reduction, but as this chapter explores, when it comes to meat consumption China's policymakers may have a blind spot.

Over the decades of the reform era, "eating enough" (*Chi bao*, 吃饱) became inscribed in developmental goals as a part of poverty alleviation. In contemporary China, the consumption of meat has shifted from a treat for celebrations to an everyday experience. Demand for meat has sky-rocketed and now China is the largest producer and importer of meat in the world. It is expected demand for meat will continue to grow as more and more Chinese can experience the "good life" of a moderately prosperous society. Thus, while China's carbon goals set it up as a global green leader, its growing meat demand has a negative knock-on effect for the rest of the world.

This presents a challenge in shifting the thinking on meat and sustainable consumption for China's consumers but the political will to tackle the issue is potentially lacking. After all, within living memory is a time when meat was rationed. Consequently, eating meat is a visceral experience of the improvements in living standards and enjoying the "good life" of China's rise. With consumers in developed countries consuming large amounts of beef and dairy despite increasingly vocal calls and campaigns towards reduction (Morris 2017), what then for the prospects of the Chinese public in thinking about the global impact of food systems? This chapter uses "meatification" as a conceptual frame to explain China's rising meat demands and the ways that meat is socially viewed. How China understands meat consumption will have global effects.

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Meat consumption is tied up with notions of China's modernity that fuel a global demand but also have the potential to create tensions in thinking about the environmental aspects of food choices at home. This chapter combines sources from academic literature and empirical data to first provide the context of meat's role in climate change and explain the phenomenon of meatification. It will then examine China's growing meat demand and aspects of the expanding trade, before exploring how meat consumption is embedded in narratives of China's development and modernity. The final part will consider how messages encouraging the Chinese population to eat less meat are received and resisted in the context of the deeper social and political meanings around meat. Understanding how the Chinese public views meat consumption can reveal how China will navigate its meatification trend and global role in sustainable food systems.

China's Growing Appetite for Meat

There is increasing global awareness that what we eat and how we produce it has an environmental impact. GHGs like carbon dioxide, methane and nitrous oxide prevent heat from escaping the earth's atmosphere yet are also sources and by-products of food production that sustain human beings. GHGs are released into the atmosphere from the transportation of goods, the production of energy needed in agriculture, fertilizer for crops, animal manure and digestive gases (ruminant enteric fermentation) and from wasted food that ends up in land fill (IPCC 2019, Bridle 2020). There is a wide range of estimates as to how much the food system contributes to overall emissions. All in all, most scientific studies put it around 25–35% depending on the data used in the calculations on emissions estimates and post-production stages (Ritchie 2021). The food system then, contributes a sizable chunk of all GHG emissions. However, one consideration is that GHG is just one aspect and that the environmental impact of food production and consumption is not limited to emissions alone but also to water and land use, biodiversity loss and run-off pollution, which all have their environmental costs.

What makes meat production and its consumption a particular issue is that animal agriculture contributes a great deal more GHG in overall food system emissions. In food production, for example, animal-based agriculture (57%) amounts to roughly double the GHG emissions of that of plant-based food (29%) and non-food (14%) (Xu et al. 2021). A great deal of this is down to land management and land use including the crops grown for raising animals. Counting in feed-related emissions, the greatest contributor of animal food products is beef production (25%) followed by dairy milk (10%), then pork and chicken (Ibid.). Meat remains a nutritious food source for a global growing population, but tensions arise between mitigating climate change and intense production.

This chapter uses the concept of meatification to aid the understanding of the processes at work with China's shift to increasing meat consumption. Early use of the term "meatification" captured how richer countries have for decades typically followed meat-intensive diets to the detriment of global food security due to the greater resource use (De Schutter 2009). While there is unequal distribution, overall, the world is consuming more meat per person than it did four decades ago. In 1961 the global average was 20 kg a year, which shot up to roughly 43 kg by 2014 (Ritchie and Roser 2017). Meatification explains the phenomenon of rising meat consumption as economies develop. While this was first observed in developed countries it is now also observable in lower and middle-income countries of the Global South as incomes rise (Jakobsen and Hansen 2020). In

critical approaches, meatification is viewed with an awareness of the underlying politics of expanding industrial production as well as global and regional spatial imbalances with the food system (Schneider 2014, Morris 2017, Jakobsen and Hansen 2020). The environmental impact of sustaining meat-intensive diets has led to calls for "de-meatification" and campaigns for "less-meat" initiatives with growing evidence that the cultural prestige of meat may be waning (Morris 2017).

Prominent among the calls for de-meatification is the UN's Intergovernmental Panel on Climate Change (IPCC), which suggests that efforts should be made to reverse the global trend of greater meat consumption with a shift towards sustainable diets (IPCC 2019). On the meat production side, a variety of mitigating solutions are being explored to reduce emissions. Technological fixes promise fewer emissions and optimistically feature in forecasts to show increased meat production with smaller corresponding increases in emissions (OECD/FAO 2021). Implementing either of these solutions is challenging because reducing meat requires breaking long-held habits and social preferences as well as a cost-factor in delivering on the promised efficiencies of technology.

With economic development, China is experiencing a meatification of diets. Due in part to a large population and rising incomes, China is now the biggest global meat producer and consumer in gross terms and the greatest contributing country in the world to GHG from animal-based agriculture (not including seafood) (Ritchie and Roser 2017, OECD–FAO 2021, Xu et al. 2021). China now consumes roughly equivalent to a quarter of all the world's meat, double that consumed in the United States (US) (Shimokawa 2015).

But while China is the greatest meat consumer and its related environmental costs are greater in total terms, at the individual and household level the picture is mixed. Chinese households leave a far smaller environmental footprint than those in the US and the UK in GHG (Song et al. 2015). Then, when it comes to overall meat consumption on a per capita basis overall, China still consumes far less than meat-intensive developed nations. In 2017, for example, Chinese people per capita consumed half that of the meat-loving US and Australia for all meats (60.59 kg compared with 124.1 kg and 121.6 kg, respectively) (Ritchie and Roser 2017). Of note is that Hong Kong figures – calculated separately from the mainland – indicate that Hong Kong was the greatest global consumer with a per capital of total meat supply of 137.07 kg, suggestive of the possible trajectory for the mainland (Ritchie and Roser 2017). Chinese tastes show a strong preference for pork meat. Indeed, China ranks as the greatest global per capita pork consumer (Shimokawa 2015). However, driven by preference for high-quality, leaner alternatives, China's medium and high-income urban consumers are also turning to beef (Zhu et al. 2021).

The trajectory of China's beef consumption has the potential to increase China's role in global animal agriculture GHG emissions. China is currently the world's second-largest total consumer of beef, and demand is expected to expand further (OECD/FAO 2021). One projection sees beef consumption increasing by 12% to 38.8% over the next ten years depending on the growth of China's economy: The lower estimate considers a scenario of low economic growth, while the larger estimate is based on one of high growth (Zhu et al. 2021). With relatively lower consumption amounts per-capita currently, China's production and consumption of all meats is set still to rise, propelling the global meat-market growth figures (OECD/FAO 2021).

China's large population brings dual demands for policy makers in ensuring food security while balancing environmental issues. With such a large population, balancing

food system GHG emissions, water and ecological footprints while ensuring basic nutrition poses significant challenges. However, rising meat consumption remains an area of particular concern: "The growth of meat intake ranks as the most important contributor to all three environmental impacts (He et al. 2018: 124). Social and spatial inequalities also mean that meat consumption patterns and related environmental impact are unequally distributed. While food-related emissions are growing across the board, urban areas and the wealthier are eating more meat and creating a greater environmental impact in general (He et al. 2019).

Meeting China's growing meat demand also presents an opportunity for meat producers and related food-chain suppliers inside and outside China. In terms of international trade, China became the world's top importer of meat and edible meat offal in 2018 continuing in 2019 to a total trade value of some 20.7 thousand million US dollars (BACI 1995–2019 cited in OEC n.d.a). The phenomenal growth in meat imports, however, requires a great deal of forward planning to make increasing meat imports possible.

China's policymakers have been preparing for China's food demands and diversifying partners to increase food security through a global agricultural policy including outward foreign direct investment (FDI) from Chinese businesses. McMichael (2020: 124) argues that the "going out" strategy for acquiring supply and constructing trade route infrastructure is one way in which China is increasingly taking part in a global food regime once dominated by the US. From 2015 onwards, the Chinese government introduced food policies encouraging agricultural cooperation through its Belt and Road Initiative (BRI) (Tortajada and Zhang 2021). Investment and technology transfer from China into agricultural sectors of China's neighboring developing countries provides an opportunity for trade and raising livelihoods (Ibid.). The state has been linking up transport infrastructure with import meat inspection sites to handle the increasing volumes of trade. For example, in the north-east of China, the Jilin Import Meat Inspection site opened up in 2017, and in western China in 2019 the International Railway inland port of Chengdu started importing beef from Kazakhstan and Eastern Europe via train and entry through Xinjiang's seven designated meat customs and inspection ports (Yu 2017, Hu et al. 2019). China's policymakers have met China's meatification by turning to outside sources.

Providing global sources of meat and feed for China's domestic livestock production has wide-ranging implications for new trading arrangements that outsource the environmental impact. Concerns have been raised about water and land use in Australia's beef production supplying China, as well as de-forestation for soybean production in Brazil for animal feed (Guo et al. 2016, Fuchs et al. 2019). Taking the soybean–meat production example, international trade reveals a complex and interrelated global environmental management issue. The majority of feed supplying China's pork production comes from imported soybeans (Schneider 2019). In 2019, China continues to be the biggest importer of soyabeans at 58.2% of the global total, sourced primarily from Brazil (63.7%), the US (24.5%) and Argentina (9.38%) (OEC n.d.b). Land, water and employment arrangements of the soy-based feed production are effectively "offshored" outside of China itself because major transnational companies own the seed, trading and crushing firms (Schneider 2019). As Chinese firms have increasingly been participating in global food systems, off-shoring is not necessarily foreign-owned, as China's own companies have been purchasing global corporations, such as the giant seed and pesticide firm Syngenta (McMichael 2020: 136).

The overall picture of offshoring and its environmental impact is complex. On the one hand, importing soya and maize from more efficient producers has reduced domestic agriculture water and land use in China, saving global resources of water nine-fold between 2000 and 2015 (Ali et al. 2017). While on the other, that does not account for GHG emissions and the increasingly difficult environmental picture growing resource demand poses (Ibid.). Despite the benefits of offshoring water and land use for the importer, other environmental problems can arise with agricultural conversion to different crops. A shift in China's agriculture away from soybeans to other major crops results in the release of greater nitrate pollutants from fertilizers and water use when the conversion is to rice because rice is the greatest plant-based producer of GHG emissions (Sun et al. 2018, Xu et al. 2021). Overall, however, the meatification of China looks set to be a major contributing factor to China's overall food-related GHG emissions and global environmental impact. This has the potential to create global expectations for China to diverge into more sustainable protein sources and not follow the Western example of meatification.

Meat and Modernity

Feeding China's large population has long been a major development goal of China's policymakers. As the nation's prosperity increased, diets changed and with it the meanings around meat. This section first explores how China's food security was inscribed in development discourses and considers how circulating narratives give high social status to meat consumption as a symbol and outcome of economic progress. It then examines some of the health challenges rising meat consumption brings before finally considering competing state interests around meat consumption.

Since the establishment of the People's Republic of China in 1949, "吃饱" (eating enough) came into political discourses to serve as a rhetorical shortcut for explaining complex development strategies. China's officials sought to remake society and forge a "New China." Contrasting itself with what came before, the Communist state promised a change from the past and a better society working towards food security. Old China was a "feudal" society in which the everyday person did not have enough to eat or enough warm clothes to wear ("吃不饱, 穿不暖"). As part of an overall plan for economic development via rapid industrialization, the Mao decades saw China's agriculture shift to collectivization and a central planning system in which the 80% rural population carried a high burden of China's development with their food consumption at subsistence only levels (Ash 2006). Having enough to eat was understandably a preoccupation for much of the population. So, when in the years after Mao's death, pro-agricultural reform policymakers wanted to support the move away from centralization of the commune system to the "household responsibility system," they cited peasants as saying, "Mao Zedong allowed us to renew our lives (spiritually); Deng Xiaoping has allowed us to fill our bellies" (毛泽东让我们翻身；邓小平让我们吃饱) (Fewsmith 1994: 42).

Rural impoverishment and food security remained a major challenge throughout the reform era. In the 1990s "eating and being warm enough" (吃饱穿暖) was written into the goals of China's first major poverty alleviation plan – *The National Seven Year Poverty Eradication Program (1994–2000)*. Item 41 placed resolving the "masses being able to eat and be warm enough" within performance standards for officials working in impoverished areas (State Council 1994). In the final year of the program, then President Jiang Zemin

urged officials on in their efforts, pointing out that unrest was linked to hunger and consequently raising food security was a matter of national security:

> The people are the basis of the nation, and the people view food as their primary need. Chairman Mao said, if one possesses grain, then one doesn't lose one's head, things progress steadily with joy. Comrade Deng Xiaoping said it doesn't matter what has happened, as long as the people have full bellies everything will be implemented well … In strategically important ethnic minority areas, and border areas with a large impoverished population, if being warm and having enough to eat is resolved late, then it will surely affect ethnic unity and the consolidation of border defense, even affecting the whole country's peace and stability.
>
> (Jiang 1999)

Resolving hunger, then, was a performance indicator for cadres; a way of effective governance in addressing a threat to national security and stability.

China's policymakers have largely resolved absolute poverty and the focus has now shifted to better quality food and a healthy lifestyle. This is described by State Council researchers as a move from "eating enough" (吃饱) to "eating well" (吃好) and "eating healthy" (吃健康) (Zhang 2018: 30). Eating well and eating healthy for many can mean enjoying the things they could rarely eat in the past due to scarcity and income. Throughout the reform era of the 1980s and 1990s, it was hard to obtain meat for many in urban areas. During the first phase of reforms, urban consumers had to deal with inflation when state price controls were relaxed on agricultural goods. For example, in 1985 the price of meat and other goods shot up 9% making purchasing food – and especially meat – difficult (Harding 1987: 72). It was in the late 1980s when meat stopped being rationed in most urban areas following which the ability to eat meat would depend on a family's income and market availability. With China's speedy economic development, memories of scarcity remain, endowing the availability of meat with meanings of economic prosperity.

Meat in China, like in many cultures, is inscribed with the symbolism of well-being. When meat was scarce, it was particularly valued for its taste and nutrition (Oxfeld 2017). One rural childhood healthy eating study showed that the grandparent generation of carers view meat as a special treat, whereas the parent generation understood the regular consumption of meat as a sign of economic success (Zhang et al. 2015). Meat holds positive connotations for urban retirees with memories of scarcity: "Those traditions and experiences [of lack] significantly impact on the belief that 'meat is good food' in Chinese culture and as such meets a psychological need" (Browning et al. 2019: 9). These researchers found high value given to meat, but also an awareness of avoiding overconsumption (Ibid.).

Meat has long derived a special status in China's diverse cultural traditions and practices. Eileen Oxfeld's (2017) ethnographic study of a south-eastern Chinese village shows that meat retains a role as a high-value offering in ancient rituals of ancestor worship and as gifts for certain deities, both of Buddhist and traditional beliefs. Oxfeld points out that positive associations extend beyond the living memory of scarcity: "Indeed, the association of meat with the good life goes back to ancient China, where the expression "meat eaters" (肉食者) was associated with the ruling class" (Oxfeld 2017: 154). In social practices, meat products may be given as gifts to relatives and on special occasions and accordingly retains high cultural value (Ibid.).

The meat intensification in dishes goes hand in hand with other forms of modern urbanization such as shopping for frozen meat in supermarkets rather than local markets or the increase in car ownership and bulk purchasing rather than daily trips (Hansen and Jakobsen 2020). The development of frozen food infrastructure allows a great variety of imported meat to be available to China's consumers in homes and restaurants. Busy modern lifestyles mean that people often eat out resulting in eating more meat than at home. One study showed that between 2004 and 2011, the rate of meals eaten away from home increased to 18.30% in urban and 11.09% in rural areas, with greater amounts of red meat, poultry and seafood consumed outside the home (Zeng and Zeng 2018). In addition to restaurants, food delivery platforms are popular for convenient meals, especially with the under 40s. By 2019, for example, China's main takeaway app *Meituan* had an incredible 458 million registered users (Cong et al. 2021). As incomes increase in urban China, it is the higher-income households that consume more pork, beef and poultry in restaurants (Bai et al. 2020). The popularity of curating and sharing food images on social media, the role of influencers in food choices or even Mukbang (a trend of broadcasting the consumption of large amounts of food), further reinforce the high cultural status of meat. With rising incomes, then, the "pro-meat ideologies of modern Chinese states" – as Klein (2017: 259) aptly describes it – appear deeply embedded in the everyday. Meat retains a special place in China's strong food culture and is emotionally charged as a visceral symbol of China's development with consumptive behaviors reinforced through social media.

The social proclivity towards meat consumption with China's economic development has not been without adverse health effects and the appearance of "Western" diseases. One large scale nutritional study, "The China Study," carried out in the 1980s was able to demonstrate that a plant-based/low animal products diet resulted in lower incidences of chronic disease. The rural Chinese diets of the 1980s served as a lesson for higher animal and dairy-consuming Americans faced with chronic "Western" diseases in the form of a best-selling book based on the study (Brody 1990). However, since then, China now faces the dual challenges of undernutrition and obesity (Yuan et al. 2018, Gao et al. 2021). While the link between changing diets and chronic disease in individuals is inconclusive, the picture overall is that increasing meat and dairy, along with less physical activity, appears linked to a higher instance of heart disease, type two diabetes and cancer (Yuan et al. 2018). Meat consumption is only one part of a complex picture of nutrition and health outcomes, but along with high salt and oil diets, high meat diets are identified by researchers of China's National Institute for Nutrition and Health as one of "the toughest problems to be dealt with" (Gao et al. 2021: 244–245).

With nutritional health, the Chinese government has issued several policies and has been taking steps to involve the public and food manufacturers in preventative health measures. A wide-ranging policy, *The Healthy China Action Plan* (2019–2030), promotes health knowledge with a specific action plan for diets (Gao et al. 2021). Part of the *National Nutrition Plan 2017–2030* issued by the State Council, the *Dietary Guidelines for Chinese Residents* are the basis for the educational promotion of healthy diets (Ibid.) The recommendations are periodically updated and in the 2022 version, the messaging shifted from daily to weekly recommended meat intakes of 300–500g for easier comprehension than daily amounts (Chinese Nutrition Society 2022). The guidelines emphasize avoiding excessive consumption of meat in a balanced diet and, in particular, avoiding fatty and smoked meats (Ibid.). However, despite the nutritional education resources, tensions emerge between competing state interests in health and the food system.

While the state encourages health programs and meat intake guidelines, at the same time competing priorities lie in modernizing the agricultural sector and meeting consumer demand. Provincial and national level governments appointed specific "dragon head enterprises" as industry leaders to encourage modernization and set goals for Chinese meat processors and producers to become global market leaders (Schneider 2017). This resulted in a swift expansion from small farms to larger-scale meat enterprises with hundreds to thousands of cattle and sheep (DuBois and Gao 2017). Bringing state-owned and private enterprises together, the Dragon Head Enterprises receive market advantages and financial subsidies, resulting in their domination of the domestic livestock market (pork and poultry) (Schneider 2019). Big meat is big business with a key role to play in developing China's rural economy. Thus, while parts of the Chinese state seek to improve national health, other interests lie in the development of the meat market.

Along with the modernization of the meat industry, the state – both at national and city levels – maintains pork reserves to release into the market and control price volatility. In 2019 during a large-scale African Swine Fever outbreak that resulted in the mass culling of pigs, the state acted to support the affected farmers and to release pork to keep prices under control (MOARA 2019, 2020). Considered an everyday commodity, some areas in Shanghai introduced subsidized pork counters in markets (Wang 2020). When faced with an uneasy public due to rising pork prices, the Agricultural Ministry chief Yang Zhenhai promoted a shift in consumption habits: "Poultry production can reduce the pressure on [pork] resources and is better for environmental protection, so it is suggested that everyone consume more poultry" (China Net 2019). However, state encouragement of environmental considerations in consumer consumption choices seems limited to times of crisis.

Less Meat? Tradition, Trends and Challenges

China has a tradition of vegetarianism and meat-free days within Buddhist beliefs. On two days of the lunar month and other significant days, many of China's Buddhists will observe a day refraining from animal consumption. Low-cost Buddhist all-you-can-eat buffets can be found in most Chinese cities and are popular with Buddhists and non-Buddhists alike. Other quieter "elegant" Buddhist restaurants offer the urban middle-class alternative social spaces from the meat intense norm to explore ethical eating (Klein 2017). The broader consumer shift to demanding better and healthier food has meant that in major international urban centers like Beijing and Shanghai diverse vegetarian, vegan and organic restaurants have multiplied in recent years.

Along with the growth of eateries specializing in meat-free dishes, plant-based alternative producers are crowding into the retail and restaurant meal market. Prominent amongst them are Hong Kong's OmniPork and American-based Beyond Meat that attach premium meanings to their products by teaming up with Starbucks and other "Western" food chains (Gkritsi and Shi 2020, Treanor and Hotson 2020). These products position themselves in the high-end market distinct from income-determined lower meat consumption or Buddhist diets. Their products not only combine a message of good flavor with ethical consumption but speak to consumers' identity choices by branding products as high quality and cosmopolitan. Perhaps because of this, the elite status of the meat-alternative is reinforced through prices: Non-meat burgers out-price meat options in fashionable burger joints.[1] An encouraging sign is the potential for tacit government support seen in China's President Xi Jinping's

nod to alternative protein sources in a speech to political advisors. This encouraged using technology to "obtain calories and proteins from plants, animals, and microorganisms" for sustainable agriculture (Xinhua 2022). Commercial interest is growing in the Chinese "fake meat market" resulting in further investment (Treanor and Hotson 2020).

Other main actors in encouraging people to change their meat consumption habits are NGOs, who likewise position less meat consumption as a smart and trendy choice in their campaigns. In China, the international NGOs of WWF and Wild Aid as well as Chinese-based Goalblue and Good Food Academy have campaigns and educational materials that encourage moderate meat consumption within their broader mission goals. Wild Aid's less meat promotion featured Chinese celebrities in their "New Picky-ism" (新挑食主义) campaign, encouraging sustainable eating habits for health and environmental reasons. Using infographics and celebrity endorsement, videos and posters shift meanings around eating less meat to be the choice of an informed and sophisticated consumer/citizen. Goalblue, based out of Shenzhen, link their message to creative activities like music festivals and the burgeoning independent craft beer movement in China (http://www.goalblue.org/english.html 为蓝 2018). The commonality of these campaigns is that they are aimed at China's well-educated urbanites in major cities. Bringing about a change in meat consumption aims at those urban dwellers who generally consume more.

There are, however, mixed responses to attempts to show the environmental impact of meat consumption. Whether Chinese consumers will reverse the meatification trend remains to be seen. On the one hand, students are eagerly taking up the discussion on their campuses and are receptive to environmental and health issues (Middlehurst 2018). On the other, many resist and are sensitive to any messaging that could be interpreted as attributing blame to the Chinese nation. The WWF found itself facing censure for its video promoting awareness of sustainable certification on goods by connecting deforestation in Brazil to China's meat and dairy consumption (Wang 2020). The video, which only stayed up on the Bilibili video hosting site for one day, explores how global demand for meat requires soyabeans for animal feed, contributing to deforestation in Brazil (Ibid.). The video pointed out that China is Brazil's major soyabean customer, and thus, China's products are contributing to deforestation unless labeled as derived from sustainable sources. However, the ethical consumption message was poorly received and understood by many as criticizing China. The video producer's account was later banned for comments from a former employee and for "spreading unverified information and smearing efforts of the Chinese government" (Global Times 2021).

The dense "bullet-curtain" (弹幕) comments on the video expressed a range of opinions in an animated debate reflecting social and ethical outcomes of China's meatification in a global interconnected food chain. "What's wrong with Chinese people eating meat?" some asked, while others pointed out the hypocrisy in the message coming from a US-based NGO given higher US beef consumption levels. Facing nationalist and defensive postures, any less-meat initiatives encounter a challenge in raising awareness about the environmental impact of China's global role in the food system in the face of those sensitive to any perceived slights about China.

Concurrent with traditional Buddhist vegetarian practices, vegetarian meals and meat-reduction are being tied to an urban and cosmopolitan lifestyle through meat alternatives and less-meat initiatives. Sustainable diets are presented as the consumptive choices of tasteful and informed individuals. Cutting down meat promises a "warm-glow" feel-good factor for those in Chinese cities already reducing their meat intake (Taufik 2018). However,

a challenge remains for those actors wishing to encourage sustainable consumption through educational outreach. Pleasurable narratives and images associated with a developing economy's meatification sit at odds with mitigating China's role in global animal agricultural GHGs. Avoiding negative blame interpretations will be key to promoting a reduced-meat message for those sensitive to China's reputation.

Conclusion

China's meatification has broad-ranging effects for Chinese society, global food systems and the environment. China's rising incomes are accompanied by an increasing appetite for meat, which sees China as the world's greatest global meat producer and consumer – and looks set to grow. China's policymakers have been positioning China for a global role in international politics and the global economy that now includes global agribusiness. While that offers trade and development opportunities, the global challenge of environmental protection may in turn shift international expectations for greater sustainable agriculture from Chinese businesses and their suppliers.

Chinese society and developmental discourses over decades have deeply ingrained meat with a high value status. This leads to new demands for thinking about meat consumption and its links to chronic disease, as well as environmental considerations for ethical consumers at home. With living memory of times of meat scarcity, it is little wonder some may be sensitive to a suggestion that Chinese society cannot also enjoy "the good life" of high meat consumption enjoyed by the "West" for decades. With a foot in the developing and developed country camp, China's concurrent narratives of meat as the rewards of modernization and experiential aspect of cosmopolitan consumptive urban lifestyles, means that meatification is well entrenched.

Certainly, competing state interests around health, food security and business mean that policymakers will lack the political will to encourage wide-scale meat reduction. Instead, technological fixes will be preferred over changing social behaviors. Indeed, most governments around the world appear reluctant to take up what could pose an unpopular move. In the UK for instance, the possibility of a tax on meat to reflect the full health-system and environmental costs failed to make its way into a government white paper as any move on meat was deemed as too unpopular (Horton and Harvey 2022). While civil society is the main actor in encouraging "de-meatification" in other national contexts (Morris 2017), it faces deeply engrained meanings of meat attached to national identities. In North America and Europe, for example, environmental NGOs are reluctant to promote reduced meat messages in their campaigns because it challenges the "American Dream" and may alienate supporters (Laestadius et al. 2014). Likewise, the food choices and availability of meat in China represent the promise of prosperity of the "China Dream." And while the spatial and social differences in China's meat consumption mean it is primarily the urban and wealthy who are eating greater amounts of meat, China's rise creates expanding meat demands. Thus, work remains on "decoupling improvement in living standards from meat consumption" (Guo et al. 2016: 227). The question will remain for China – and indeed the rest of the world – if that decoupling will take place.

Note

1 Author observations, Shanghai, 2022.

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