Environment and Food: The author's response

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This article forms part of a book symposium, *The Ecologies of Food Power*, comprising five commentaries on *Environment and Food* (Sage 2012) followed by this response.

I am immensely grateful to each of the contributors to this book symposium who, besides offering their perceptive commentaries here, also provided thoughtful presentations at the *Author meets Critics* session at the 2012 Annual Meeting of the Association of American Geographers in New York. It is indeed a rare professional privilege to have such distinguished scholars engage in a dialogue around one's work, an opportunity made possible by the efforts of Mike Goodman to whom I extend my considerable thanks. That each of the contributors was so willing to engage in this process and to draw out rather different themes demonstrates, I suggest, the diversity of issues that are entangled within and around the environment and food axis. Yet I believe there is also shared understanding that, as we take forward analysis of the global agri-food system and its environmental consequences, we highlight the critical importance of connecting global justice, human nutrition and ecological sustainability.

Part of the motivation that lay behind the writing of Environment and Food was to work through many of my own earlier experiences undertaking rural research in the South (Sage 1993, 1996) and, subsequently, studies of 'alternative' food geographies in the North (Sage 2003, 2007) and to explore the ways in which these very different contexts might be framed within a global lens. Rather than constructing an overarching theoretical framework through which to develop an abstract analysis of the global food system, the intention was

to explore interconnections: between North and South; between systems of production and environmental resources; between diet and human and ecological well-being. In particular, the book seeks to trace the linkages between the food system and a range of global challenges: climate change, freshwater depletion, the extent to which food and energy markets have become interlocked, and the way in which meat has become a central pillar of refashioned diets.

Although food security is the explicit focus of just one chapter in the book (Chapter six), it is revealing the degree to which all four commentaries here make reference to the food security challenge. During a period of significant food price volatility and deepening global inequality, this seems entirely appropriate, particularly if one understands the term to represent not only freedom from hunger, but concern for dietary health, collective nutritional well-being, and human dignity now and into the future. In this regard perhaps the most fundamental question posed by any of the 'critics' in their essays is that of Anna and David Lopez-Carr who ask: "How many people eating what, produced where, produced how will describe the greatest changes on the face of the earth going forward?" This is an intriguing invitation and my immediate response would be that if we were to design a food system from scratch, one that sought to deliver the greatest nutritional benefit to all irrespective of wealth and with minimal fears of undermining ecosystem integrity or stability, it would be unlikely to resemble the regime that currently prevails. This is because the extant global food system has not evolved to ensure adequate nutrition for all with the least environmental impacts. It exists to meet the requirements of the major corporate players to extract profit from the supply of edible and potable materials. I think once we understand this as an axiomatic principle, much of the changes in dietary practice begin to make sense, not least our rising appetite for meat.

As Roberts (2008) has observed, in less than 50 years the world has not only achieved a high level of meat consumption, it has cemented almost universal expectations about meat consumption that will be catastrophic to maintain but very hard to change. A focus upon the intensive rearing of animal bodies to deliver cheap meat and high profit (exemplified by the current scandal of substituting horse for beef in convenience foods) begins to reveal ways in which the dynamics in arable agriculture in some parts of the world (eg the Brazilian soybean frontier) connects with the rise of non-communicable diseases elsewhere; or how a key element of dietary transition can become such an important driver of climate change.

Consequently, a better place from which to start is not with hypothetical questions of a Malthusian nature but with the Millennium Ecosystem Assessment that offers a framework through which to locate human security, health and ecological services (MA 2005). While the question alludes to the inseparability of agricultural production and food consumption, we must find ways of ensuring that sustainability applies equally to both domains. To ask questions about sustainable agriculture – as the Lopez-Carrs go on to do by asking if there is more we need to learn – is simply half the challenge (see Pretty et al 2010). Yes, we need to learn more about sustainable agriculture, and indeed we are doing so through increasing appreciation of the role played by soil micro-organisms and their symbiotic relationship with plant roots such as demonstrated by the system of rice intensification (Uphoff 2012). Such agro-ecological innovations and their achievements are vital in demonstrating alternatives to the productivist orthodoxy of genetically modified seeds and increasing agro-chemical inputs. Yet, in contrast, we seem to have barely begun to formulate the questions that will help us to reshape consumption.

In this regard Michael Carolan's intervention offers an interesting point of departure. He is right to pick up on a rather slack appearance in the book of the term 'needs' in a definition of sustainable food systems. Clearly, needs are not objectively given and both his examples of meat and biofuels are entirely apposite in demonstrating how affluence and modernity make rising levels of consumption a cultural imperative. Yet, how do we substantively challenge and overcome consumer sovereignty that translates socially contingent desires into needs? Carolan suggests *citizen choice* whereby more collective arrangements might enforce greater corporate responsibility and enhance freedoms throughout the food chain. I am not yet certain that we can anticipate greater public accountability on the part of food corporations. Big Food exerts an enormous influence on the global food system: in the US the ten largest food companies control over half of food sales; three-quarters of world food sales involve processed foods for which the largest manufacturers hold over a third of the global market; what people eat is increasingly driven by a few multinational food corporations (Stuckler and Nestle 2012).

We might envision the creation of concerted efforts toward greater food security and autonomy – providing it were possible to recover civic empowerment around food. *Food citizenship* currently remains an under-theorised concept but with significant potential to reposition individuals as more than simply consumers, shoppers and corporate customers. As Wilkins argues, it will be food citizens, not consumers, "who will sustain a socially just, equitable, and environmentally regenerative food system for generations to come" (Wilkins 2005: 272). However, for citizens to have the space to develop this required role in promoting a sustainable food system, much greater and expanded social and collective value must be placed on food than it is at present(Food Ethics Council 2013).

This approach resonates with the argument put forward by Lucy Jarosz that while we should continue to analyse food and hunger at the international level, we must also be attentive to efforts that disrupt global productivist narratives of food security. Ultimately it will only be the efforts at regional and national levels that will likely achieve genuine nutritional security. Her argument reminds us that we should be alert to the multi-scalar webs of social relations that shape food systems, hence her call for a political ecology approach that can focus upon access to food producing resources and reveal stark asymmetries in their distribution and control. This is underscored by Philip McMichael's essay that highlights the continuing threats posed by transnational finance in extending value chains around the world driven by a commitment to deliver 'food and energy security'. Take, for example, the World Economic Forum's New Vision for Agriculture that under a heading 'Agriculture is and must continue to be innovation-driven' states,

> Many players have developed highly effective point interventions to address bottlenecks in the value chain, improving input technologies and farmer capabilities, for example. The technical know-how of global institutions must be combined with the resourceful acumen of local entrepreneurs to inspire new breakthroughs. (WEF 2010: 4).

That such technologies are not best suited to the needs of many users, nor will they enhance the human right to adequate food has been noted by the United Nations Special Rapporteur on the Human Right to Food (De Schutter 2011). Consequently, McMichael is correct to highlight the importance of the food sovereignty movement and its own paradigmatic model of agroecology that serves to combine the sustainable management of agroecosystems with a community-oriented approach to nutritional security.

Environment and Food was written as an expression of concern about the structure, scale and consequences of the prevailing global food system. That it has received such generous comments and insightful criticisms from the contributors here demonstrates the critical importance of this field of study and the opportunity that is emerging to take forward debates in new and interesting ways. We can see, for example, the existence of a viable and alternative paradigm to the prevailing model of productivism that regards agriculture not just for its food, feed and fuel commodities, but as an ecologically-embedded activity that can replenish, restore and maintain biospheric integrity. We must now work to ensure that this paradigm of sustainable agriculture is joined together with a firmer grasp of the practices required for sustainable consumption. Ultimately, such reconnection will be one of the critical solutions to resolving the global ecological and food security crises.

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