

INTRODUCTION

FOOD AND SUSTAINABILITY IN THE TWENTY-FIRST CENTURY

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Complex Definitions

Food is a subject that can be analysed from a multitude of different disciplinary perspectives, from biochemical research on nutrients and neurology of taste to social observations about the concepts, meanings and beliefs of different cultural groups regarding specific food items and their preparations – and many areas in between. Some studies are limited to a few individuals (perhaps for medical purposes); others are on one social, cultural or ethnic group, or comparisons between a few such groups; and others pursue a national, international or global focus. There are, of course, many further areas of consideration, both academic and practical, such as those concerned with agriculture, the environment, industry and marketing, and more. For this reason, the International Commission on the Anthropology of Food (ICAF) has consciously fostered cross-cultural and cross-disciplinary discourse in its publications. That is the case for this volume. Human food does indeed provide nutrition, but its diversity and distribution are determined by all the factors involved in its availability in each situation, and its consumption is affected by the acceptability of food options and its preparation both at individual and cultural levels. Even though what is considered edible or eatable (MacClancy et al. 2007) varies significantly between different communities, it is not hard to find agreement that human food means food that humans consume.

In contrast, there is less agreement about the meaning of sustainability. Diverse interpretations of the concept are based first on what variable is or is not being considered for sustaining, and secondly, on what level of that

variable should be aimed at to qualify it as being sustained. As Peveri (this volume) points out, use of the word *sustainable* 'is at the same time ubiquitous and fuzzy'. Whereas the Latin basis of the word *sustain* means 'to hold up from below', still relevant today when referring to load-bearing structures, the word in English has expanded to encompass several other meanings. One use of the word relates to maintenance and continuation, but one must define clearly what variable is to be maintained. Is it the global or a local environment? In regard to food, is it the supply of food alone or perhaps of food and water, and to whom? Is it the diversity of species that provides human food or all biodiversity? Is some quality of life of humans being considered for their very survival and, if the latter, is it survival of all humanity or of just some human groups or even individuals? The point is that to maintain a given variable in an ever-changing ecosystem, other circumstances might well need to be changed to achieve that sustainability; thus, maintenance of one variable frequently depends on changes to others.

Another use of the word relates to the supply of necessities, nourishment and so on, and in this sense food sustainability may be equated with food security. However, food insecurity may mean different things in different circumstances; it may mean risk of starvation and death, or fluctuating periods of hunger, or uncertainty about the availability of some desirable or desired nutrients in the options for a varied diet. Discussions of food security are frequently linked with aspirations for equitable access to food, whether between individuals or groups, which thereby can convey a political and economic aspect. For many people, therefore, to achieve food sustainability also implies some change in political structures and policies, as well as in environmental conditions, rather than a continuation of current systems. So, whereas the concept of sustainability is about the maintenance of some variable, it is nearly always associated with change in other variables.

Drawing from these points, we posit a broad, but working, definition of food sustainability:

Food sustainability for humans involves the ability, sustained over time, to produce or procure enough food to meet an individual's or a population's nutritional requirements, using production, distribution and disposal systems which have a neutral or beneficial impact on the environment and ecosystems, and that ideally are underpinned by forms of social justice that can ensure equitable access to food.

Numerous aspects of research and discussion are indicated by this definition. Whereas the chapters in this book span different disciplines and demonstrate diversity of interest, they nevertheless cover only a small proportion of this broad topic. The intention of this volume is to stimulate a cross-disciplinary dialogue concerning this contemporary and urgent issue.

Framework of this Volume

The framework on which the order of chapters in this volume has been arranged has been influenced by the five phases in food-related behaviour suggested by Jack Goody, who wrote:

The study of the process of providing and transforming food covers the four main phases of production, distribution, preparation and consumption, ... to which can be added a fifth phase, often forgotten, disposal. (Goody 1982)

Since Goody's seminal work, his analysis of processes and phases has been referred to so often that it has become a fundamental analytical tool in anthropological discussions on food. In this volume, an introductory section consisting of four chapters provides a scene-setting overview of different aspects of sustainability. Goody's five phases of production, distribution, preparation, consumption and disposal are then used as a way of providing an organising structure for the remaining chapters, with each relating primarily to one of the phases. The editors are fully aware that any multidisciplinary focus inevitably leads to great diversity in subject matter and style, but employing Goody's phases as an organising framework allows linkages to be identified and explored. The exposure of the relationships between such different approaches demonstrates the importance of bringing together in one volume contributions from specialists in very different areas of study.

Chapter 1 discusses the theme of food and sustainability and introduces several different disciplinary perspectives on the topic. The necessity of a cross-disciplinary approach is strongly supported in the chapter, as the complexity of the interacting factors and processes involved is emphasised. Although the first paragraph envisages many perspectives on the topic, our overview of a few of them is of necessity limited, identifying a selection of approaches primarily from the human sciences.

Chapter 2 provides an overview of food insecurity in sub-Saharan Africa at the present time, exploring its different causes and drivers. Paul Collinson highlights issues such as population growth, economic and political issues, environmental stress, conflict and displacement, drawing out their relevance to discussions of sustainability. He argues that conflict is a major cause of food insecurity in a number of countries in sub-Saharan Africa, and that conflict resolution will be key to moving towards food sustainability in the future. Yet, he concludes that the latter remains a distant goal in this region at the present time.

Chapter 3 concerns a discussion of how the health of humans and of the environment can be integrated into ideas about sustainability as related to food, in a review of the construction and transformation of the concept of a 'Mediterranean Diet'. Xavier Medina describes how an earlier emphasis

solely on health, originating in the 1960s (Keys 1970), has been transformed to include ideas surrounding sustainability, which he identifies as an adaptation rather than an eclipse of the original focus on health. The author discusses the diversity within the concept of the 'Mediterranean Diet' in relation to its acceptance as part of the UNESCO Intangible Cultural Heritages of Humanity, but his argument stresses that the transformation of the concept to include environmental elements and sustainability reflects wider cultural changes within the region.

In Chapter 4, Giovanni Orlando uses examples from his fieldwork in Palermo, Italy to illustrate global themes. He starts by referring to a Worldwatch Report (Worldwatch 2013) that queries whether achieving a sustainable society is possible, but he questions Leach's (2013) challenge to this, arguing from a post-Pasteurian point of view. He offers ethnographic perspectives based on his fieldwork regarding the consumption of organic foods and attitudes to these, and he reveals that a culture of (quiet) sustainability based on anxieties concerning pollution and environmental degradation is being created. Material from interviews reported in this chapter, as well as detailed comments about some globally significant pesticides, are integrated into his discussion of the theory of planetary boundaries, the Anthropocene and the concept of 'quiet sustainability' (Smith et al. 2015). This chapter exemplifies how ethnographic research in one area can be used as an analytical lens to highlight macro themes.

As explained above, the remaining chapters are organised according to Goody's five phases. Chapters 5, 6 and 7 are concerned with the resources to achieve food sustainability in a changing environment and can, therefore, be related to the process of production. The three chapters illustrate quite different perspectives on this. In Chapter 5, Martin Tena and colleagues focus on the vegetation in one Mexican canyon, the Barranca del Río Santiago (BRS), the contemporary environmental pressures on the area and the effects on food options for local people. They argue that for the land to produce enough food for food security in the future, attention must be paid to environmental sustainability through biodiversity. The chapter stresses the importance of the loss of phylogenetic resources in the area of this barranca, the loss of genetic biodiversity for food generally, and the urgency to search for new food resources. The authors point out that Mexico now ranks high on the International Union for Nature Conservation's list for number of endangered species in a country and it has more endangered species than any other country in Latin America. Tena et al. emphasise that much still needs to be learned regarding biodiversity in the region in order to understand food sustainability.

A more positive aspiration for sustainability is given by Iain Young in Chapter 6, who introduces a way forward for increasing food sustainability by explaining the opportunities offered by aquaponics – the production of plants irrigated by water fertilised by the nutrient-rich waste from tanks in which

fish have been farmed. In turn, the plants use the nutrients, and the clean water can then be recycled back into the fish tanks. This process demonstrates the value of recycling in a closed circular system, providing opportunities for such production within and around urban areas. The chapter reports on some successful aquaponic projects and then stresses the importance of education about these processes, identifying some workshops about aquaponics and urban farming around the Liverpool area of the UK. Arguing that aquaponics is unlikely to replace traditional agriculture for easily transported products, Young nevertheless highlights its potential contribution to food sustainability in urban and peri-urban areas.

Carrying on the theme of increasing affordable food production in areas where people live, Helen Macbeth in Chapter 7 recalls successful food policies in the UK during the Second World War and asks if lessons can be learned from these. The emphasis of the chapter is on the allotments movement and people growing food for their families in their leisure time, encouraged by the dissemination of government-sponsored information regarding growing vegetables and using nutritious recipes. In wartime, vegetables were grown not only on the allotments but on any spare land, such as railway embankments and road verges. Interviews with some allotment holders today reveal that, for nearly all of them, the incentive is to produce healthy food and/or to engage in healthy physical activity; none of the respondents mentioned environmental sustainability, and only one mentioned cost. Whereas Macbeth's stress is on affordable sustainability of providing fresh vegetables for all members of society, there is an underlying hope linking to the cultural transformation, described by Xavier Medina (this volume), that would transform the perception of the value of growing vegetables for the family from just 'health' to 'health plus sustainability'.

Although the next two chapters describe very different situations, both are concerned with the cooperation between governmental and non-governmental organisations (NGOs), and others, in seeking to improve food distribution and food sustainability in deprived conditions. Chapter 8 has links with both chapters 6 and 7, as Lucy Antal introduces a project funded by the interaction of local government, NGOs and others to stimulate local food sustainability in six places in the UK, each facing 'significant challenges in relation to poverty, citizen health, environment and economy'. The Sustainable Food Cities Network (although not all six places are 'cities') was set up to develop a partnership in each place between local businesses, public agencies, NGOs and academic institutions. In her chapter, Antal introduces the scheme and reports on some of the results achieved in the different areas. This chapter exemplifies the importance of including the perspectives of those attempting to deliver food security in contemporary situations of need.

In Chapter 9, Peter Kaiser also discusses a situation of contemporary need, describing the lives of Karen refugees in camps on the Thai–Burmese border. In discussing the topic of food sustainability in relation to subsistence and

the distribution of humanitarian aid, he points out that giving active attention to the protection of the environment, biodiversity, species welfare and natural resources, as well as the consumption of healthy food, is simply irrelevant to those for whom survival and day-to-day subsistence are all-absorbing concerns. Although some Karen in the camps were victims of forced migration, the long duration of these camps means that many have been born there. Kaiser makes clear that there has been no way that older generations have been able to pass on their traditional knowledge of cultivation, care of livestock and local foraging to younger generations, nor have there been any opportunities for farming or for education in modern, relevant technologies. Instead, dependency has developed in camp life. With the 2012 armistice, the Karen have been allowed to return to their former settlements, but without either traditional or new skills to ensure a self-reliant, sustainable lifestyle. Kaiser makes some practical suggestions for the management of refugee camps and recommends that our aims for sustainability globally do not deflect attention from the needs of people for whom survival is their daily priority.

Chapter 10 is concerned with food preparation. Valentina Peveri continues the themes highlighted in Chapter 9 in contrasting the concepts of sustainability current in the cosmopolitan societies of developed economies with a different form of 'frugal' sustainability pertaining to populations that have survived in adverse environmental conditions for generations. In presenting ethnographic information on the preparation of enset breads, porridge and gruel in south-western Ethiopia, Peveri identifies an essential point to make about sustainability, which is that the perennial need for frugality for survival in some societies has led to traditional foodways that have proved to be sustainable, allowing survival in adverse environmental conditions. Furthermore, she highlights the difference between the way in which enset is prepared and appreciated in the locale and the way in which the food is commonly perceived by international organisations. These tend to equate it with poverty and lack of development, while proffering development strategies based on a totally different, often cash-cropping, model associated with other crops. This chapter, while providing information on preparation, is also concerned with a whole food system based, in times of scarcity, on enset.

In relation to Goody's fourth phase, 'consumption', Michaël Bruckert in Chapter 11 also refers to discourses about sustainability emanating from and relating to 'well-fed' populations. His chapter, based on fieldwork in Tamil Nadu, is about meat consumption in India, which is still marginal even though a majority of the contemporary population would not consider themselves to be 'vegetarian'. He discusses the complex social, religious, political and economic pressures against meat eating, and the contemporary factors that are causing meat eating to rise and increasing the visibility of meat availability in urban areas. Then, with reference to the supply chain, he questions the sustainability of increased meat consumption on the subcontinent, especially

when the Indian government is encouraging an intensification of meat production. Bruckert considers this to be an ‘Indian meat dilemma’, in which the benefits of higher meat consumption in terms of improved nutrition and food security would only be achieved through animal factory farming and degradation of the environment. Insight into the complexity of pressures and issues involved in creating food sustainability is central to this chapter.

Chapter 12 by Mabel Gracia-Arnaiz provides an interesting contrast to the previous three chapters, but has several links with Chapter 8 in discussing the complexity of factors due to contemporary economic pressures in Europe. Her study of food insecurity for many people in Spain during the recent economic crisis describes an alteration in food choices and consumption patterns. This chapter identifies the fact that people adopt a variety of strategies to manage their needs, with new patterns of eating out (soup kitchens, street food, etc.) and the search for cheaper foods having implications for cultural standards and family relationships. She points out that while these are coping mechanisms, they also lead to social suffering, anxiety and stress and therefore become a driver of political debate surrounding the concept of the ‘right to food’. This compares in an interesting way with Orlando’s chapter (Chapter 4) and his ethnographic examination of the Palermo residents and their fears about food pollution.

With regard to Goody’s fifth phase, ‘disposal’, Nick Doran and Iain Young in Chapter 13 take a broader perspective, as they examine the development of food waste management strategies within the UK, highlighting the relevance of research into this within institutions of higher education. They comment on the challenges that exist, including the limited knowledge of the drivers that give rise to food waste within the supply chain and the voluntary nature of regulation governing food waste management in the UK. They introduce current research into the specific considerations relating to the University of Liverpool and the City of Liverpool.

However, waste has even greater importance in the discussion of food and sustainability, as illustrated by the environmental organisation, Feedback¹, which campaigns against unused food waste. Instead, as discussed further in Chapter 1, Feedback supports the recycling of waste in a circular system that includes low input. Chapter 14 offers an example of how sustainable waste management combined with new technology can create a circular model whereby disposal of food waste can be used to produce new food. Iain Young describes the work of the BiFFiO project, which looks at the challenge of waste produced by the aquaculture and agricultural industries, and suggests solutions using new technology to produce energy and fertiliser.

Thus, our volume ends with a practical solution that points to hope for the future, as well as telegraphing a crucial additional dimension which can be added to Goody’s five-phase model when addressing the topic of sustainability: this is the use of the disposal of waste in a circular system that returns the waste to benefit production. We might call this new phase ‘replenishment’.

Such circularity is commonly found in many traditional systems. However, in modern, industrialised societies the problems of waste disposal have significantly undermined environmental sustainability, and research into potential solutions for this are, therefore, becoming increasingly urgent.

Conclusion

Through the chapters in this book, we seek to demonstrate the importance of examining the issues of food and sustainability from a range of viewpoints and through cross-disciplinary discussion. Many of our contributors highlight some practical ways in which food sustainability can be achieved, both at local levels and on a more global scale. Building a resilient infrastructure, making human settlements inclusive, safe and sustainable, ensuring healthy lives and well-being for all, at all ages, and protecting and conserving our existing resources are as essential for the citizens of Palermo as they are for the Karen farmers or the populations of sub-Saharan Africa. Whereas all possible perspectives on food and sustainability cannot be encompassed within one volume, the diverse case studies within this book demonstrate the importance of creating cross-disciplinary academic and practitioner discussion about food and sustainability. Through this, we can learn from each other's experiences and work together to combat food insecurity, inequalities over food access and the effects of climate change by both adopting new technologies and learning from traditional farming practices, in order to create a circular food system that supports fauna, flora and people.

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Note

1. 'Feedback Global' website, published at <https://feedbackglobal.org/about-us/>. Last accessed on 30 November 2018.

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