Sage Handbook of Marketing Ethics

Abstract

Food ethics is a broad, interdisciplinary subject area that covers production, manufacturing, retailing, consumer choices, consumption and disposal. However, until a series of food safety incidents throughout the mid-1990's and early 21st century, the topic of food ethics wasn't given much prominence. After much media coverage of various food scares and a growing relationship of distrust between producers and consumers, pressure from NGOs and consumers for greater regulatory policies and transparent information about our food supply chain has never been greater. This chapter traces the origins of early food ethics issues and discusses the rise of ethical concerns around food safety and some of the accountability measures put in place to alleviate consumer fears. Similarly, out of concern for the sustainability of our food supply, rising consumption trends around vegetarianism and veganism are also examined. The nutritional quality of our food affects not just consumers who are consuming too much food (e.g. rising obesity rates) but also those who do not have sufficient access to food and experience food insecurity. Paradoxically, another ethical issue affecting the food supply chain is the amount of waste. This chapter examines the scale of food waste and the policy initiatives designed to reduce waste. Linked to this is the ethics around food packaging and the rising use of single-use plastics and how we safely dispose of them. As the future of our food system depends upon embracing ethical concerns, the chapter concludes by reporting on the efforts required throughout the food supply chain to ensure an ethical supply of food for all.

Keywords

Food ethics; food safety; food supply chain; food waste; food policy; food poverty; consumption; food producers; food retailers; food labelling; food choice.

Draft Chapter

Food Marketing Ethics

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Biography

Morven G. McEachern is Professor of Sustainability & Ethics at the University of Huddersfield. Her research interests focus on business and consumer behaviour within a variety of sustainable production and ethical consumption contexts. In addition to various peer-reviewed international conferences, she has published in various journals (much of which focuses on food marketing ethics) such as the *Journal of Marketing Management*, *Consumption, Markets & Culture*, *Journal of Business Ethics* and *Sociology*, and contributed to edited books (e.g. Case Studies in Food Retailing and Distribution: A Volume in the Consumer Science and Strategic Marketing Series, Elsevier, 2018) and is co-author of Contemporary Issues in Green and Ethical Marketing (Routledge, 2014).

Introduction

Food ethics is an interdisciplinary subject area that impacts economically, socially and environmentally upon a variety of actors within a complex supply chain (Kaiser & Algers, 2016). Indeed, the global food sector is vital to the economies of both developed and developing countries. China is regarded as the world's biggest importer, producer and consumer of food and employs over 300 million labourers – a figure almost as high as the USA population (Ross, 2019). Albeit far from the scale of China, India, USA and Brazil (i.e. the world's 4 largest food producers), the UK's food sector is estimated at a value just under £110 billion and employs over 10% of its population – a scale similar to Canada (DEFRA, 2016). Consequently, the food sector's ethical impact upon our environment, society and economy is enormous, ranging from issues such as land degradation, greenhouse gases, loss of biodiversity, and food insecurity to nutritional health (Moons et al., 2018). Its importance in the debate around ethics and sustainable development is supported by the fact that the agri-food sector potentially impacts on all the Sustainable Development Goals (SDG) targeted by the UN (see https://sustainabledevelopment.un.org/?menu=1300), the main SDG in this context, being No12 – Responsible Production & Consumption.

Societal trends such as an increased urbanisation of society and world-wide access to media have helped to fuel rising ethical concerns around the origins of our food, its production, manufacturing processes, where it is sold and how it is disposed of. It is also useful to acknowledge at this point, the often contradictory nature of food ethics, whereby as a result of market entanglements, addressing one unethical aspect of a food market may impact upon another ethical issue (e.g. removing certain types of food packaging will inevitably result in significantly more food waste; switching from cows milk to dairy-free substitutes will substantially encourage intensive cropping systems of production). While there isn't scope to cover all ethical issues relating to food in this Chapter (e.g. gender issues in the food supply chain, transport, food cultures etc.), I will endeavour to cover key ethical areas involving food production, food consumption and food disposal. As agriculture is considered the "bedrock of the food system" (Tansey & Worsley, 1999, p.16), the first section looks at ethical issues surrounding the production of our food.

Ethics & Food Production

Governed by strict regulations and protocols, a network of producers, manufacturers, wholesalers and retailers are responsible for delivering a quality-controlled 'farm to fork' approach to food production. As the food supply chain is extremely complex and fragmented (Schröder, 2003), this network expands exponentially if the product undergoes further processing prior to reaching our supermarket shelves. Such complexity has led to a "distancing between the production and consumption of food" (Maye et al., 2019), and conceals the reality of intensive food production systems often used to meet consumer demand. Thus, making it difficult for consumers to learn about where their food comes from, how their food was made or how they can make ethical food choices (Berry & McEachern, 2005; Carrigan, 2018).

As population estimates are anticipated to increase to 9 billion by 2050, technological innovation and global efficiencies are paramount if the agri-food sector is to meet increasing demand for food (Innovate UK, 2018; Godfray et al., 2010). Here, the USA leads the way in large-scale agricultural systems featuring more than 50,000 concentrated animal feeding operations (CAFOs) and another 250,000 industrial scale facilities (Harvey et al., 2017). To give the reader an idea of the scale of agri-food production, a CAFO refers to a facility that houses over 125,000 broiler chickens, 82,000 laying hens, 2500 pigs, 700 dairy cows or 1000 beef cattle. Similarly, there are reported to be just under 800 CAFOs (or mega-farms as they more commonly known) in operation across the UK, with the majority of eggs, chicken and pork being produced on an intensive scale (Wasley et al., 2017). Accompanying this production shift towards greater adoption of intensive farming systems is an unprecedented rise in animal and human health concerns (Nestle, 2004).

Ethical Food Production & Human Health Implications

There are currently numerous studies that emphasise the immorality of intensive farming and animal suffering (Atkins & Bowler, 2001; Lindgreen & Hingley, 2003), but the public were first made aware of the ethical issues underpinning industrial-scale food production in the 1960's as a result of Carson's (1962) 'Silent Spring' and Harrison's (1964) 'Animal Machines'. Although both authors acknowledge the association between poor animal

welfare/health and human health, Nestle (2004) specifically apportions blame for the rise in foodborne diseases such as *Salmonella* and *Campylobacter* to the intensification of agricultural production. However, consumers are noted as being more concerned about contaminant based 'food scares' relating to the use of antibiotics, hormones and pesticides (Miles *et al.,* 2004).

Despite the existence of legislation prohibiting the use of antibiotics to control disease (Meikle, 2004), antibiotic usage in intensive food production systems continues and is commonly cited as a contributory factor in lowering human resistance to antibiotics (Harper & Le Beau, 2003). Similarly, the EU-wide prohibition of growth-promoting hormones in beef production and the use of recombinant Bovine Somatotropin (rBST), have seen tensions between European and International regulatory bodies such as the WTO and Codex Alimentarius Commission rise (Knowles et al., 2007). These contaminant-based concerns are not just applicable to livestock production systems but also arable production systems whereby pesticide residues in food causes significant concern for consumers (Haung, 1993; The Co-op, 2001; Kushwah et al., 2019), especially in relation to the synergistic effects (i.e. 'cocktail effect') of consuming different pesticide residues (Luijk *et al.,* 2000) in one meal. Similarly, another issue influencing consumer trust in the food sector is the use of biotechnology to alter crop characteristics (e.g. increase yields, defend against crop pests). Although the majority of soy, corn, canola and sugar beet grown in the USA are genetically modified, few American consumers appear to show any resistance to genetically modified organisms (GMOs) (Lusk et al., 2018). This is in contrast to the 'precautionary approach' taken by over 60 countries including Japan, Australia and all countries within the European Union as they have imposed either have significant restrictions or a ban on the production and sale of GMOs.

One food safety issue which strongly influenced consumers to pay attention to ethical issues surrounding the origin of their food and how it was produced was undoubtedly Bovine Spongiform Encephalopathy (BSE) in the mid-1990s. In an attempt to achieve cost efficiencies, animal feed manufacturers created feedstuffs prepared using remains from other ruminants and reduced temperatures during feedstuff preparation, thus allowing the prions responsible for causing BSE to transfer from contaminated carcasses to healthy cows (Pennington, 2003; Schrőder, 2003; Lien & Nerlich, 2004). The disease is also

linked to a fatal brain disorder in humans, new variant Creutzfeldt-Jakob Disease (nvCJD) and despite a ban on British beef implemented soon after the scare, BSE has affected 231 individuals across 12 countries to date (CNN, 2019). Accompanied by significant media coverage and the attention of NGOs such as CIWF (Compassion in World Farming - https://www.ciwf.org.uk/) and PETA (People for the Ethical Treatment of Animals - https://www.peta.org/), the global nature of the food supply chain means that the scale of people affected will be much greater. Nestle (2004) warned the industry that all food problems were global problems due to "porous borders" and that international approaches were required to ensure a safe food supply (p.255). Nowhere is this more prevalent than the futile efforts of single countries attempting to contain Avian Flu outbreaks.

Avian Influenza or 'Bird Flu' as it is more commonly known to consumers is regarded as one of the most highly pathogenic influenza viruses (RTD, 2006). The H5N1 Avian Influenza epidemic has been spreading since 1997 when the virus first appeared in Hong Kong. Two years later, the virus reappeared in South Korea and subsequently spread to eight eastern Asian countries (Lean & Carrell, 2005). From China, infected birds followed their migratory route across Siberia. Consequently, in the autumn of 2005, H5N1 appeared on the borders of Europe in Romania, Turkey and Croatia (Nicoll, 2005). Of the 861 human cases of H5N1 infection identified to date, 455 were fatalities, many of those occurring in Indonesia, Egypt or Vietnam (WHO, 2019).

A key policy response to the above food issues saw the creation of institutions responsible for the implementation and verification of food standards. After much criticism of its handling of the BSE scare, the UK established an agency independent of government - The Food Standards Agency (FSA), its main initial remit being for food safety (Shears et al., 2001). Although previously criticised for its "ad hoc approach to the formulation of a European food policy" (Knowles, 2001, p.180), the European Commission also identified food safety as a key policy priority in response to the BSE crisis and in 2003 the European Food Safety Authority (EFSA) was created with a clear focus on the consumer as opposed to the product/market, though not in the areas of nutrition and diet. The US system is much more fragmented with the US Department for Agriculture (USDA), Food & Drug Administration (FDA) and the Environmental Protection Agency (EPA) all taking responsibility for food safety. Despite such efforts, consumers continue to express a

significant level of distrust towards food producers and regulatory bodies, and instead place more trust with retailers as a source of protection and disseminators of relevant information regarding production concerns (Kjærnes et al., 2007). After the aforementioned food scares and prominent media campaigns around animal confinement (e.g. tethered sows, battery hens, veal crates etc.) public calls for greater assurances around safety, animal welfare and quality were made (McEachern & Tregear, 2000). The food industry duly responded with a variety of assurance schemes and quality labels to assist the consumer in making ethical choices (McEachern & Tregear, 2000; Ortega & Wolf, 2018).

Ethical Food Marketing & Communications

To help re-build consumer trust, despite very little difference between primary food brands, a range of labelling mechanisms were implemented and used to communicate product features, quality and safety from the mid 1990's onwards (McEachern & Tregear, 2000; Kjærnes et al., 2007). Using a variety of terminology, which arguably contributed to further consumer confusion, the food marketplace featured increasing numbers of values-based labels, quality labels and eco-labels (see Barham, 2002; McEachern, 2008). As these labels were generally reserved for primary food commodities (e.g. meat, cereals, eggs, fish), they aimed to communicate the ethical nature of production attributes and where applicable, specific areas of animal welfare and traceability (Schröder & McEachern, 2004). Table 1 shows that aside from the RSPCA and the Soil Association (i.e. both strongly emphasise animal welfare and the environment), most labels largely emphasise the safety and traceability aspects (see Ilbery & Kneafsey, 2000) rather than go beyond minimum standards relating to animal welfare criteria (McEachern & Tregear, 2000; McEachern et al., 2007). This is because a sole focus on animal welfare is seen as risky by the industry (i.e. it may actually put consumers off eating meat/fish) and thus, largely ignored in favour of reporting on wider concerns around environmental sustainability (Lever & Evans, 2017). In the absence of more recent food scares and growing meat consumption in other parts of the world such as China, it is argued that the food industry places little priority and/or any consistency in setting or communicating animal welfare standards across International markets to help educate/inform consumers. Interestingly, European consumer engagement in food production standards may return to post-BSE levels as the UK intends to reduce food

production standards (e.g. accept imports of chlorinated chicken from the USA) and engage in new trade agreements post-Brexit (Millstone et al., 2019).

Insert Table 1 near here

Given the various animal health issues and welfare criticisms in conventional farming production, a number of consumers switched their buying behaviour from conventionally produced foodstuffs (especially fresh meat and eggs) to organic food production (Harper and Makatouni, 2002). As with other countries (i.e. mainly Western although increasingly growing in Asian markets such as China and India), American consumer demand has increased year-on-year since organic standards for organic production were implemented by USDA in 2002 (Illukpitiya & Khanal, 2016). Expected to reach a worldwide value of €100 billion, purchases of organic food were reported to be €40 billion in the US and €37 billion in the EU (Robert, 2019). Although motivated more by health and safety concerns, ethical identity is recognised as a strong predictor of organic food consumption (Brennan et al., 2003; Michaelidou & Hassan, 2008; Kushwah et al., 2019). Additionally buyers of organic food products are generally perceived as being older (see also Carrigan et al., 2004), of a higher socio-economic group and educated (McEachern & McClean, 2002). These traits are also generally associated with the profile of the ethical consumer (Harrison et al., 2005; Newholm & Shaw, 2007; Rokka & Uusitalo, 2008) in general.

Another popular labelling mechanism used by food manufacturers to communicate ethical attributes is Fair Trade. The Fair Trade movement began in the 1950s and addresses international issues in the supply chain such as child labour, working conditions and ensures a fair price for the commodity (O'Connor et al., 2017). Coffee and chocolate are among the largest Fair Trade markets in terms of volume and with just under 2500 companies paying to use the Fairtrade mark on their food products, $9 billion worth of Fairtrade products were sold in 2017, benefiting 1.66 million producers (Subramanian, 2019).

Many ethical issues are raised regarding food supply chains particularly in relation to commodities sourced from the global South. Nicholls & Opal (2005) summarise these issues as low prices paid to producers, poor working conditions for those at the

producer/manufacturer level (i.e. especially under conditions of sub-contracting), a lack of labour rights enforcement and reliance upon short-term contracts. As the Fair Trade concept is designed primarily to reconfigure trade and power relationships, the supply chain of a fair trade commodity is typically shorter than a conventional food supply chain and attributes greater power to bottom-up actors as opposed to the dominant top down approaches from retailers (Eagle & Dahl, 2015). In the case of The Day Chocolate Company, a fairer model is implemented whereby on top of a Fairtrade minimum price, a social premium is paid to producers to cover production and living costs. Added to this is a social premium which permits investment into community infrastructure projects (see also The Co-operative's Fair Trade activities at https://www.coop.co.uk/our-suppliers/fairtrade who were the first retailer to commit to Fair Trade and now celebrate their 25th year of involvement with Fair Trade). These commitments are agreed through long-term contracts, allowing producers to plan ahead (see Doherty & Tranchell, 2005 for a case study of The Day Chocolate Company and its impact). Consequently, rather than the portrayal of global South producers as marginal actors (see Konefal and Hatanaka, 2011) as per conventional supply chains, Onyas et al. (2018) illustrate the significant role of farmers in co-constructing sustainability when trade/power dynamics are driven by a bottom-up system. Of course, crucial to the success of Fair Trade supply chains is commitment and understanding of the process from the consumer.

The Fair Trade logo is one of the most recognised by consumers as they increasingly criticise larger corporations for not doing more to alleviate poverty (Nicholls & Opal, 2005). However, as the label has become more popular amongst consumers, more mainstream organisations have now gained Fairtrade licences for their own products, with the result that the potential for 'fairwashing' (i.e. akin to greenwashing but in the context of Fair Trade) has become greater (Eagle & Dahl, 2015). The practice of fairwashing whereby companies promote themselves as being more ethically responsible than they actually are (Doherty et al., 2013) was especially prevalent amongst major brands such as Nestlé and Mars who gained Fairtrade accreditation for just one of their chocolate confectionery brands (i.e. Kit-Kat and Maltesers respectively) and in some cases spent more on promotion of the accredited chocolate brand than the social premium paid to producers (McEachern, 2015).

Unsurprisingly and similar to other labelling mechanisms, while consumer awareness of the Fairtrade mark is high, their understanding of what the mark signifies and how it works is limited. Here, McEachern (2015) reveals how consumers appear to confuse the Fairtrade logo with organic attributes and that they are unsure whether the payment premium is actually received by the farmer. Despite greater visibility of the ethical consumption movement in recent years, ethical food consumption remains challenging for consumers as it requires continuous information-seeking, deliberation and negotiation across a variety of food contexts (McEachern, 2018). Unfortunately, the ability of the Fairtrade mark to alleviate poverty is dependent upon consumers being able to "process information regarding the true benefits engendered by the Fair Trade label" (Basu & Hicks 2008, p.477). This, however, may become much harder for consumers to ascertain as many leading companies are leaving the Fairtrade mark to establish their own ethical assurances and gain control of their supply chain – Nestlé's Cocoa Plan and the UK supermarket chain J. Sainsbury's launch of 'fairly traded' Tea being just two examples of companies that have recently withdrawn from the Fairtrade Foundation's accreditation scheme (Subramanian, 2019). As Fairtrade has become the industry standard in certain food sectors (e.g. as per the premium coffee market), it is inevitable that industry-based codes will effectively replace this accreditation scheme (Nicholls & Opal, 2005), making it harder for consumers to identify, select and consume ethical products and services.

Ethics & Food Consumption

In contrast to the conventional food market which declined by 0.9% in 2015, ethical food markets grew by over 5% and are estimated to have a net value of just over £9 billion (Ethical Consumer, 2016). Described as a political practice which should not be ignored (Sherry, 2014), ethical consumption is supported by the mainstreaming of ethical food products sold in supermarkets (Doherty & Tranchell, 2007; McEachern, 2015), these consumption trends are fuelled by increasing availability of ethical food retail outlets (McEachern & Warnaby, 2017). While the above discussion deliberates mainly on ethical concerns and the positive buying behaviours of ethical consumers, it is also recognised that certain ethical concerns motivate anti-consumption, non-consumption, or boycott behaviours (Eagle & Dahl, 2015). Indeed, much research which points to an increasing

awareness of the associated environmental impact, health concerns and animal welfare issues (McEachern et al., 2007; Miele & Lever, 2013; Wexler, 2016; Moons et al., 2018) is also linked to reduced and/or non-consumption of meat (Lever & Evans, 2017) and the growing uptake of vegetarianism and veganism as lifestyle choices.

Ethical Food Consumption Choices – Vegetarianism & Veganism Trends

Compared to countries such as China who are witnessing rising disposable incomes and increased consumption of meat (Browne et al.,2017), India in contrast, demonstrates the highest rate of vegetarianism in the world (38%) – almost a third higher than European countries who typically report a rate of 9% amongst their populations (Sawe, 2019). With 7% and 5% of the UK population now considered to be vegan and vegetarian respectively, another consumption trend displayed by 25% of consumers is a reduction of their meat consumption (Vegetarian Society, 2013; Tree, 2018). Organised by a coalition of over 60 NGOs and supported by media campaigns such as 'Eating Better' (https://www.eating-better.org/), celebrity chef Hugh Fearnley-Whittingstall also calls for consumers to eat less meat and support farming systems that benefit the environment, health and animal welfare (WWF, 2013; Tree, 2018). Other NGO campaigns such as Meat-free Mondays and Veganuary, led to over a third of consumers indicating a willingness to reduce their meat consumption (Vegetarian Society, 2013), resulting in the worldwide growth of 'flexitarianism' and 'reducetarianism' dietary trends. *Flexitarianism* describes a trend whereby the individual remains flexible but is conscious about food decisions, as well as ethical and environmental concerns (Ambler, 2017). While flexitarians mainly eat plant-based foods along with the occasional consumption of meat, eggs, and dairy, *reducetarians* instead, gradually reduce their consumption of animal products. This reductionism is also evidenced by Statista (2017) who conclude that 56% (i.e. 23% strongly agree; 33% agree) of consumers now feel that they do not need meat to have a good meal. Compared to the one-size fits all argument whereby meat eaters are condemned by vegetarians/vegans, the ethos of both reductionist trends away from meat consumption is underpinned by a pragmatic and flexible acceptance, that it is significantly better to make meaningful changes to our diet no matter how small. Simultaneously, the Veganuary charity (Veganuary, 2018) is

capitalising on the popularity of *flexitarianism* and *reducetarianism* trends, and encourages consumers to shun meat/meat products throughout the month of January. In January 2017, of the consumers who participated, 67% say they will remain vegan in the future and of those not staying vegan 95% say they will reduce or stop eating meat from cows and 92% say they will reduce or stop eating meat from chickens. Such movements are echoed globally, with the likes of the Taiwanese government who implemented a 'one day vegetarian every week' policy and now 13% of their population are confirmed as being vegetarian (Sawe, 2019).

Motivations for reducing/avoiding meat consumption or switching to a plant-based diet are often cited as either ethical drivers (i.e. care for animal rights) or increased health consciousness (Moons et al., 2018). However, an alternative view proposed is that moving to a plant-based diet is just as ecologically harmful in that it drives production towards intensive crop production systems. Tree (2018) takes a more holistic view and argues that more sustainable forms of livestock production can actually help restore soil quality and biodiversity in contrast to conventional cropping systems that utilise pesticides and fertilisers, as well as soil erosion. This 'blended' approach of reducing meat consumption and increasing consumption of organic plant-based products may offer a more sustainable option but an increasing number of consumers do not have the capacity to make a choice regarding the type of food they consume or in some cases, are not able to access sufficient food.

Ethical Food Consumption – Wealth & Its Impact upon Dietary Health

While not attributing greater ethical concerns to wealthy consumers compared to poorer members of society (Hill, 2002; Park, 2018), much of the ethical consumer literature refers to a typical ethical consumer profile of a more educated individual and belonging to a higher income bracket which by default, therefore, has the earning capacity to pay a price premium often incorporated in ethical food products. This process immediately denies a significant proportion of society the opportunity to either make ethical food choices and/or in some cases afford to buy food. Despite Article 25 of the Universal Declaration of Human Rights which stipulates the human right to food, over 820 million people experience hunger

and malnutrition and 2 billion are food insecure on a daily basis (FAO, 2019). Throughout the 1970s, 1980s and 1990s, food insecurity featured regularly in the context of famine and drought in sub-Saharan African countries. More recently, however, food insecurity has been a feature of Western economies, representing an urgent challenge for policymakers (Galli et al., 2018; Panori et al., 2019; Taylor & Loopstra, 2016). As the UN places 'zero poverty' as one of their sustainable development goals, numerous short-term solutions are proposed in the form of foodbanks, food clubs, pantries, community kitchens and food vans (Lambie-Mumford & Dowler, 2014), all of which have especially increased in numbers since the global recession in 2007.

Food poverty and hunger statistics are commonly documented in the USA for example. Food poverty affects one in eight people in the USA – equivalent to 40 million people, with Feeding America (a US-based food relief charity), providing 4 billion meals through 200 foodbanks each year (Layne, 2019). From a Europe-wide perspective, Galli et al. (2018) report on the European Federation of Food Banks now providing meals for over 6 million people across 23 EU countries. Similarly, food insecurity across the UK has never been higher, with 14.2 million people living in poverty (Social Metrics Commission, 2018). The UK's main charitable organisation is the Trussell Trust who currently operate approximately 1,200 foodbanks and provided 658,048 emergency supplies to people in crisis between April and September in 2018 (Trussell Trust, 2018). These statistics albeit illustrating a growing emergency food trend, do not however, reveal the full picture of food poverty in the UK (McEachern et al., 2019) as many as another 800 or so independent organisations are also involved in emergency food provision in the UK (IFAN, 2018). A key criticism around the foodbank model is that they do not deal with the root of poverty (Galli et al., 2018) or how to help transition vulnerable individuals out of food poverty (McEachern et al., 2019).

In contrast to the 'band aid' solution of the foodbank (see Devin & Richards, 2018), one example of a food poverty relief model designed to provide a more permanent solution for vulnerable individuals experiencing food poverty and one that helps to fulfil a closed-loop retail food system and simultaneously fulfil social objectives, is the social supermarket. A social supermarket is defined as a supermarket that "*receives surplus food and consumer goods from partnership companies (e.g. manufacturers, retailers) for free and will sell it at*

symbolic prices to a restricted group of people living in or at risk of poverty" (Holweg et al., 2010, p.2). Regarded as an innovative approach geared towards the provision of goods and services for the poor (Rahman & Hussain, 2012), the concept of social supermarkets arose in France in the late 1980s and in 2014, featured an estimated 800 stores, the highest number of social supermarkets in Europe. In contrast to the food bank model, a key advantage of the social supermarket model is that while it attempts to address food poverty by selling surplus food to individuals on income support, it also aims to assist vulnerable individuals to return to work and/or address the root causes for the need for emergency food (McEachern, 2017; Saxena & Tornaghi, 2018).

As emergency food providers such as the foodbank and the social supermarket depend largely on volunteer labour and entirely on food waste (i.e. wonky-shaped food, inaccurately packaged food, food past its best before date etc.), donations from corporates (e.g. Asda-Walmart and Fareshare partnership) and private individuals, it becomes difficult for such business models to provide a stable, nutritious diet (Garthwaite, 2016; Saxena & Tornaghi, 2018). Together with calls for welfare reform (Alston, 2018), the growing reliance on emergency food provision for vulnerable populations raises public health fears for the future (Bazerghi et al., 2016).

Income is regarded as one of the most significant influencing factors when looking at the relationship between health and diet (Atkins & Bowler, 2001). Contrary to media portrayal, Garthwaite (2016) argues that individuals who use/had used a foodbank generally possessed very good cooking skills and knowledge about what foods contributed to maintaining a healthy diet and lifestyle but were instead, limited in their consumption due to income and mobility issues (e.g. food deserts). Consequently, the rich-poor gap is also recognised as contributing to a greater prevalence of obesity throughout society and other dietary-related diseases (Cohen, 2018). Thirty per cent of the world's population (i.e. 2.1 billion) are classified as obese – a rate that has tripled since 1975 (World Population Review, 2019). Obesity trends amongst the food insecure is magnified by two things: 1 – healthy food is three times as expensive as mass produced, processed food and therefore, is often the first part of the diet to be cut back on; 2 – Due to the increased perishability of fresh fruit and vegetables, greater amounts of tinned/processed foods are donated to foodbanks and therefore impact upon dietary quality for many (Garthwaite et al., 2015). Despite access

to healthy fresh fruit and vegetables being central to addressing food security, dietary quality and obesity (Calloway et al., 2019; Drewnowski, 2009), this makes the issue of food waste an ethical concern from both a production and consumption perspective as it represents a waste of materials (e.g. land, labour, energy, CO2 emissions) as well as a missed opportunity to re-distribute (in some cases) fresh fruit and vegetables to disadvantaged populations via social supermarkets and/or foodbanks.

Ethics & Food Disposal

It is estimated that one third of global food production is lost, equating to a value of $1 trillion annually (FAO, 2019; Melikoglu et al., 2013). This is despite a UN goal to halve food waste at retail and consumer levels by 2030 (UN General Assembly, 2015). Paradoxically, despite the food insecure statistics noted above, the USA, Canada and the EU are responsible for 90% of global food waste (Melikoglu et al., 2013). Aside from the economic impact of this waste, the environmental impact is enormous and is associated with significant Methane and CO2 emissions, as well as excessive water usage and fertilizer applications (Papargyropoulou et., al., 2014). In the USA and Canada alone, food waste is estimated at 144 million tonnes of CO2 per year, using 14.9 billion cubic metres of water on 17.7 million hectares of cropland (Heller, 2019). The environmental impact of food disposal is thought to be even greater when taking into consideration changing dietary trends towards imported, non-seasonal fruit and vegetables and increased consumption of resource-intensive foods such as meat (Thyberg & Tonjes, 2016), not to mention shifts towards processed foods incorporating greater use of single-use plastics.

Ethical Food Disposal – The Scale & Impact of Food Waste

There are many causes underpinning the reasons for food waste along the supply chain. From a UK production perspective, it is estimated that 3.6m tonnes (i.e. amounting to a value of over £1 billion) of food is wasted before leaving the farm, due to a failure to meet strict quality standards (i.e. incl. colour, shape, length etc.), fluctuations in demand or problems experienced during packing or storage (Butler, 2019). Similar reasons are

attributed to the Australian supply chain and are noted as being particularly problematic in countries where retail market power is concentrated (Devin & Richards, 2018).

Although food waste has generally been overlooked by governments, scientists, retailers and the general public (Evans et al., 2012; Lever et al., 2018), some NGO/policy-led efforts have been made. For example, as part of Agenda 2030, the UN General Assembly aims to halve food waste (UN General Assembly, 2015). In the US, tax incentives for donors have helped waste reduction as well as implementation of the US Federal Food Donation Act of 2008 (Thyberg & Tonjes, 2016). Also bringing together local authorities, producers, manufacturers and retailers, voluntary commitment to the Courtauld 2025 aims to cut carbon, water and waste by at least a fifth (WRAP, 2019a). Other countries such as France and Italy have gone further and attempted to address food waste by implementing regulations and initiatives to restrict the disposal of surplus food. It is argued however, that the voluntary-led approaches of the food supply chain and the CSR efforts of retailers have had minimal impact upon reducing food waste (Devin & Richards, 2018) and that household waste needs to be targeted also (Thyberg & Tonjes, 2016).

Certainly, the consumer is viewed as one of the biggest contributors to food waste, representing up to 50% of food waste in the EU and up to 60% in the US (Stancu et al., 2016). Bread (11%), fruit and vegetables (34%) and dairy/meat (15%) are reported to be the most common food items to be disposed of unnecessarily (WRAP, 2019a). In addition to a lack of awareness, the most common response by consumers when discussing household food waste is that it is perceived as a 'waste of money' (Graham-Rowe et al., 2014) as opposed to it being an ethical issue. Anxieties about food safety and social desirability (e.g. avoidance of safe food for aesthetic reasons such as uneven shape/bruised produce; avoid negative feedback from serving re-used food) are other causes attributed to consumers' food waste practices (Aschemann-Witzel et al., 2018). While consumer skillsets (i.e. food planning, cooking with leftovers) may also be limited (Stancu et al., 2016), it is argued that retailers can also do more to minimise food waste (Aschemann-Witzel et al., 2015; Swaffield et al., 2018). Echoing such calls, WRAP (2019a) acknowledges the upstream and downstream flows of influence within the food system and suggests that changes to food packaging and labelling could offer a useful intervention to improve manufacturing, retail and household waste.

Ethical Food Disposal – Food Packaging & Single Use Plastics

As discussed per the stages of *food production* and *food consumption*, there also exists many ethical implications around food packaging. Despite food packaging helping to extend shelf-life and minimise food waste either by adopting smart packaging technology (e.g. moisture absorbers, RFID tags) and permit relevant marketing information to consumers to inform purchase (Han et al., 2018), Heller (2019) argues that by making adjustments to packaging, 189,000 tonnes of food waste with an economic value of $715 million could be diverted in the USA food supply chain. Although a core purpose of packaging is often to ensure food quality (e.g. prevent bruising of fresh fruit) and food safety (e.g. prevent contamination from dust, pathogens, light or humidity) and therefore minimise food waste, the increased adoption of packaging materials has created a substantial environmental impact.

Despite expressing preferences for environmentally-friendly packaging (Rokka & Uusitalo, 2008), consumers are often unclear about the meaning of packaging information as well as unaware of how packaging can extend the food product's lifespan (WRAP, 2015). Consequently, a quarter of household food is wasted either due to food packages being too large (e.g. 33% free offers; single households having to buy family sized products), food packages being awkward to empty completely (e.g. sauce bottles) and best-before dates contributing to perfectly edible food being disposed of (Williams et al., 2012). These disposal behaviours point to significant trade-offs for food producers and retailers with regards to addressing policy-led, food safety and environmental requirements, as well as responding to the needs and attribute-preferences of consumers.

Consequently, many food companies are now looking to either reduce packaging materials where possible or create more environmentally-friendly, biodegradable or compostable packaging solutions. However, most if not all food packaging innovations involves plastic (Heller, 2019). Despite taking more than 450 years to degrade, of the 300 million tonnes of plastic produced each year, only 12% is recycled (Maye et al., 2019). This statistic is even more alarming when considering that for the majority of food packaging, its single-use function is extremely short-lived (e.g. drinks bottles, plastic bags, and takeaway cups/cutlery). With the USA as just one exception, most countries have implemented a levy

or an outright ban on plastic bags to reduce the 1-2 million plastic bags that are purchased globally every minute (Nielsen et al., 2019). Similarly, global brands such as Costa Coffee and Pret a Manger have introduced discounts for consumers who use their own re-useable cups to reduce the 500 billion disposable coffee cups that are used globally, as only 1% is recycled (Ferreira & Ferreira, 2018). TV programmes such as Hugh Fearnley-Whittingstall's 'War on Waste' and Sir David Attenborough's Blue Planet II, have helped raised public awareness of plastic waste and industrial pollution of the oceans (Maye et al., 2019), but the limited efforts to date from companies have been the subject of much criticism especially in the UK as only 10% of the cost of waste disposal is met by businesses, the rest being met by taxpayers. This practice varies per country with French companies paying a sliding scale depending on the amount of waste produced and German companies paying 100% of costs (Maye et al., 2019).

Coincidentally, corporate and government efforts to minimise waste and environmental impact have escalated after China introduced its import ban on waste plastic in 2017. In the UK for example, WRAP (Waste & Resources Action Programme) joined forces with the Ellen MacArthur Foundation and launched the UK Plastics Pact in April 2018 to encourage a more circular approach to plastic recycling and create more sustainable end-markets (WRAP, 2019b). To date, just under 130 companies have signed up to the pact in its first year, with each signatory committed to eliminating unnecessary single-use packaging through redesign; making all plastic packaging 100% reusable, recyclable or compostable; achieving recycling and composting rates of 70% or more for packaging, and including 30% recycled content across all packaging by 2025 (George, 2019). The uptake of the Plastics Pact has now widened and has been successfully launched in France, the Netherlands and Chile (WRAP, 2019b). While some of the waste targets set also appear in the UK government's 25 Year Environment Plan, it may be argued that many companies are simply getting on board before being pushed? Indeed, grassroots initiatives such as the Extinction Rebellion movement currently taking place in the US, UK, France, New Zealand, Germany, Spain and Austria are successfully being used to demand action from governments on the environmental front, as well as the likes of Greta Thunberg's international campaign criticising countries' actions on carbon emissions and climate change (BBC News, 2019).

Overall, to ensure further environmental progress is made, much improved government policy and sustainable business models are called for (Lever et al., 2018).

Conclusion

This chapter clearly illustrates how the realm of ethics is connected to our food at every stage of the supply chain. Moreover, it provides evidence that ethics is applicable to all foods and not just organic, welfare-friendly, vegan or fairly traded food products (i.e. alternative food markets). In drawing together safety, social welfare and health issues around food production, consumption and disposal, it is evident that the neoliberal market model does not (and perhaps cannot!) offer a sustainable solution to the ethical issues revealed above. Certainly, more robust regulatory interventions are needed to address ethical issues. However, due to the fragmented nature of the global food supply chain, the above discussion reveals the difficulty in addressing various ethical issues as no one single actor is either fully responsible for any negative impacts and/or can address fully any negative impact created by the production, retailing, consumption or disposal of food. Additionally, too much of a switch to alternative systems upsets the balance of resources (e.g. switching from a meat-based diet to a plant-based diet). Our role as part of the global economy means that we must "bear some of the collective political responsibility" for its impact (Maye et al., 2019). Consequently, a food systems approach which collectively involves all stakeholders to take responsibility is needed to achieve a sustainable and ethical food sector (Galli et al., 2018; Leary et al., 2014). This takes into consideration the need to pay attention to the economic, social and environmental impact of our food system as well as the moral imperative of ensuring that the welfare of non-humans (e.g. land, animals) be considered also (see Tree, 2018; Tisenkopfs et al., 2019). Finally, if we are to successfully address the unsustainable nature of our food supply and meet the SDGs by 2030, we must recognise and incorporate ethics as a core dimension of sustainability.

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Table 1 Main UK Assurance Schemes

LABELLING SCHEME	The Red Tractor	Freedom Food	Lion Quality Mark	The Soil Association
Standards Covered	Food safety Animal welfare Envt. protection	Animal welfare	Food safety Animal diet Traceability	Animal welfare Animal diet Envt. Protection Food processing Packaging
Certifying Body	Assured Food Standards	RSPCA	British Egg Industry Council	The Soil Association
Date Established	2002	1994	1998	1946