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ARTICLES

What to Buy? On the Complexity of Being a Critical Consumer

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Abstract This article criticises the notion that critical/political/ethical consumerism can solve issues related to sustainability and food production. It does this by analysing the complexity of the concept of sustainability as related to food choices. The current trend of pursuing a sustainable food production through critical purchase decisions rather than through regulation is shown to be problematic, as shopping for a more sustainable food system might be much harder than initially believed due to the conflicting values and inherent trade-offs entailed in the different notions of sustainability. Thus, critical consumerism may give way to false expectations as the complexity of choices transpires. One obvious way out is to let decisions regarding food choices be made earlier in the food production chain as well as through new modes of governance engaging members of civil society in their capacity as citizens rather than consumers. This entails complementing society's reliance on critical consumerism with a citizen-oriented and political process in support of making more sustainable food choices.

Keywords Climate change · Food production · Critical/political/ethical consumerism · Sustainability

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Introduction

The notions of 'critical/political/ethical consumer' and 'critical/political/ethical consumerism'[1] play an increasingly important role in discussions on how to bring about a sustainable development in a market driven economy (Gulyas 2008; Trentmann 2010; Stolle and Micheletti 2015). Often consumer and citizen are set apart in terms of a consumer having only enlightened self-interest whereas a citizen would denote expanded self-interest. However with the advent of the ethical or critical consumer—at least in theory—the consumer could (also) be said to represent an expanded self-interest. 'Citizen' and 'Consumer' are inherently difficult terms to define, and the borders between them are not clear. Here we use a pragmatic distinction where citizenship encompasses 'broader' values, intrinsic values whereas consumerism implies more narrow focus on relative materialism and more extrinsic values: consumers 'buy what they want—or what they have been persuaded to want—within the limits of what they can get (Berry 1989). Citizenship, on the other hand, carries duties or responsibilities along with various rights (Wilkins 2005). It is, however, important to remember that the concepts are not mutually exclusive, but exist in a complex relationship.

Initially, the idea of spurring change by consuming 'correctly' might seem compelling, and critical consumerism has been described as a burgeoning social movement. Consumption can be considered critical when it '…involves consideration of the political or ethical implications of one or more episodes of the production, or of the perceived effects of the consumption, of any product or service' (Yates 2011: p. 195). Such forms of consumption imply either abstinence or buying. Typical issues relate to *people*, such as human rights or work rights; *environment*, such as use of scarce resources, environmental impact, climate change, animal welfare, and *politics*, such as perceived social irresponsibility. Hence, as the future of companies and products are decided by their ability to satisfy the demands of the consumers all that is needed to create 'a better world' is for consumers to demand the right products. However, so-called ethically minded consumers rarely purchase ethically, partly because: "the process of embedding ethical issues into daily life is gradual and difficult… negotiating internal and external objectives, and persisting until the new behaviour becomes habitual" (Carrington et al. 2014: 2762). Moreover, it also often requires giving up purchasing power (e.g. when food is at higher costs), choosing something of a perceived lesser quality, buying food in more inconvenient ways—or simply experience that the desired products are unavailable (Ibid.).

Thus, 'critical consumerism' easily lends itself as a controversial concept. More specifically, five areas of critique have recurrently been levelled against it. 1: It threatens to obliterate the public responsibility of citizens and individualize and

[1] As the terms 'political', 'ethical, and 'critical' are all used frequently in the literature without any convincing definitions to distinguish them, we have chosen to use the words 'critical consumer/consumerism' in this article. To the extent that this needs justification we find the label 'critical' refers most broadly to the conscious choices implied in attempting to connect values and actions in the market-place. Political and ethical consumption may be subsumed to the notion of 'critical consumption' that may be seen as a form of political, or extra-parliamentary participation.

commercialize it into a market-oriented consumer responsibility (Lockie 2009). 2: The notion of critical consumerism runs the risks of (inadvertently) supporting current consumption levels by creating commodity fetishism thus not addressing deeper environmental and social issues (Carrier 2010; Shaw and Black 2010). 3: The possibility of the individual for navigating the cacophonic marketplace paved with competing promises of green, health, welfare-oriented, fair-trade, sustainable, organic, and climate friendly products and lifestyles has been questioned as A: the different social and environmental agendas embedded in the notoriously ambiguous sustainability concept might not be mutually compatible, if only dealt with through consumerism (Garnett 2014) and B: consumers run the risk of being seduced into buying products that are not in accordance with their values through advertisement and persuasive labelling (Borkfelt et al. 2015; Boström and Klintman 2008). 4: Critical consumerism elides equality from the democratic system as those with most purchasing power have the greatest opportunity to influence the direction of—in this case—future food production (Sørensen 2005; Shaw and Black 2010) and finally 5: As the actions of the individual only have little influence in a global market, critical consumerism runs the risk of leaving the consumer disillusioned about the possibility to contribute substantially to the desired change (Harrison et al. 2005).

In the following we focus on the confusion facing consumers when attempting to express their values through consumption in the area of *sustainability*—mainly illustrating the third area of critique (cf. Hepting et al. 2014; Hassan et al. 2013; Holt 2012). We will return briefly to the other criticisms in "Alternatives to the Critical Consumer" section. We have chosen to focus on the concept of sustainability, since it has been widely embraced as a broad and inclusive political (ideological) as well as managerial (practical) framework (Gamborg and Sandøe 2005a), which allows for a common vision that helps discourage polarized discussions with either a one-sided focus on productivity or profit on the one hand, or uncompromising demands for nature preservation or call for radical changes in the agricultural production on the other (*Ibid.*). Moreover the notion is used in many areas: Environmental impact, climate impact, social impact, and economic impact, but also many other levels of decision-making. However, deciding which parameters are best for attaining (a higher degree of) sustainability of a product or production methods—let alone trying to provide measures for this—not only entails the risk of arbitrariness, but also means choosing among different aspects of sustainability that might not always go hand in hand.

The article begins with a brief description of the complexity of the concept of sustainability and moves on to show the complexity and uncertainties associated with different aspects of what is typically seen as part of sustainable food consumption: that the food should be grown locally, organic, and the diet should contain less animal proteins than typically found in a Western setting today ("Sustainability" section). We then describe and critically discuss the method of monetizing the environmental impact of various solutions as one possible answer to this dilemma and point to some of the advantages and weaknesses of such a methodology ("Monetizing Environmental Impacts" section). Finally, we briefly discuss possible alternatives to critical consumerism, taking not only the problems described in our analyses in "Sustainability" and "Monetizing Environmental

Impacts" sections, but also the wider critique of the idea of critical consumerism as mentioned above into consideration ("Alternatives to the Critical Consumer" section).

The present analysis will demonstrate how specific ethical values sometimes exclude each other when it comes to realizing sustainable food production—and how it is rather unclear what a sustainable food production actually is This brings forth a demand for transparency if critical consumerism is to be realized—a demand which is hard to realize in a consumerist setting, where information often turns into 'infomercials' (Borkfelt et al. 2015). Furthermore, it brings forth a demand of time; time to discuss and choose among the different notions of sustainability on the basis of a reflected foundation of values, which is more likely to be achieved in a political discussion among citizens—i.e. ones with recognized duties or responsibilities along with various rights—than at the meat counter on a Thursday afternoon (Morgan 2010). It should be emphasized that we do not here support any specific understanding of sustainability that we use to evaluate other definitions against. We simply aim to show that critical consumerism may give way to false expectations as the complexity of choices transpires.

Sustainability

Almost overnight sustainability became a political buzz-word as it was picked up by politicians, industry, NGOs, and other key stakeholders in the wake of the Brundtland Report (World Commission on Environment and Development 1987). Originally the concept described long-term and wise management of natural resources such as forestry and fishery—then often referred to as 'sustained yield' serving the purpose of procuring certain goods (Gamborg and Larsen 2005). This was how the concept was chiefly used up until 1970s where various UN conferences debated limits to growth and preservation of species. Until the Brundtland report employed it and moulded it to emphasise the distribution of wealth, especially, between generations. Hence, the notion of sustainability possesses a distinct temporal dimension (the trade-off between present and future generations) and a pronounced justice dimension (distribution of harm and benefit) (Gamborg and Sandøe 2005a).

In essence, sustainability is simple in its orientation. As the title of the Brundtland report suggests: society and the economy are not only built on self-interest but essential interests are common to all. Today, nevertheless, sustainability has grown into an almost all-encompassing heading under which notions of sustainable resource consumption by recycling, environmental protection, animal welfare, social justice, and climate responsibilities are gathered (Gamborg and Sandøe 2005b). Over the past twenty-five years the notion of sustainability has been subject to different interpretations centred on conceptions of carrying capacity, future generations, and quality of life (Starik and Kanashiro 2013). Often sustainability is seen as encompassing three main areas: the economic, the environmental, and the social area. The first focuses on how the activity in question affects the current and future economic status of individuals, companies, regions,

and societies. The second focuses on the effects that a given activity has on soil, water, air, climate, biodiversity, and health both in the short and the long term. The third encompasses a number of other considerations ranging from animal welfare to culture, social impacts, and human health just to mention a few (Kates et al. 2005).

Sustainability, however, does not mean the same to all: there are different interpretations and different equilibriums for these dimensions, which reach from business as usual, over modernization, to radical change (Söderbaum 2014). Another way of understanding sustainability is to distinguish between approaches that prioritize efficiency or sufficiency. The latter recognizes so-called natural limits to consumption and production levels, whereas the efficiency approach supports a weaker version, sensitive to technological means and economic aims (Fuchs and Lorek 2005). Clearly, what is considered sustainable, depends on the underlying 'weak' or 'strong' approach as well as on underlying values, and who (or what) to include as to be of concern. Sustainability, especially in the strong sense—invoking absolute limits such as the planetary boundaries, is by some seen necessary to be coupled with institutional change (Spangenberg 2014). No recognizing the need for such change, some claim, is one of the main problems facing sustainability. These voices therefore call for a rejection of the claimed, actual, dominant interpretation, which has a reliance on growth and rather focuses on incremental improvements rather than radical change (Lorek and Spangenberg 2014). Another way of making distinctions within the sustainability framework, as applied to food systems, has been to distinguish between resource sufficiency (are resources available) and functional integrity—the latter requiring a systems perspective (Thompson 2007). These different understanding sustainability includes each of the aforementioned three dimensions—and to what extent and how these should be internally balanced.

Lack of clarity also applies to the way the concept of sustainability is used within the food sector, where—somewhat cynically—it has been stated that the concept of sustainability is prone to being shaped according to the interests at play (Maxey 2007). Sustainable consumption is seen as one of the "overarching objectives" in achieving sustainable development (UN 2003: 2, cited in Akenji 2014). However, it is often not clear whether food sustainability definitions refer mostly to production or consumption—the two are, naturally closely linked. Globalization and so-called tele-connection[2] are thus important aspects of sustainability, as the interconnectedness of people and places around the world increases. Hence local consumption is ever more based on global supply chains, eventually leading to global environmental change and displacement of land in other countries (Yu et al. 2013).

Garnett (2014) discusses the notion of sustainability in relation to food production and notices that the question of what constitutes a sustainable and healthy diet depends on what is meant by these two broad notions. In Garnetťs discussion of sustainability, she describes different definitions ranging from a narrower understanding focusing exclusively on the greenhouse gas emissions of the diet, to broader definition, which include economical, ecological, and social

[2] The notion of tele-connection comes from atmospheric sciences and refers to climate phenomena which are related despite large distances. In its present use it denotes the virtual reduction of distances between places. The concept does not describe a new phenomenon, cf. socio-economic interactions. It is, however, noteworthy how frequent distant interactions are in the context of sustainability (Yu et al. 2013).

dimensions of sustainability. As Garnett states, narrow definitions have a tendency of over-simplifying matters, as food production has many other detrimental impacts on nature and environment than causing climate change, whereas the broader definitions tend to end up without specific content. Garnett uses the FAO definition of a sustainable diet to illustrate this point and as it is one of the more obvious definitions. We have chosen to do the same:

> Sustainable diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources (FAO 2010).

It is hard to disagree with any of the proposed goals set out here, but it is hard not be left with a feeling of what has been called "conceptual erosion" (Gamborg and Sandøe 2005b) as all these very different areas of life are included in one and the same concept without further specification. For example: agreement does not exist about what is fair, or how justice and sustainability should be paired (Del Savio and Schmietow 2013). When it comes to sustainability, there is a requirement for recognizing and balancing different kinds of information about the various dimensions of food production, distribution and consumption and values to arrive at a judgement between two or more alternatives (Thompson et al. 2011). Furthermore, the multiple values involved may not all be understood or controlled, making decision-making even more difficult. Broadness of scope also creates internal conflicts in the definition, as not all goals can be reached simultaneously. Sometimes these come into conflict with each other, necessitating a choice between different aspects of the sustainability concept. One example could be between food security and biodiversity in a situation with growing population and increasing need of arable land. Some of the conflicts that might arise between different—and other, often implicitly stated—understandings of the concept of sustainability will be the focus of the following discussion.

Firstly though, it is worth noticing that shopping for sustainability can be said to have become the Western consumerist's way to "be the change that we wish for", as Gandhi is often quoted for having said (although this quote is probably not totally correct, see Lewis 2011). We buy products that are claimed to be sustainable in some often obscure way, but is it perhaps as Žižek (2012) has put it: to ease our conscience, while continuing to consume the world at an unprecedented rate. What do you purchase if you are not satisfied with Starbucks promises, but *really* want to eat and drink in a responsible way by supporting sustainability through your choice of food and beverages? Should you opt for local produce, for organic food, for low climate impact, for reduced environmentally impact through e.g. organic or genetically modified, or cut down on animal products? Or maybe you should, in general, just eat less and drink tap water?

In the following we will illustrate the complexity of answering these questions by showing three different, albeit sometimes interrelated strategies for being more

sustainable: going local, going organic, or going vegan—for simplicity purposes, mainly as seen from the environmental dimension.

Going Local

Consumers are often advised to buy local produce since long-distance transport of produce plays a role in the environmental impact (e.g. Fogelberg 2008). However, a direct comparison of production and transport shows that transport is typically not very important compared to production methods and types of food (Saxe et al. 2013). When using a monetized environmental impact model to compare two diets (Saxe 2014; Weidema 2009), the diet composition of what has been labelled the New Nordic Diet (NND), which has been developed to be a healthy and environmentally friendly diet, reduces the overall environmental impact of food consumption relative to the ADD by 26 % (Saxe 2014). Monetizing environmental impacts makes it possible to summarize all 16 studied impacts[3] with a common denominator, in our case, Euros. When the buying-local-only dimension of the NND is included, the long-distance transport imports associated with the ADD improves the advantage of the NND over the ADD by 6 per cent points giving a 32 % reduction. This signifies that from the perspective of environmental impactsa sustainability perspective, as defined within the applied model (see footnote 3 and "Monetizing Environmental Impacts" section for details on this), the kind of food we eat is more important than how far it has travelled.

Using 'kg food' as the functional unit, the environmental impact of animal produce is much higher than for fruit and vegetables, since animals consume wheat, barley, oat, maize, rape, sunflower and soy—ingredients humans can use directly in their diets—many times their weight before they end up as food on a plate. This fact makes the ratio of production to transport of products much larger for animal products than for plant products Saxe (2014). Conversely, the relative contribution of transport to the overall environmental impact of plant products can be up to 50 %.

Some products like lamb's meat, may even be better for the environment from a European consumer perspective when produced in New Zealand than when produced in the UK, even when deducting the impact by transport. This is because the sheep production system in New Zealand is an extensive system based on natural grass ecosystems under ideal climate conditions (Saunders et al. 2006). Animals living off the land, so to speak, typically have a lower environmental impact than animals fed with compound animal feed.

[3] The 16 impact categories include human carcinogenic and non-carcinogenic toxicity [chloroethene-equivalent (eq)], respiratory inorganics (particulate matter with a diameter of $\leq$2.5 μm), ionizing radiation (Bq, the SI-derived unit of radioactivity, C14-eq), ozone layer depletion (chlorofluorocarbon 11, CFC11), aquatic and terrestrial ecotoxicity (chloroethylene triethylene glycol-eq), nature occupation (agricultural land), global warming (CO_2-eq), acidification (area unprotected cosystems), aquatic (NO_3-eq) and terrestrial (area unprotected ecosystems) eutrophication, respiratory organics (person $\times$ ppm$^{-10}\times$ h^{-1}), photochemical ozone effects on vegetation (m^2 $\times$ ppm^{-1} $\times$ h^{-1}), non-renewable energy (MJ primary), and mineral extraction (MJ extra). Three impact categories were the most important in monetary terms: respiratory inorganics, nature occupation, and global warming.

Another example is that countries like Greece, Italy, and Spain have an ideal climate for growing tomatoes, so that heated greenhouses are not needed. Transporting the produce to consumers in Northern Europe does, however, add to the environmental impact. During the summer, North European tomatoes grown outdoors therefore have a lesser environmental impact as neither heated greenhouses nor long-distance transportation is needed. However, most of the year, tomatoes in Northern Europe are grown in greenhouses, which adds substantially to the environmental impact.

To further complicate the picture, life cycle assessments have shown that—during the winter—fresh tomatoes from Southern Europe typically have the least environmental impact. However, when a greenhouse, which grows tomatoes in Northern Europe, is heated by waste heat from a nearby power plant or from renewable energy sources, then the environmental impact may be smaller than for imported Southern tomatoes. During the summer, locally grown, free-range tomatoes, or tomatoes from greenhouses supplied with waste- or renewable heat should be preferred. Canned tomatoes typically have a lower environmental impact than fresh tomatoes. This is because they make use of tomatoes that cannot be sold as fresh tomatoes, and because storage and transport is cheaper than for fresh tomatoes (British Tomato Growers' Association 2012).

So, which tomatoes should the critical, Northern European citizen choose? And should products containing tomatoes ranging from ketchup and pulped tomatoes to pre-baked pizzas be labelled according to both origin and time of harvest? The idea that local produce is better ("the local trap" as Morgan (2010) calls it) is thus not always—even when seen from a narrow sustainability perspective—the best choice for the environment.

If the critical consumer interprets 'sustainable' as meaning 'the smallest impact on the climate', the choice of tomato will depend on knowledge about growth season, country of origin, transportation, production form and so forth. To many consumers 'sustainable' also concerns the more immediate environmental impact, wherefore the concept of 'organic' will be seen as part of sustainability (Browne et al. 2000). However, even though organic tomatoes have a lower environmental impact in the form of pesticides and fertilizers etc. they do, however, have a higher climate impact, because yield per acre is lower than for conventional tomatoes (Halberg et al. 2006).

From a sustainability-perspective climate impact might not be the only relevant variable though. This is because purchasing local food contains a social dimension regarding small-scale production systems, creation or sustaining local jobs, and community zeal expressed through meals. This may counteract another social issue in this age of globalization though, namely the idea that international trade through consumption of labelled products (e.g. Max Havelaar branded coffee) can function as a development tool in other countries (Morgan 2010). The consumer is thus left with the choice of supporting local jobs or developing countries. Obviously, these goals can be reached through other means than consumerism, but as the notion of the critical consumer more and more is seen as the way of political action and expressing values, this becomes increasingly difficult.

Going Organic

As mentioned above, 'organic' is often part of the broader sustainability paradigm. Increased consumption of organic food at the expense of conventionally produced foods is viewed as a road to an improved environment, human health, and animal welfare. But including organic food and beverages in a diet may in fact significantly increase the environmental impact per kg food. In the aforementioned comparison between the NND and the ADD, changing the ADD and NND from having no content of organics to including the actual content of organics, i.e. respectively 8 and 84 % organics, the overall environmental impact savings of the ADD-to-NND diet shift was reduced to 5 % (Saxe 2014). Thus, in a direct comparison, the yield in organic agriculture is typically significantly lower than in conventional intensive agriculture. In a metastudy by Seufert et al. (2012) the yield in 64 of the most comparable systems was on average 34 % lower in the organic than in conventional systems. However, growing organics is more protective of the environment than conventional agriculture when impacts are measured per hectare, as organic agriculture does not add pesticides to the soil, and the soil may retain more carbon than in conventional agriculture due to application of organic fertilizers. In the long run organic agriculture might therefore be better for the environment than conventional production. Caution is therefore required before drawing definitive conclusions from studies of environmental impact for different production methods, as the theoretical and an empirical uncertainty is considerable. This does not mean that they are not valuable studies, merely that they should be evaluated carefully before drawing simplified, univocal conclusions.

The most discussed issue with regard to organic agriculture is that of lower yields compared to conventional agriculture in a situation where 870 million humans are starving globally. There is huge disagreement about whether organic agriculture actually can feed the world (see e.g. Halweil 2006). Assuming that organic agriculture has a smaller output, the question is whether this counts against buying organics from the point of view of social sustainability. Furthermore, it is worth remembering that other factors may also be included when assessing which products to buy, e.g. the long-term detrimental effects to soil structure and water scarcity associated with conventional intensive agriculture. In addition, it has been shown that, organic agriculture may reduce rather than increase the environmental impact of agriculture in the developing world in the long run and at the same time increase food security (UNEP-UNCTAD 2008; UNCTAD 2013).

Finally, it is worth remembering that setting up the discussion as a choice between only two alternatives creates a false dichotomy. It is not a choice between supporting organic farming and giving up on trying to solve hunger issues on a global scale or supporting conventional intensive production to solve these issues. Even when organic farming leads to lower yields and thereby initially becomes less sustainable in a food security and environmental impact perspective (which is part of the FAO (2010) definition of a sustainable diet). There are still several other ways of addressing the issue of global hunger than merely increasing production. One that will be discussed below is a shift from a mainly animal protein based diet to a more plant based diet. This would free up a lot of arable land that is currently used to

grow animal feed (Steinfeld et al. 2006) and make it possible to grow enough food even with lower yields found in organic production. An analysis shows that the segment of Danish consumers who do not buy organic produce eat twice as much meat as the 25 % of the consumers who buys the most organic produce (FDB Analyse 2010). In other words, there is a correlation among Danish consumers between eating more organics and less meat, which in environmental terms may come out as an overall benefit. Another way is to reduce the amount of global food waste, as more than half of all food is lost somewhere in the process from primary producers to the consumers (Gjerris and Gaiani 2013).

Yet another issue related to organic food is whether it is better for your health or not Dangour et al. (2010) found no evidence for health effects from choosing organics over conventionally produced foods. But the health of organic food is not only nutritional; it is also about pesticides, hormones, and antibiotics (Forman and Silverstein 2012) and about the indirect health effects from living in an environment affected by conventional rather than organic farming, including pesticide accumulation in the food chain, protection of aquifers and soil quality. A meta-study showed that organically grown crops contain more wide range phytochemicals than conventionally grown crops (Baranski et al. 2014). Organic fruit and vegetables fertilized with manure may also present a health problem though, since organic fruit and vegetables are more likely to be contaminated with potentially dangerous bacteria and mould toxins (Royal Society of Chemistry 2004). Whether organic food is healthier or not is thus a question of perspective and, to a certain extent, the research that one trusts.

Saxe (2011) found a surprisingly strong correlation between what is commonly known as healthy foods—for example, whole grain products, fruits, and vegetables—and low environmental impacts. Conversely, environmentally stressful items like meat, sweets, wine, spirits, and coffee are known to be bad for human health when consumed in excessive amounts. Health effects of food and beverages could therefore be integrated along with environmental effects when the overall impact of eating and drinking is estimated by life cycle assessment. This would certainly be the case if one follows the definition of a sustainable diet as suggested by FAO above (FAO 2010). This has been attempted by Jensen et al. (2015), where they conclude that although the NND is 16 % more expensive than the ADD, the health improvements and reduced environmental impacts associated with an ADD-to-NND diet change counteracts this in terms of personal and societal savings. Combined with the increased gastronomic quality of the NDD, the overall recommendation comes out in favour of an ADD-to-NND dietary shift.

Going Vegan

In most cases, focusing on greenhouse gas emissions and looking at a range of environmental impacts—converge on favouring plant proteins over animal proteins. This can be done in more or less strict versions. Vegans—as opposed to vegetarians—abstain from the use of any animals or kinds of animal product (including e.g. honey and leather)—and are also described as non-dairy vegetarians. Although there are many variants, such as ethical or dietary vegans (e.g. Francione

and Garner 2010), for the purpose of this article we stay with the basic definition, abstaining from all animal products.

It should be noted, however, that the FAO definition of a sustainable diet, as presented in "Sustainability" section, is so broad that even this turns into a dilemma as this choice impacts e.g. culturally established eating practices and the economy of producers and investors in the animal husbandry sector. If reducing the consumption of animal protein is to be seen as a more sustainable solution from this perspective, the problems in these areas would have to be solved by doing more than just abstaining from animal protein. Here we just mention some of the facts supporting the claim that a shift towards a more plant-based diet would be more sustainable.

Meat and dairy production typically cause greater greenhouse gas emissions than fruit and vegetables (e.g. Audsley et al. 2009). With a complete diet, animal produce account for more than half the greenhouse gas emissions of the total diet (Saxe 2014; Saxe et al. 2013). Reducing meat and increasing fruit and vegetables in the typical Western diet would therefore decrease the global warming potential of food and beverage consumption significantly. Beyond global warming, animal production is responsible for a whole range of other environmental, health and resource-related problems (Saxe 2014). According to the FAO (2011) there is an overconsumption of meat and dairy products in Europe, North America, Latin America, and Oceania. Overconsumption in this context means consuming more than we need from a health-perspective. This is mostly coined on the animal fats. Weidema et al. (2008) have shown that the environmental improvement potential of meat and dairy products in Europe is only about 20 %, so no matter what we do, reducing meat and dairy intake will always be the most efficient way of reducing environmental impact. Improvement in this context means reducing waste in all production steps. But of course, both avenues could be pursued simultaneously.

According to the FAO (2011) the global demand for meat and dairy products will be respectively 73 and 58 % higher than today in 2050. So even with all efficiency improvements in the animal husbandry sector, the supply of meat and dairy products will be deficient in a decade or two. A UNEP report (Hertwich et al. 2010) concludes that a significant shift in diet away from animal based proteins towards more vegetable-based foods is needed in order to significantly reduce the environmental impacts. A similar conclusion was reached in a Swedish report from 2012 regarding the need to reduce animal production to preserve water resources (Jägerskog and Clausen 2012).

It should be noted, however, that in some areas, animal production based on grazing might be beneficial to biodiversity as it supports an environment for many species of flora and fauna (Ejrnæs et al. 2011). Also, there are indications that certain types of animal production based on grazing could help prevent desertification in e.g. North America and Africa (Sullivan and Climatewire 2013). Such niche products are on the market and could be seen as sustainable. However, most animal products available to the consumer in a typical, Western European supermarket will be produced such that the plant-based alternatives are by far the better sustainability choice. Furthermore and globally, there are ecosystems that can be grazed but not used for any form of intensive plant production. Thus, a certain

(small) amount of meat will always be an option in any future environmentally optimized global food production system.

Any Such Thing as a Sustainable Diet?

It is clear from the analyses above that a range of values typically captured by the umbrella term of sustainability, collide in a Western setting. Environmental considerations can for instance be shown to conflict with organic considerations as intensive farming systems deliver a more efficient production compared to organic production. The challenge for the critical consumer is thus to compose a diet that takes all these different and sometimes conflicting perspectives into account, locate shopping opportunities, and create eating habits that enable sustainable consumption patterns. Food security and food sustainability may well be on a collision course, as Sabaté and Soret (2014) point out, as the world's demography leaps forward and there is a simultaneous surge in demand for animal based food. This will make the food system unsustainable. In addition, there is also the challenge for consumers of actually expressing their values regarding sustainability in the shopping situation, where many other factors such as pricing, commercials, habits, convenience, and the lurking feeling of futility as all the others are buying the unsustainable products (Vermeir and Verbeke 2006; Carrington et al. 2010). Thus, this is no small feat, since, as Aiking (2014: 486S) points out,:"… getting consumers to change their diets in a more sustainable direction is likely to require much more than gentle nudging".

The points in "Sustainability" section do not imply that one cannot distinguish between more or less sustainable diets (Garnett 2014). However, it makes consumer expression of values through critical consumption difficult. There is a risk of 'disenchantment' when the complexity of sustainability as a concept and as related to food production/consumption becomes apparent.

Monetizing Environmental Impacts

As shown above, shopping for food with a sustainable future in mind can prove to be a problematic activity for the critical consumer. It differs from consumer to consumer how the concept of sustainability is understood, and to what degree one adheres to 'strong' or 'weak' versions. Moreover, as explained previously there can be different ways of balancing the different dimensions of sustainability; notably the economic, environmental and social ones. But even when the focus is solely on the environmental aspects of sustainability, it can be more than difficult as a consumer to figure out what is 'most sustainable'. One way of addressing these uncertainties is through trying to quantify such aspects by monetizing environmental impacts of the food system. As this is an increasingly widespread approach we describe this methodology and discuss some of its strengths and weaknesses.

In the following we narrow the discussion of sustainability down to environmental impact. Monetizing environmental impacts of a given product or activity is a method that features prominently in choice situations as it attempts to combine all

studied environmental impacts associated with a product or an activity into a single figure, and compare this with the monetized impact of another product or activity Saxe (2014) and Weidema (2009). Monetizing the environmental impact does not solve all the problems described above however. What is considered a sufficiently important impact to be taken into consideration and precisely what value it is ascribed in relation to other impacts are inherently complicated aspects of this approach and cannot but be influenced by values coming from outside the research itself—especially as the idea of monetizing e.g. environmental degradation is itself an expression of values. It is therefore *not* presented here as *the* solution to the problems of critical consumerism, but included only to show one 'avenue' or tool' available to help clarify some of the choices that critical consumers face in the market-place.

The purpose of monetization is that different strategies available to the consumer to reduce their environmental impact through daily choices can be compared, when at first sight these choices seem incommensurable. As an example, Fig. 1 shows that the overall environmental improvement associated with an ADD-to-NND diet shift equals driving 10,000 km less in a modern European car. This demonstrates that the environmental consequence of widely different consumer choices can actually be compared. The example shows a low-impact diet choice like the NND (substituting the ADD) is an effective tool in environmental protection compared with e.g. transportation choices. Monetization also revealed that lowering the content of animal products in a diet is much more effective in reducing environmental impact than including more organics (which can even be counteractive), or buying local (which has a relatively small effect). The analyses are based on life cycle assessment using Simapro software, the Ecoinvent database, and the Stepwise method (Weidema 2009). The latter allows for monetization of environmental

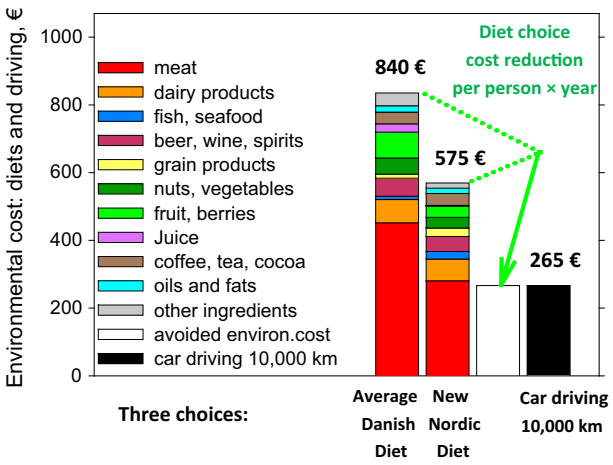

Fig. 1 Comparing the environmental cost (€/person × year) of two diets compared to that of driving a car for 10,000 km. The cost reduction of choosing the new nordic diet (NND) above the average danish diet (ADD) equals that of driving an average European car for 10,000 km

impacts, though there must always be a critical discussion of how this monetizing is carried out (Jensen et al. 2015). There is more than one interpretation of the monetized value of each of the analysed environmental impacts. The applied method (Weidema 2009) was chosen for its accessibility in the Simapro software, and is estimated by the authors to give realistic values seen from a socioeconomic point of view.

In monetization, the value of a given impact must be evaluated both from a human health perspective, an ecosystem perspective, and a resource utilisation perspective. Also, these must be added up in a sensible way (Weidema 2009). The monetary value of a given impact, e.g. climate change, can be calculated in many ways, and the value of a human life or sick days may likewise be calculated in many ways. International bodies strive to standardize such values to uniform calculations, but it should be remembered that although useful to visualize and compare very different impacts, the method has its limitations.

In passing, another often mentioned tool to inform food choices is labelling for specific issues, such as farmers' working conditions, animal welfare or more overarching issues such as sustainability. Labels have been advocated on the grounds that the consumer is able to make more informed choices. However, results from a recent European study show that labelling for sustainability or other perceived 'ethical reasons' does not seem to play a major role in consumer food choices although many expressed medium high to high levels of concern with sustainability at the general level—although less so at the level of concrete food choices (Grunert et al. 2014). One reason for this, which is in line with Cho (2014), is the lack of apparent personal impacts through buying the products labelled as sustainable. Thus consumers seem to evaluate the sustainability claim more favourably if the label/advertisement highlights the personal impact. As this is a market situation, another obvious reason—in the context of food choices—is that sustainability, as a tenet, must compete with other issues such as perceived product quality and healthfulness (Grunert et al. 2014). Finally, as it is not possible to define sustainability in absolute terms, the question, which easily arises in relation to food products labelled as sustainable, becomes: Are they really sustainable?

Alternatives to the Critical Consumer

The criticism of critical consumerism that has been explored so far shows that both the complexity of the sustainability concept and the problems of implementation, trying to quantify even just the environmental aspects of sustainable food production, suggest a need for alternatives to complement critical consumerism. In this section we discuss some further reasons for being sceptical as to the possibilities of critical consumerism as the main way to attain more sustainable food systems and briefly discuss some of the alternatives suggested in the literature.

Consumers have been given an important role in pursuing sustainable development, but progress in terms of changing consumption patterns has been small. This is often ascribed to a lack of appropriate knowledge and information. However, Markkula and Moisander (2012) point out another reason: the "discursive

confusion" stemming from constantly changing and sometimes conflicting discourses of sustainable consumption. In other words, consumers are confused about how to act responsibly. Analysis of factors hindering (more) sustainable food behaviour has yielded three main obstacles: knowledge to action gap; behaviour impact gap; and the inherent conflict between 'weak' and 'strong' sustainable consumption (Gorgitano and Sodano 2014). Minero et al. (2014) point out that although consumers do value sustainable products in the sense of being e.g. environment friendly or otherwise 'ethical', daily purchasing behaviour is often not consistent with this. These results indicate that public policies need to use a mix of instruments from market based instruments (such as taxes and labelling) to so-called command and control mechanisms (legislation and other regulation) over information instruments (e.g. educational campaigns).

As discussed in "Sustainability" section, the idea that the critical consumer forces can contribute to a more sustainable development by utilizing the market has been criticized on a number of accounts. There is a call for going beyond the market, and to avoid what has been termed "consumer scapegoatism"—i.e. given the scope and urgency of sustainability, it is not practical to ask the consumer to take the brunt of the burden (Akenji 2014). One of the reasons for this is that even though he or she is at the centre of actual consumption, the individual consumer is not the most powerful stakeholder in the value chain (Ibid.). Moreover, the possibility of the individual for navigating the cacophonic marketplace paved with competing promises of green, health, welfare-oriented, sustainable, organic, and climate friendly products and lifestyles is problematic. The attempt to consume in a (more) sustainable way leaves the consumer to make a choice between conflicting values in a far from optimal situation with not only information overload but often with information provided by companies whose prime interest is in selling their products, not in producing sustainable products (Borkfelt et al. 2015; Garnett 2014).

The individualization and commercialization of the democratic political discussion is another reason for being sceptical towards the idea of the critical consumer as a solution to the challenges facing food production today. This conflict is often described as the difference between perceiving humans as consumers or as citizens, the former being primarily responsible for themselves, whereas the latter takes on a broader societal responsibility (Peck and Philips 2008; Ovaskainen and Kniivilä 2005).

To avoid the inherent problems of relying exclusively on critical consumerism and the associated problems of reducing the citizens to consumers, a consumer-citizen hybrid has emerged (Clarke et al. 2007). Here humans may, both as citizens and consumers, change the food production system in a more sustainable direction, while deconstructing the difference between consumers and citizens (Schudson 2007; de Bakker and Dagevos 2012). As Jacobsen and Dalsrud (2007: p. 479) point out, maybe: "…some concerns should mainly be addressed through people's roles as citizens, supporting collective action by means of governmental regulation". This, in essence, is not only a practical discussion, but also a normative discussion concerning the balance between private and public responsibilities. In creating what some have dubbed "sustainable eating futures warnings have been given about the pitfall of "a division of moral labour" in which only actors such as NGOS and

citizen (groups) are seen to take care of broader food production and consumption related ethical and social issues (Davis 2014). An example of this in regard to food production is the suggestions made by Johnston (2008), Morgan (2010) but also Garnett (2014). Though differing in many ways, they seem to agree that the changes needed will not come from consumer preferences, but from deeper seated political ideals that should be expressed in social networks to be sustained and not only individually expressed in the market place. This has prompted developments such as 'civil food networks' working with community supported agriculture (Balazs 2013) or notions of 'sustainable citizenship' in the search for new politics of consumption (Micheletti and Stolle 2012). Hence, this puts collaborative social processes at the heart of a strategy for change, often labelled 'participation' (Middlemiss 2014). This, however, seems to repeat some of the same inherent difficulties as found in the concept of the critical consumer. Rules such as: "Always attempt to choose products for political, ethical, or environmental reasons—even if they cost a bit more" beg the question of what 'ethical' means. "Be willing to change your lifestyles to safeguard nature" (Ibid. p. 100) raises the issue of what 'safeguarding nature' actually means and which 'nature' it is that should be safeguarded? Another way of enforcing citizen values into the food production, hereby aiming to enhance the democratic legitimacy of decisions, is the example of 'European Citizen's Initiative' whereby at least one million citizens from a significant number of EU Member States can initiate a topic to be dealt with by the European Commission (Röcklinsberg 2014).

Another critique of the critical consumer goes even deeper. Although there is little doubt that critical consumption may to some degree help move things in a more sustainable direction, it is important to remember that the very existence of the consumer society itself can be seen as a challenge to sustainability. Critical consumption goes no distance towards asking if we can 'afford' to continue with current levels of consumption—as seen in relation to e.g. environmental or food security aspects, and it does not ask one to question what a fair share of resources is (Griffiths 2005). The notion that we can consume our way to a sustainable world has somewhat cynically been viewed as yet another illusion invented and pushed by commercial producers (Barber 2007).

Even when looking at our least complex example in "Sustainability" section—a diet with fewer animal proteins and animal-based foods in general—the problems are obvious. As pointed out by the United Nations Environmental Programme, a reduction in meat production is one of the most efficient steps towards solving the unmet needs of the 850 million starving people in the world and at the same time the most efficient step towards solving a range of escalating environmental problems, including global warming (UNEP 2010). Consumer diet choices could thus become a cost-effective instrument in environmental protection (Saxe 2011, 2014; Saxe et al. 2013). As the American Dietetic Association recommends vegetarian diets from the standpoint of health (ADA 2009), this choice could also alleviate some of the consequences of the obesity epidemics threatening both public health and health sector economies around the world.

This is *not* happening though, because as "…consumers, people are willing to engage in economizing behaviour that is inconsistent with what they, as *citizens*,

take to be important and appropriate political goals" (Thompson et al. 2011, p. 2106). Here the single most important reason why the transition towards a more vegetarian or vegan-based diet is not happening is that, as long as the ethical values at stake are left as an individual consumer responsibility in competition with many other considerations and influences, it becomes hard to realize the values embedded in the sustainability agenda (Gjerris 2015). When this happens in a relatively clear-cut case as reduced consumption of animal products, how much more difficult does it not get in the other cases discussed in this paper?

One way to solve some of the problems regarding critical consumerism discussed in this paper is to take the critique of the consumer-citizen hybrid formulated by e.g. Johnston (2008) seriously and focusing on making the citizen part much more visible and productive in the political system. One suggestion is to decrease the opportunities of consumers. This could be done by taking what is seen as unsustainable options out of the market. Such 'choice editing' could be based on explicit criteria such as products, which are very resource consumptive or produce a lot of waste. If better alternatives prevail these could then be effective especially when no pro-sustainability behaviour exists (Akenji 2014). A less radical option is to use taxes to control the behaviour of consumers, e.g. through a meat-tax (Nordgren 2012) Nevertheless, the question about how and by whom the choices should be edited obviously arises here.

The answer comes down to the view of governance, which either emphasises economics where the role of the market is prominent, or politics where steering is done by the government and other actors (Genus 2014). Hence, choice editing could be done 'hard', as part of what is known as contractual governance of the food supply chain. Here standard contracts, combined with guidelines issued by the so-called value chain leader, define rules with which participants must comply (Cafaggi and Iamiceli 2014); or it could be done 'soft'—again from a governance perspective—where multiple actors engage in deliberations or action, such as so-called food networks (Forssell and Lanoksi 2014). These promise, but do not cover all aspects of sustainability; in particular social aspects such as e.g. labour rights, but also issues such as meat consumption are conspicuously left out. As the gap between citizen opinions and their behaviour as consumers show, we believe that it can also be seen as a support to humans to live in closer correspondence with their ideals, when their choices regarding sustainability are made in community discussions as citizens. Citizens are responsible for the path of their societies rather than as consumers in the above described cacophonic market-place with all the limitations that brings.

Conclusion

Supporting a more sustainable development regarding climate change, environmental degradation, social fairness, and a load of other concerns through critical consumerism is complicated to say the least. Evidently, there is no silver bullet for attaining a more sustainable food system as issues as diverse as e.g. land use, emissions, diets and trade rules all play a role. The maze of information and

interdependent effects of different production systems, foods, and diets in the food system create a clash of simultaneously held values that makes the life of the critical consumer a tough one. There is no such thing as a perfectly sustainable diet, as there is no absolute conception of sustainability which is more of a moral idea that unfolds differently in different social contexts and hence subject to a constant normative debate. A 'paradox of sustainability' arises because more substantive approaches to sustainability may be too complex to effectively motivate appropriate social responses (Thompson 2007). Moreover, all human food consumption has some kind of impact—hence there will always be some kind of prioritization. There is a need to choose between a range of perceived, undesirable impacts and to figure out which alternatives constitute the perceived lesser evils, and which trade-offs and sacrifices one is prepared to make. Doing that in the situation of shopping for groceries where other considerations such as economy, taste, commercial influences, time, tiredness etc. also play a role, might not be the best time to express the values one—as a citizen—wish to endorse in the food production system that supports modern Western societies.

Finally, there is also an obstacle concerning the notion of sustainability: a pluralist society may find it easier to focus or agree upon the ills to be avoided, such as poverty, than agreeing on ideals to be attained, such as income distribution (Aiking 2014). Consequently, sustainability is skewed towards ills rather than ideals: Industrial framing of food sustainability, e.g. focusing on resource efficiency in production is thus easier to agree upon, than a broader framing of food sustainability, which grows out of a citizen-oriented perspective that centres around values such as natural or just.

This study has emphasized and illustrated the classical difference between the consumer and the citizen perspective, but also supplied evidence that choices made through the latter perspective might facilitate a more reflective process where conflicting values are made clearer. Finally, we suggest that the sustainability agenda should be more prominent within the citizen perspective and that support for critical consumerism through labelling, tax-regulations, or out-right bans of certain products should be taken into greater consideration. This would, all in all, facilitate the 'good' choice by consumers, even though it will often be a choice of lesser evils.

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